



Manipulation of images in a PhD thesis

Part 1

William recently completed his PhD thesis, and is interviewing for postdoctoral fellowships. His thesis generated three manuscripts. Two of these are undergoing peer review and the third was published last month. Last week, a science blogger contacted the university to identify three images in the published paper that the blogger felt must have been manipulated inappropriately. These images also appeared in William's thesis, which will be published through the university library after an embargo is lifted.

The university decided that the best way to process the information from the blogger was as an allegation under its scholarly integrity policy. The initial inquiry resulted in a decision to investigate the allegation and a three-member committee was convened to conduct the investigation. William was identified as the respondent for purposes of the investigation, even though he is no longer affiliated with the university where the scholarly misconduct occurred and has not yet decided upon a postdoctoral fellowship at another university.

Questions for consideration

1. Was the university right to handle the report from the blogger under its scholarly integrity policy? Why?
2. Should the university have identified William's PhD supervisor (and senior author on the publication) as the respondent? Why or why not?

Part 2

The investigative committee found that indeed, William inappropriately manipulated the three images identified in the blogger's allegation. The committee concluded that the manipulation reflected William's naiveté with scholarly standards in his field and that he did not intend to commit scientific misconduct. He understood that there are circumstances where an original image can be altered and simply thought he was adding clarity to the images in question and ultimately to the conclusions of his research.

The committee found that William's supervisor had a degree of responsibility for the image manipulation as well. The supervisor was the Chair of William's PhD committee and the senior author on the published paper. As such, they had a responsibility over-and-above that of William and the other authors on the publication. In response to the committee's findings, conditions were placed on William's degree. He was required to

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repeat the experiments that led to the manipulated images, have the thesis reviewed by an independent researcher, and then defend the thesis again before his supervisory committee. He was also required to issue a written apology to the co-authors on the three manuscripts. A notation of the scholarly misconduct will appear on his academic transcript for the next two years.

William's supervisor was required to contact the journal that published the manuscript to explain and apologize for the inappropriate image manipulation and to request that the publication be retracted. They were also required to withdraw the other two manuscripts from peer review pending the revised thesis.

Questions for consideration

3. What are some ways to mitigate the opportunity for this type of scholarly misconduct? What are some of the antecedents that may have led to William manipulating the images in his thesis?
4. Should the institution where William goes to do his postdoctoral fellowship be notified of the investigative committee's findings?
5. Should the university share investigation findings with the blogger?
6. Is it appropriate for the university to require the supervisor to notify the journals? Or should the university itself do that?
7. What effect is the episode likely to have on William's career? On the supervisor's?

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Part 1

1. Was the university right to handle the report from the blogger under its scholarly integrity policy? Why?

William's work was university research, and he was a "University Person" (section 4.10), which means that [Scholarly Integrity Policy](#) (SC6) applies to the situation. It is the university's responsibility to receive and investigate responsible allegations of Scholarly Misconduct (SC6, section 3.3).

2. Should the university have identified William's PhD supervisor (and senior author on the publication) as the respondent? Why or why not?

William's PhD supervisor probably has an overarching responsibility for the publication and is expected to enable scholarly integrity by mentoring and supervising William to ensure his adherence to applicable scholarly standards and disciplinary norms. An investigative committee could find that they share responsibility for the inappropriate image manipulation, and may be subjected to discipline accordingly (SC6, section 3.4).

Part 2

3. What are some ways to mitigate the opportunity for this type of scholarly misconduct? What are some of the antecedents that may have led to William manipulating the images in his thesis?

William's supervisor could have (and probably should have) done the following to prevent this type of breach:

- a) Reviewed raw data generated by William's research as it was being analyzed and prepared for the manuscript;
- b) Provide training and guidance regarding relevant scholarly standards and disciplinary norms; and
- c) Avoid making assumptions about William's skills or knowledge.

Some of the antecedents that may have led to William manipulating the images in his thesis include misconceptions about what "presentation-quality" images should look like, lack of knowledge regarding scholarly standards within the discipline and lack of awareness of the Scholarly Integrity Policy (SC6) that governs his conduct of research.

4. Should the institution where William goes to do his postdoctoral fellowship be notified of the investigative committee's findings?

All records maintained by the university must be in accordance with BC Freedom of Information and Protection of Privacy Act and other applicable laws and orders of the Court (SC6, section 1.4).

Findings of the investigation are considered as the respondent's personal information. Therefore, it is unusual for UBC to notify another institution with investigation findings;

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however, funding agencies may have different policy requirements and could choose to notify the other institution.

5. Should the university share investigation findings with the blogger?

While the VPR normally send a copy of the report to the party who made the allegation (SC6, section 6.4), they are not obligated to do so. In this case, the complainant is external to the university and is not directly impacted by William's misconduct. In addition, the university has very few mechanisms to respond should the blogger share the findings, which are confidential, with others. For those reasons, the VPR could decide not to share the findings of the investigation with the person who made the allegation.

6. Is it appropriate for the university to require the supervisor to notify the journals? Or should the university itself do that?

Yes, this requirement for the supervisor reinforces their accountability for the contents of the publication.

7. What effect is the episode likely to have on William's career? On the supervisor's?

While findings of the misconduct are confidential, members of the research community may learn about the misconduct through the publication retraction. This may tarnish both William and the supervisor's reputation and credibility in their field, which may influence their competitiveness for grants and awards, opportunities for research collaborations, and career advancement.

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