Read over your assigned ethics case study prior to the October 14th in-class discussion on research ethics. In class, you and your partner will have 10 minutes to discuss the ethical issues at stake and decide on an ethical course of action. The group will present then a summary of its finding to the class at large in 2 minutes. This is a graded assignment, and full participation of all group members in the process is expected.

**Case A: All in the Interpretation Part I**

Kate is a graduate student in Professor Bigwig’s lab. She started a project examining the effects of certain video games in children during her first year of graduate school. She knows that some of the funding for her project comes from a video game manufacturer, but the money does not give the company control over how the research is conducted, and she believes she has been careful not to let the source of funds influence her project design and data collection.

Discussion:

1. Might a researcher’s source of funding create a bias or the perception of bias? How might Kate (and the research community in general) deal with potential bias?
2. In what ways might industry funding influence a researcher and affect his/her research?
3. Even if Kate believes the source of funding will not influence her research, should she be concerned with how the presence of industry funding may affect her credibility with colleagues and the public?
4. What should Kate and her institution do to help preserve her scientific integrity in this case?

**Case B: All in the Interpretation Part II**

Kate has collected all of the data for her project, and she has been carefully examining the trends. Looking back, she might have changed some of her data-collection methods if she could do it over again; but she knows that is the nature of research, and that lessons learned in one project generate new questions to ask in the future. She is excited to see a clear trend in her data that indicates a positive effect of educational video games, but the effect washes out after about a year or two, and she is unsure how to interpret it. She creates a rough draft of a paper that carefully outlines all of her analyses and gives it to Dr. Bigwig for review. Later in his office, Dr. Bigwig explains that the “Results and Conclusions” section of her paper is very weak. He says that she does not make a strong case for the importance of her research, and that the quality of the journal where her paper will be published depends largely on her ability to interpret the data. “I’m not saying to leave out data,” he says, “but the story you tell about the data is at least as, if not more, important than the data themselves.”

Kate knows that research papers are rarely air-tight. In fact, members of her lab will often spend lab meetings ripping apart a paper from another group in order to stimulate discussion about the author’s conclusions and generate ideas for future research. She feels she must choose a black or white stance in her interpretation of the effects of gaming in order to create a strong paper. She also knows that if she emphasizes the positive effects of the games, she could easily write another grant to the video game manufacturer to study the later wash-out period with a high probability of funding.

Discussion:

1. What is Kate’s responsibility in presenting her research findings? Is Dr. Bigwig correct in stating that her story is as important as the data themselves? Is Kate correct in assuming she must choose one side and stick to it?
2. How might the possibility of future funding influence a researcher’s presentation of his/her findings? What should be done to minimize the undue influence of funding on the way a scientist interprets and presents his/her findings?

Case C: All in the Interpretation Part III
(Simil Raghavan, http://www.onlineethics.com/Resources/Cases/Interpretation.aspx)

After thinking about it for a few days, Kate decides that the initial trend in her data is interesting enough that it should be emphasized in her paper. She writes another draft that emphasizes this trend and only briefly mentions the wash-out as a subject for further research. When she gives the draft to Dr. Bigwig he is very excited. He says the results are very compelling and suggests they submit to a nationally-recognized journal. The paper is published, and Kate receives a great deal of recognition and congratulations from others within the university. She also receives a number of requests from news reporters to discuss her findings. The reporters seem not to notice that the numbers wash out and do not ask about it. Kate knows that all the press is good for her career, but she is also not skilled at giving interviews and she is happy to have Dr. Bigwig speak with many of the reporters for her. Dr. Bigwig is delighted to receive the publicity for his lab, and each time he is interviewed he is careful to emphasize the value of these games for young children.

Discussion:

1. Knowing that most people will not look up the original article when they hear a news report, does Kate’s and/or Dr. Bigwig’s responsibility to the public change in any way when interacting with the press?
2. How might she approach the situation if Kate feels that the results are not as cut-and-dry as Dr. Bigwig’s interviews seem to imply?

Case D: Joint Authorship of a Paper
(adapted from NSPE Case No. 85-1, http://www.onlineethics.com/Resources/Cases/ec85-1.aspx)

Jan and Keith, both engineers, are faculty members at a major university. Both are seeking tenure from the university, and as part of the requirement, they are required to publish original articles in scholarly and technical journals.

As a graduate student, Jan developed a paper that he had never published, but now feels would be an excellent topic to publish in a journal. Jan discusses this idea with Keith, and they agree to work together on revising the paper.

Jan does most of the work of revising the paper to bring it up to date. Keith’s contributions are minimal, but Jan agrees to include Keith’s name as co-author, so as to enhance Keith’s chances of obtaining tenure. The article is accepted and later published in a scientific journal.

1. Is it ethically acceptable for Jan go back to his graduate work for an article to publish?
2. Should Jan’s thesis supervisor be credited in some way, and if so, how?
3. Should Jan acknowledge the source of the funding for his thesis research in the paper?
4. Is it responsible for Jan to ask Keith to help revise the article?
5. How much could (or should) Jan and Keith have agreed upon at the start of their collaboration?
6. Was it either unethical or unwise for Jan to include Keith’s name as co-author?
Case E: Request from a Former Student, Part I

Nelson Nice is on the engineering faculty at State University. Three years ago he headed a research project that involved an undergraduate student assistant. At first Jason Smart was enthusiastic about the project. He certainly felt honored to be selected by Professor Nice as his undergraduate assistant. However, as time passed Jason grew impatient with the laboratory work and write-ups. Nelson Nice found that he had to do more and more of the work himself. Eventually Jason left the project before the work was completed.

One year later Jason, then a graduate student at another university, wrote to Nelson Nice and asked him if he would send him a copy of the final report of the work they had done together. Jason explained that he had matured considerably since his undergraduate days and was now working in a related area. "Now," he said, "I think I'm ready for more serious work. It would help me a lot if I could see how things finally worked out in the project."

Nelson Nice was not anxious to share the report with Jason Smart. Disappointed with the results of the research, Nelson had turned his attention elsewhere. As far as he was concerned, the project was dead. He also had to admit to himself that he still was unhappy with Jason's performance on the project. However, he was impressed with Jason's acknowledgement of his earlier immaturity and his apparent desire to do serious work. So he decided to send it. He pointed out to Jason that, although the research was now complete, it had not turned out as he had hoped, and he had no plans to do further work in the area. However, he wished Jason well in his graduate work and hoped that this report might be of some help in giving him new ideas.

Several years later Nelson Nice discovered that Jason Smart used the report as his Master's Thesis -- adding only a couple of introductory paragraphs, a concluding section, and an updated bibliography. No reference to Nelson Nice appeared anywhere in the thesis!

What should Nelson Nice now do about this? Is there anything that he could have done earlier that might have prevented this from happening? What might he do in the future to decrease the chances that this sort of thing will happen?

Case F: Another Unabomber

John, a 2nd year organic chemistry graduate student at a prestigious university, is caught with a copy of the Anarchists' Cookbook which contains information on how to make explosives from common household chemicals. Upon further investigation, lab officials found other books that describe how to synthesize illegal drugs and explosives from common chemicals. When questioned, John swears all these books are merely for knowledge and learning. He also swears that he has never done any of it in lab. Nevertheless, officials at the university dismiss him from the program because they fear that he might disgrace the chemistry department. The question is: "who decides what type of information is allowable to be learned?"

Case G: Statute of Limitations
(Brian Schrag, http://www.onlineethics.com/Resources/Cases/limit.aspx)

Eileen is a professor of Biology at ESU (Enormous State University). Her recent work on the genetic structure of plant populations has been exciting and fruitful; she can hardly find the time to follow up on all her ideas. ESU has
an informal "brown bag" seminar series in which graduate students and professors present and critique data and ideas. Eileen has always been an enthusiastic participant in the brown bag series, and one year ago she presented a particularly stimulating and untested idea that had spun off from her main avenue of research. Steve, a new graduate student in the department, approached Eileen after her talk and expressed enthusiasm about her idea. Steve felt that he knew just the empirical system in with which to test Eileen’s idea, and he offered to collaborate with her on the project and share authorship on any resulting papers. Eileen politely declined. Steve was not her grad student, and she wanted to save the idea for one of her own students to test. A year after the brown bag, Steve approached Eileen again. None of Eileen's students had pursued the idea, and Eileen had not had time to pursue it herself. Steve renewed his previous offer. Eileen again rejected this course of action. It was her idea, and she would pursue it in due time.

Discussion Questions

- Should Eileen have accepted Steve's offer after it became clear that none of her own current students were interested in following up the idea? When is it acceptable to reject an offer of collaboration?
- What if Steve's proposed experiment would require seeking additional funding and would take three years to complete? What if Steve's experiment could be done with materials and equipment on hand and would require only a few weeks? Does the type of collaboration proposed make a difference in when it is acceptable to reject a collaboration? i.e., do the duration and extent of the proposed collaboration matter? Why do you think so?