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MORAL PSYCHOLOGY AND INFORMATION ETHICS: PSYCHOLOGICAL DISTANCE
AND THE COMPONENTS OF MORAL ACTION IN A DIGITAL WORLD

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Abstract

This chapter discusses the ways in which moral psychology can inform information ethics. A “Four Component Model” of moral behavior is described involving the synergistic influences of key factors including sensitivity, judgment, motivation, and action. Two technology-mediated domains, electronic communications and digital property, are then explored to illustrate how technology can impact each of the four components believed to underlie moral behavior. It is argued that technology can create a kind of “psychological distance” between those who use technology for communication or those who acquire and use digital property (e.g., software or music) and those who may be affected by such uses (e.g., email recipients or digital property owners). This “distance” potentially impacts all four components of moral behavior in such a way that the usual social or moral constraints operative under normal (non-technology-mediated) circumstances (e.g., face-to-face communication) may be reduced, thereby facilitating the occurrence of unethical activities like piracy, hacking, or flaming. Recognition of the potential deleterious impact of technology on each of the four components leads to a better understanding of how specific educational interventions can be devised to strengthen moral sensitivity, judgment, motivation and action within the context of our increasingly digital world.

Relevant Idea Publishing Keywords: Computers And Society, Ethics, Flaming, Information Ethics, Intellectual Property Rights, Internet Ethics, IS Ethics, Moral Development, Moral Education, Online Behavior, Online Relationships, Personal Privacy, Privacy, Social Impact of Technology, Social Issues of IT, Virtual Community, Online Community

Additional Book Index Keywords (highlighted): moral behavior, sensitivity, judgment, motivation, action, moral development, moral psychology, information ethics, Four Component Model, pirating, hacking, privacy, computer property, physical property, technology-mediated

communication, computer-mediated communication, face-to-face, psychological distance, email, flaming, spamming, cyber-rape, digital objects

We ignore ethics and computing at our peril! (Rogerson & Bynum, 1995)

Unethical behavior is pervasive and timeless, as is the question of why people do bad things. What makes some people behave morally or ethically and others not? Psychologists interested in moral development have attempted to answer such questions by examining the psychological components of morality, the elements that work in concert to bring about moral behavior (Rest, 1979). Emerging from this work is a model of **moral behavior** that identifies the joint action of four psychological processes: **sensitivity**, **judgment**, **motivation**, and **action** (Narvaez & Rest, 1995).

Certainly, the “information age” has been accompanied by its share of technology-related ethical issues and challenges. Interestingly, many (if not most) of these challenges are not fundamentally new (Barger, 2001). Although there may well be exceptions, information technology appears to have created new and different ways to engage in the same kinds of unethical behaviors seen throughout history, from stealing property to invading personal privacy (Johnson, 2001). Because these issues have been studied and analyzed for years in other contexts, it is all the more important for information science researchers and practitioners to be well acquainted with general principles of moral and ethical development. Indeed, it is now well-attested that our perceptions of the moral landscape are influenced by developmental and social-cognitive factors (Lapsley & Narvaez, in press). In order to plan educational interventions that help technology users develop appropriate ethical attitudes and behaviors with respect to their use of information technology, educators can take advantage of a wealth of knowledge about **moral development** from the field of **moral psychology**.

The purpose of this chapter is to acquaint those working in the field of Information Science with a psychological perspective on moral or ethical behavior. In this chapter we examine key

psychological processes that are critical for moral behavior, discuss the function of these processes in the domain of technology, and suggest strategies to enhance education related to **information ethics**.

At the outset, it is important to draw attention to our use of certain terms. While we make no substantive distinction between the terms “moral” and “ethical,” there is an important difference between what may be considered “moral” and what is “legal,” or conversely between what is “immoral” and what is “illegal.” To be “legal” is to conform one’s behavior to the laws established by the societies in which we live. Morality, on the other hand, is a matter of conformity to “divine law” or codes of conduct derived from principles of right and wrong that transcend societal strictures. There is no automatic correspondence between that which is “legal” and that which is “moral,” or vice versa. That is, depending on the society, what many would consider immoral practices may be considered legal (e.g., prostitution in Nevada) while some illegal practices (e.g., harboring Jewish fugitives in Nazi Germany during World War 2) may be quite moral.

A FOUR COMPONENT MODEL OF MORAL BEHAVIOR

The **Four Component Model** (Narvaez & Rest, 1995; Rest, 1979) represents the internal “processes” necessary for a moral act to ensue: moral sensitivity, moral judgment, moral motivation, and moral action. These components are not personality traits or virtues; rather they are major units of analysis used to trace how a person responds in a particular social situation. The model depicts an “ensemble of processes,” not a single, unitary one. Therefore, the operation of a single component does not predict moral behavior. Instead, behaving morally depends upon each process and the execution of the entire ensemble. Each process involves

cognitive, affective, and behavioral aspects that function together in fostering the completion of a moral action.

Collectively, the following processes comprise the Four Component Model and are presented in logical order: (1) “Ethical sensitivity” involves perceiving the relevant elements in the situation and constructing an interpretation of those elements. This first component also includes consideration of what actions are possible, who and what might be affected by each possible action, and how the involved parties might react to possible outcomes. (2) “Ethical judgment” relates to reasoning about the possible actions and deciding which is most moral or ethical. (3) “Ethical motivation” involves prioritizing what is considered to be the most moral or ethical action over all others and being intent upon following that course. (4) “Ethical action” combines the strength of will with the social and psychological skills necessary to carry out the intended course of action. This fourth component, then, is dependent both on having the requisite skills and on persisting in the face of any obstacles or challenges to the action that may arise.

When considering moral or ethical behavior, a post-hoc analysis of the situation is often most helpful. In this way, we can point out where the processes might have failed. Consider the young adult who is tempted to download copyrighted music that has been illegally placed on a file sharing system in violation of the owner’s rights. Let’s call this young adult, “Jim,” and examine the four component processes in an effort to understand what might happen. Moreover, let’s assume that downloading music for which one has not paid under these circumstances is both illegal and immoral.

Ethical Sensitivity

To respond to a situation in a moral way, a person must be able to perceive and interpret events in a way that leads to ethical action. The person must be sensitive to situational cues and

must be able to visualize various alternative actions in response to that situation. A morally sensitive person draws on many aspects, skills, techniques and components of interpersonal sensitivity. These include taking the perspectives of others (role taking), cultivating empathy for and a sense of connection to others, and interpreting a situation based on imagining what might happen and who might be affected. Individuals with higher empathy for others and with better perspective-taking skills are more likely to behave for the good of others in a manner that is said to be “pro-social” (Eisenberg, 1992). So if Jim, our young adult, has highly developed ethical sensitivity skills, he takes the perspectives of all the people involved in producing the music. He feels empathy for their welfare and a sense of concern for them. He considers the ramifications of downloading copyrighted material including his and other people’s welfare and reactions.

Ethical Judgment

After Jim has identified the ‘lay of the land’ through an active set of ethical sensitivity skills, he must determine which action to take. Ethical judgment has to do with assessing the possible actions and determining which is the most moral. Hundreds of research studies have demonstrated that individuals (male and female) develop increasingly sophisticated moral reasoning structures based on age and experience, especially related to education (Rest, Narvaez, Bebeau, & Thoma, 1999). Jim could use one of several moral schemas (conceptual structures) in making a decision about what to do.

Rest et al. (1999) have identified three schemas individuals access depending on their level of moral judgment development. Using the “Personal Interests Schema” (common in high school students and younger), Jim would consider what benefits himself the most and perhaps choose to download the music from the file-sharing server. Alternatively, he might be worried about being caught and having to suffer the consequences, leading him to choose not to download. Based on

recent threats in the news about how record companies intend to bring lawsuits against those who are participating in illegal sharing of copyrighted music files over the Internet, Jim's mother might have warned him about doing such things. That she may find out also might deter him, because he wants to be a good son. If his reasoning is even more sophisticated he would be concerned about societal laws and social order ("Maintaining Norms Schema"). This would likely deter him, unless he subscribes to some other non-civil set of laws (e.g., cult norms). Yet even more sophisticated ("Postconventional Schema") reasoning would lead Jim to think of ideal social cooperation. At this level, he could behave as an *Idealist* by seeking to take an action that he could demand of anyone in his position (Kant's Categorical Imperative), or he could adopt the view of a *Pragmatist* by choosing his actions according to 'what would bring about the greatest good for the greatest number'. In either case, at the postconventional level of reasoning, Jim is likely to resist downloading.

In fact, Friedman (1997) has shown that moral sensitivity and reasoning are critical to adolescents' decisions and opinions regarding the acceptability of taking actions such as violating copyright protection by making illegal copies of computer programs (i.e., **pirating**) or invading someone's **privacy** through unauthorized access to (i.e., **hacking**) their computer files. Friedman (1997) demonstrated that adolescents who viewed as permissible pirating and hacking did so not out of lack of respect for property and privacy rights in general but because they judged **computer property** to be different than other types of property (see "Technology and Ethical Behavior" section below), suggesting that moral sensitivity (i.e., assigning moral relevance to some kinds of "property" and not others) was more at issue here than was moral judgment. The difference in question seems to be related to the relative lack of tangibility

associated with digital instantiations of things like documents or songs (i.e., computer property) compared to things like bicycles or cars (i.e., physical property).

Ethical Motivation

After deciding that a particular action is the most moral, Jim must set aside other goals and interests to further its completion. He may have developed the necessary dispositional skills to maintain a sense of moral integrity such as the ability to distract himself from his original (impulsive) goal to download. Jim can more easily acquire these skills if he is already conscientious and has cultivated a sense of responsibility to others, or if he has a religious orientation in which he derives meaning from a power greater than himself. Research suggests that persons who chronically maintain moral standards as central to the self are more likely to interpret situations and react in ways that are consistent with these standards (Lapsley & Narvaez, in press). So, if Jim has not developed these qualities, he may give in to his initial impulse to download at this point. In so doing, Jim would elevate other values (e.g., status, power, pleasure, or excitement) above the moral standards related to ethical action.

Ethical Action

The final component of the model is comprised of the skills that facilitate successful implementation of the moral action. Jim must know what steps are necessary to complete a moral action and possess the perseverance necessary to follow them. This component may be less salient in our hypothetical situation because it involves a singular personal decision to download or not download. But, imagine a more complex situation in which Jim has a friend who did illegally download copyrighted material on a campus computer. What should Jim do? If he decides to report the friend, he would need to know what steps to take and would need to have the motivation to follow through even if it costs him the friendship.

Recall that the Four Component Model is a set of processes that, working in concert, result in moral behavior. This implies that the course of moral behavior may fail at any point due to a weakness in one or more processes. Some people may function well in one process but may be deficient in another. For instance, Jim may demonstrate great sensitivity but poor judgment skills, or he might make an excellent judgment but fail in follow-through. We next examine the domain of technology to see how it potentially affects information ethics and the four component processes outlined above.

TECHNOLOGY AND ETHICAL BEHAVIOR

While technology itself may not pose fundamentally new ethical challenges, it may well impinge in unique and important ways on one or more components of the model presented above. This, in turn, would be expected to affect ethical behavior. In this section, we will briefly review some of the known ways in which technology can exert such influences.

Technology-Mediated Communication and “Psychological Distance”

A growing body of evidence suggests that technology-mediated communications may differ in important ways from **face-to-face** or other traditional forms of interpersonal interactions. Kiesler, Siegel, and McGuire (1984) have elaborated on this possibility by identifying several ways in which **email** (perhaps the most used means of **computer-mediated communication**) may differ from other forms of communication. For instance, email can be relatively rapid and can be easily configured to reach just one or many recipients. Since it is predominantly textual, email lacks the kinds of nonverbal cues that accompany face-to-face interactions and also is devoid of the information conveyed by voice intonations and inflections. In addition, email can be viewed as a less personal medium of communication because the recipients are not actually present, leaving the audience either to be “imagined” by the sender or not envisioned at all. Thus, the

normal triggers for empathy and interpersonal sensitivity that occur in face-to-face encounters are missing.

As Sproull and Kiesler (1991) have noted, the reduced audience awareness occurring during email correspondence, due to the fact that participants neither see nor hear one another as messages are being sent or received, can have a variety of social-psychological consequences on both sides of the communication process. From the sender's perspective, unlike synchronous communications by phone or in person, there is no information available as the message is being composed and delivered to guide clarity or stimulate adjustment based on recipient reactions. This can reduce a sender's sensitivity to the "social correctness" of the message and likewise can reduce the sender's apprehension about being judged or evaluated by the recipient (Sproull & Kiesler, 1991). Similarly, the ephemeral nature of email can render its recipients less sensitive to the sender's status or position and can compromise their ability to discern any affect or special points of emphasis intended by the sender, at least in the absence of special formatting or the use of "emoticons" (Kiesler et al., 1984; Sproull & Kiesler, 1991). Moreover, the accepted, regulating conventions and boundaries of more traditional communication do not necessarily apply to email (Kiesler et al., 1984). This can blur distinctions of traditional importance (e.g., office vs. home, work hours vs. personal time) and can greatly diminish or abolish the use of commonly-accepted communication protocols (e.g., letterheads) and other forms of etiquette (e.g., salutations). Also, those that correspond frequently using this electronic means may come to expect diminished response time to email (Kiesler et al., 1984).

As a consequence of its altered social context and norms, computer-mediated communication may be distinctive in at least three important ways (Kiesler et al., 1984). When it is asynchronous, like email, without the usual regulatory influences of the feedback inherent in

real-time interactions, messages may be more difficult to understand and more challenging to compose with the desired level of clarity. Second, given a reduced sense of status among participants, electronic communications may be less formal and more like those characteristic of peer-to-peer interactions. Third, a reduced sense of audience may depress the self-regulation that is commonplace in more traditional communications, and may therefore render computer-mediated exchanges more open and less inhibited by normal social standards and boundaries.

Apparently, then, computer-mediated communication is less socially constrained than traditional forms of interpersonal interaction. In this way, the technological medium creates a kind of “psychological distance” between communicator and audience (Sumner & Hostetler, 2002). This factor has important implications for behavior within this medium. Of particular interest is the possibility that computer-mediated messages, exchanges, or discussions may be more open and frank than their traditional counterparts. That this might be true was strongly suggested by Weizenbaum’s (1976) provocative observations of how people behaved with respect to “Eliza,” a computer programmed to simulate a Rogerian psychotherapist.

Weizenbaum noted that people appeared quite willing to reveal intimate issues to the computer, perhaps even more so than might be the case with an actual therapist (Sproull & Kiesler, 1991). Subsequent research did in fact confirm that computer-mediated self-disclosure via an electronic survey is indeed qualitatively different –seemingly in favor of more open and honest responses– from that obtained with a paper and pencil questionnaire (Kiesler & Sproull, 1986), suggesting fewer social inhibitions. Sumner and Hostetler (2002) reported a similar finding in the context of e-conferencing. Moreover, comparing the efficacy of therapy using face-to-face, audio, and real-time video conferencing modes of communication, Day and Schneider (2002) found that clients

participated more in the distance modes than in the face-to-face mode, although therapeutic outcomes were similar across all modes.

Decreased social inhibition may be the cause of a heightened tendency within computer-mediated communication to engage in behavior of a less than ethically desirable nature. For example, being less inhibited in electronic communications can lead to a behavior known as “flaming,” in which one makes derogatory or off-color comments via email or in a chat room that very likely would not be made in comparable face-to-face situations (Sproull & Kiesler, 1991). Of course, a reduced threat of physical retaliation also could play a role in activating this behavior. In addition, electronic communications may facilitate another ethically questionable activity, spamming (Johnson, 2001), probably not just because email makes it easy or cost-effective to do, but also because social inhibitions related to initiating unsolicited communications may be reduced. Finally, Johnson (2001) describes a whole category of “virtual actions,” such as “cyber-stalking” and “cyber-rape,” that probably are influenced at least to some degree by the reduced social constraints associated with computer-mediated communication.

With respect to technology-mediated communication, then, it seems quite reasonable to suppose that its altered social context will impinge importantly on one or more of the four components of the model described above. For example, a technological communication medium that reduces audience awareness likely will decrease Ethical Sensitivity (Component 1). In turn, Ethical Judgments (Component 2) and Ethical Actions (Component 3) associated with this medium could depart from those expected under more conventional modes of communication. However, the communication process is not the only aspect of human behavior where ethical behavior may be influenced by technology. Views of what constitutes “property” also may be affected as discussed in the next section.

Perceptions of Digital Objects and Materials

As noted above, Ethical Sensitivity (Component 1) relates to the question of how situations and objects are perceived. One way to think about the “psychological distance” associated with computer-mediated communication is as a form of altered “Ethical Sensitivity.” This occurs because the interactive rules for face-to-face interpersonal communication are not as easily activated or applied in the cyber-world. Another way in which technology can impact Component 1 is by changing perceptions of what constitutes “property.” Mounting evidence suggests that electronically-encoded materials or objects are perceived differently than physical materials or objects. For example, Friedman (1997) reported the results of a 1988 study with high school students in which perceptions and ethical judgments about physical and digital objects were compared. Students made a clear distinction between physical objects that were private or not private. All students saw a trash receptacle on a street corner as not being private, while 97% saw someone’s bicycle as private property. Interestingly, however, only 25% of the students believed that a commercially published and copyrighted computer program was private property. Friedman did not find the latter result to be readily attributable either to a general lack of computer experience among the students or to their lack of knowledge about applicable copyright policies. Instead, a certain domain-specific sensitivity appears to be lacking.

In further assessing the matter of privacy, Friedman (1997) examined student perceptions of different locations of information: an individual’s computer files, the contents of a notice tacked on a school bulletin board, and a personal diary. Almost all students (97%) regarded the diary information as private, whereas everyone regarded the bulletin board notice as not being private. In addition, a full third of the students also saw the contents of the computer files as not being private.

Teston (2002) was interested to determine if the perception of software as non-private property noted in the Friedman (1997) study also characterized the views of middle school students. In a sample of 264 7th graders, Teston found the majority (55%) characterized software as being “public” property. In addition, over 58% believed that any property rights of the software developers were terminated at the time of purchase by a software user. Like Friedman, Teston also found that a majority of participants held this view despite recognizing the applicability of copyright laws. While the percentages of students holding these beliefs about software differed in the Friedman and Teston studies, the fact that the data in these respective studies were collected 10 years apart cannot be ignored. Nonetheless, taken together, these findings reveal that digital instantiations of objects (e.g., programs) or materials (e.g., computer files) are viewed differently than their physical counterparts (e.g., diaries).

Digital Objects and Ethical Judgments

The apparent differential perceptions of digital and non-digital materials reported by Friedman (1997) and Teston (2002) beg this question: How might ethical judgments (mediated by Component 2) differ with respect to these materials? One might expect that behavior considered ethically “wrong” in connection with tangible property or materials could be viewed differently when it comes to digital property or materials. That is, to the extent that digital objects or materials are perceived as being less private than their more tangible counterparts, a greater moral permissiveness is likely to be attached to behavior involving those objects or materials.

Both Friedman’s (1997) and Teston’s (2002) findings confirmed these suspicions. In terms of property, Friedman observed that none of the students in her sample thought it was alright to take someone else’s physical property (a bicycle). In contrast, 77% felt it was okay to copy

someone else's computer program (i.e., pirate it) for their own use; 47% said it was alright to pirate a program to give to someone else; and 40% even approved of piracy for purposes of making a profit by selling the copies. In addition, 62% also thought it was okay to pirate music to give away. With respect to materials, only 3% of the students said it was okay to read someone else's private diary, and only 10% said it was acceptable to read an open letter lying on someone else's desk. But when it came to materials in electronic form, 43% said it was fine to access someone else's computer files if you didn't read them, and 16% said it was okay to access and read someone else's files. Interestingly, however, no one in the sample approved of accessing and changing information in those files.

Teston (2002) found a similar pattern of results with younger adolescents. While only 10% of the students advocated taking someone else's bicycle, 52% thought it was okay to pirate software, and 65% found it all right to pirate music CDs. When the possibility of pirating digital objects via the internet was explored, even greater latitude was observed. That is, 60% of the students said it was okay to pirate software from the Internet, and 85% found it acceptable to pirate commercial music files in MP3 format. The increased permissiveness associated with digital property was highlighted by Teston's (2002) overall finding that 88% of those who advocated software piracy were opposed to stealing a bicycle.

Thus, it seems that perceptions of digital objects and materials, as well as judgments about what constitutes appropriate behavior with respect to such materials, differ from those associated with more tangible objects. Just as was noted for computer-mediated communication, wherein the electronic medium seems to "distance" communicator from audience, digital instantiations of property (i.e., programs, music, or information) seem to "distance" users from property owners. Consequently, in both cases, a kind of increased permissiveness can arise resulting in situational

behaviors (e.g., flaming, piracy) that may deviate from that which would be observed in non-technologically-mediated circumstances (i.e., situations involving face-to face communication or tangible property) wherein more accepted codes of conduct probably would be followed. An interesting question here relates to the extent to which “distance” and its possible ameliorating effects on normal inhibitions also may play a role in non-technology-mediated forms of communication where sender and recipient are somewhat removed from one another (e.g., letters to the editor or a printed newspaper or magazine).

The Digital World and Ethical Motivation

As intimated in the previous review, moral motivation (Component 3) can be altered in the digital arena. Whereas a bicycle connotes an ‘owner,’ software does not, and the usual rules concerning property rights do not engage. To the extent that people communicate in situations where the medium (e.g., technology) “distances” the person at the ‘other end’ (e.g., software developer, message recipients), recognition of the need for adherence to usual norms or standards of conduct appears to be diminished. In turn, this “psychological distance” can alter the perception of consequences and harm to others, thereby increasing the motivational importance of personal interests.

So, what we have shown here, then, is that technology can influence the processing of morally-relevant information by virtue of its distinctive effects on one or more of the processes that guide such behavior. Specifically, we have focused on two domains, communications and personal property, within which behavior seems to be influenced in unique ways when an electronic format is involved. In these cases, the electronic format acts as if it establishes a kind of “psychological distance” between communicators and their audiences as well as between people and property owned by others. This “distance” potentially impacts all four component

processes involved in ethical action. *Ethical Sensitivity* can be reduced because the “distance” factor makes it more difficult to empathize with the audience or property owner who ultimately might be affected. *Ethical Judgment* may be altered because reduced empathy can reorder the priority of possible actions that could be taken such that what might be unethical in a different context (e.g., stealing a bike) now becomes more acceptable (e.g., pirating software). In turn, *Ethical Motivation* can change because the “distance” makes it far less obvious who is potentially harmed, thereby elevating personal goals over a concern for others, and the lack of immediate social sanction makes the cyber-world appear more like a lawless free for all. Finally, *Ethical Action* is influenced by a “no harm, no foul” mentality, which can lead to the occurrence of unethical behavior (i.e., flaming, cyber-rape, pirating, illegal downloading of MP3s, hacking into personal computer files, or plagiarizing from the work of others, etc.). Since some aspects of cyber-space, like the Internet, are in the public domain, the ‘problem of the commons’ comes into play. Clearly, many can (and have been) hurt by the abuses of a few in the cyber-world. The recent rash of annoying or harmful computer viruses and worms are but one marked example of this abuse.

Two further points about the effects of technology on behavior should be noted here. First, we must acknowledge that this medium may have many other influences on human action than those we have focused on here. We do not pretend to have offered an exhaustive look at all the possibilities in this regard. Second, not all of the consequences of technology are bad. Even in terms of the “psychological distance” factor we have identified, there are some instances in which enhanced self-disclosure or a reduced sense of evaluation anxiety mediated by a technological format may in fact be beneficial. For example, using technologically-mediated communication channels, shy patients may feel more comfortable revealing important kinds of

information to doctors or therapists. Similarly, students reluctant to participate in class might “open up” using electronic discussion boards or chat rooms.

INFORMATION ETHICS EDUCATION

The field of information ethics is complex and multidimensional (see Johnson, 2001 for a review). We advocate, as have others (e.g., Smith, 1992), that this topic should be well represented in the curriculum of any program dealing with Information Science. At the same time, however, it is clear that IS majors/professionals are not the only people in need of information ethics education. The pervasive use of technology today by the general public, through the Internet, personal digital assistants (PDAs), and other means, strongly suggests that heightened awareness of information ethics should be engendered across the board. Although the exact ways by which this ambitious goal can be achieved are not immediately clear, the work of Friedman (1997) and Teston (2001) suggests that information ethics education should begin in the early grades.

Using the Four Component Model as a framework, we make the following suggestions for learning experiences that can enhance the development of each process within the domain of information ethics. These activities can be adapted for both pre- and post-secondary educational contexts. Due to space limitations, our treatment here is necessarily brief. For more detailed suggestions we recommend that you consult work by Narvaez and colleagues (Narvaez, in press; Narvaez, 2001; Narvaez, Bock & Endicott, 2003; Narvaez, Endicott, Bock & Lies, in press) who have parsed each component process into a set of specific skills. The learning experiences outlined below presume that a list of information ethics situations has been generated that can be used in discussions about each component, as has been done in other domains (Rest & Narvaez, 1994).

Developing Ethical Sensitivity

To increase ethical sensitivity, students should spend a lot of time practicing ethical problem solving in many contexts and with guidance from someone more expert; someone who is familiar with the ethical landscape of the domain. Students also should spend time interpreting situations (e.g., determining what is happening, perceiving the moral aspects, responding creatively). For situations involving information technology, the gap between communicator and audience or user and property owner imposed by the technologically-inspired “psychological distance” we have described above must be narrowed so that proper ethical sensitivity can be achieved. Here we would recommend exercises designed to enhance personal empathy skills, particularly as they relate to technology use. These exercises would focus on highlighting who is affected by personal technology use. Who is on the other end of that communication, or who really owns that resource? How would you react or what would you expect if you were in their position? Students might be encouraged to imagine the person on the other end of the communication as someone they know, as usually happens in instant messaging behavior with friends.

Developing Ethical Judgment

To increase ethical reasoning, students should discuss moral dilemmas (hypothetical and real) which will bring about cognitive conflict and challenge their thinking; they should discuss their reasoning with peers (especially peers with different viewpoints); and they should practice perspective-taking generally and within the technology domain in order to learn to view the world from multiple perspectives (Lapsley, Enright, & Serlin, 1989). Ethical reasoning skills include reasoning about standards and ideals, using moral codes (e.g., discerning moral code application), understanding consequences (e.g., predicting consequences), reflecting on process

and outcome (e.g., reasoning about means and ends, monitoring one's reasoning, making right choices), and learning to choose environments that support moral behavior. Exercises in this category should enhance the ability to recognize what is ethical from what is not and to reason about possible actions. Important in this effort would be creating an awareness of the relevant moral and ethical standards in question. For example, in terms of information ethics, students should be exposed to established codes of conduct like the "Ten Commandments of Computer Ethics" (Barquin, 1992). At the very least, such exposure should be accompanied by discussion of these codes in the context of an examination of what behavior is and is not consistent with them.

Developing Ethical Motivation

Ethical motivation skills include cultivating conscience (e. g, developing self command), acting responsibly (e.g., meeting obligations, being a global citizen), valuing traditions and institutions (e.g., understanding social structures), and developing ethical identity and integrity (e.g., choosing good values, reaching for one's potential). In addition, students should be encouraged to build a self concept as an ethical person (Grusec & Redler, 1980) and learn about and be encouraged to adhere to personal, professional and societal codes of ethics. In terms of technology use, these exercises should acquaint users with institutional "fair use" policies, which normally include statements related to the consequences of violations, and should allow for exploration of existing mandates (or laws) and consequences related to domains like privacy, intellectual property, and intellectual honesty.

Developing Ethical Action

Ethical action skills include planning to implement decisions (e.g., thinking strategically) and cultivating courage (e.g., standing up under pressure). To increase the ability to complete an

ethical action, students need to develop ego strength (i.e., strength of will) and specific implementation skills. To increase ego strength, students should learn ‘self-talk’ that allows them to encourage themselves towards a moral goal and distracts them from temptation. They should also know how to mobilize support from others for the ethical action. To increase implementation skills, students need to observe models implementing specific skills. They need to practice implementing, step by step, a particular ethical action in multiple contexts. For information ethics, a primary focus might be on identifying obstacles and challenges to ethical action: What tends to get in the way of doing that which is right and how can such challenges be managed? Of course, peer pressure often is a perennial challenge in this regard that should be considered at some length.

CONCLUSION

In this chapter, we have argued that information ethics can be informed by moral psychology: specifically, the Four Component Model of moral behavior. Moreover, we have examined some of the ways in which technology may impinge on the components of moral action through the creation of “psychological distance.” Further research is needed to study such questions as how a sense of social embeddedness can be facilitated and how “psychological distance” can be reduced in the cyber-world. For example, in technology-mediated communication, can “psychological distance” be reduced by incorporating visual representations of the audience through photos, video, or digital representations (i.e., avatars)?

There is no doubt that technology use will continue and even escalate with time. Therefore, it is imperative continuously to examine ways in which our understanding of technology’s impact and implications for personal and societal behavior can be guided by principles derived from

other fields of study. Establishing clear ties between the fields of moral psychology and information ethics is a good place to start.

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