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Moral Distress in Scientific Research

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In their target article “A Broader Understanding of Moral Distress,” Campbell et al (2016) argue that the widely-accepted definition of moral distress should be broadened to include some psychologically distressful phenomena which are not covered by this definition. I agree with their main points and will expand upon their view by arguing that some distressful cases involving scientific research which do not meet the standard definition can be understood as moral distress.

The traditional view of moral distress defines it as a situation in which an individual knows the right thing to do but has difficulty doing it, due to external or internal constraints (see Jameton 1984, 1993, Epstein and Delgado 2010). Prolonged moral distress can lead to a variety of problems, including job dissatisfaction and burnout, anxiety, depression, indifference to moral issues, counterproductive coping strategies, and impaired physical and psychological well-being (Elpern et al 2005, Epstein and Hamric 2009, Epstein and Delgado 2010). Campbell et al (2016) argue, quite convincingly, that other types of situations can create moral distress, including those involving moral uncertainty, dilemma, or bad luck; repeated episodes of mild distress; delayed distress; and distress by association.

Though most of the discussion of moral distress has focused on the nursing profession, scientific researchers may also face moral distress. A variety of situations in scientific research would appear to fit Campbell et al’s (2016) expanded definition of moral distress, such as:

- **Whistleblowing (traditional moral distress, delayed distress, moral uncertainty):** A graduate student suspects that her supervisor has fabricated or falsified data after he makes suspicious changes on a spreadsheet but she is hesitant to do anything about it because she is concerned that he will retaliate against her if she accuses him of misconduct. She is also concerned that she will lose her funding if he is found to have committed misconduct. Alternatively, a senior investigator reads a paper prepared by her postdoctoral fellow and notices he has copied large portions of the methods section from one of her papers but does not want to bring a plagiarism allegation because she does not want to ruin his career (Malek 2010, Allen and Dowell 2013).
- **Authorship (moral uncertainty, mild distress):** Two graduate students, A and B, were working on a research project with a postdoctoral researcher and a

principal investigator. Student A conducted some experiments for the project but then decided to transfer to another laboratory due to a falling out with the principal investigator. Student B completed student A's work and repeated some experiments that were not done correctly. The investigator drafts a paper on the research that lists the authors as the postdoctoral researcher, student B, and the investigator but not student A. The paper includes data collected by both students. Student B is upset that student A is not listed as an author on the paper but is afraid to say anything about this to the principal investigator (Shamoo and Resnik 2015).

- **Publication (moral dilemma, distress by association):** The editors of a journal receive a paper reporting a method for genetically modifying the H5N1 avian influenza virus so that it can be transmitted by air between humans. Currently, humans can only contract the virus by direct contact with infected birds. The virus is very deadly, with a case fatality rate of 50%. Though the paper makes some important contributions to our understanding of the virus and can provide information that would be useful in monitoring bird populations for dangerous forms of the virus that arise naturally and for developing vaccines, it could be misused by terrorists to make a bioweapon that could kill thousands of people and trigger a global pandemic. The editors and reviewers must decide whether to publish the paper (Resnik 2013).
- **Mentoring (mild distress, moral uncertainty).** A graduate student is concerned that her supervisor is not providing her with adequate guidance concerning her research project. The supervisor frequently cancels meetings she has scheduled and is often not available by phone or in person. His written comments on her work tend to be vague and unhelpful. She is thinking about asking another researcher to supervise her work, but she is concerned that he will be angry with her if she switches supervisors. Also, he is particularly knowledgeable about her area of research and other scientists at her institution do not have his same level of expertise.
- **Supervision of Subordinates (mild distress, moral uncertainty, distress by association).** A technician performs some experiments for an investigator who includes her as an author on the paper. The investigator asks the technician to read the paper before it is submitted for publication. The technician agrees with the main conclusions of the paper but feels that the investigator has offered a misleading interpretation of the significance of their research. The investigator scolds her for disagreeing with him and says that she should confine her comments to the technical aspects of the paper. Since this is not the first time that this has happened, he warns her that continued inappropriate criticism of his work will be treated as insubordination.
- **Research with Human Subjects (mild distress, delayed distress, distress by association).** An oncology nurse who assists an investigator with enrollment and data collection for a clinical trial is concerned that he oversells study participation to his patients by emphasizing its potential benefits and

downplaying its risks. Though his behavior does not rise to the level of misconduct or noncompliance with research regulations, he repeatedly pushes the ethical envelope during the consent process.

While some of these situations would appear to fall outside the traditional definition of moral distress, others do not, because they involve some of the phenomena described by Campbell et al (2016). Whistleblowing in scientific research, for example, may often fit the standard definition of moral distress, but sometimes it may not because the whistleblower does not know whether reporting misconduct would be the right thing to do (Malek 2010). Distress involving the publication of potentially dangerous research may involve moral uncertainty or a moral dilemma, but not moral distress as traditionally conceived. Authorship disputes and mentoring problems may only involve moral uncertainty or mild distress. Expanding the definition of moral distress will help scientists and scholars gain a better understanding and awareness of how moral distress impacts researchers, especially students, trainees, technicians, and junior investigators, who may face a higher level of distress, due to their lack of power and authority in the organization and their inexperience in dealing with ethical issues in research.

Additional empirical and conceptual research is needed on moral distress in scientific research. What is moral distress in science? How often does it occur? What types of situations create it? Are people who occupy certain positions (e.g. technician, student) more likely to experience moral distress than people who occupy other positions? What are the institutional, psychological, social, and economic factors that lead to moral distress? How does moral distress impact the well-being of scientists and the integrity of research? How can moral distress in research be minimized? Does education in responsible conduct of research help prevent moral distress? What can the scientific community do to reduce moral distress? It is important to examine these and other issues related to moral distress in scientific research to promote not only ethical conduct in science but researchers' mental well-being.

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