

Case study 4. Different means, same end

A hypothetical case about data falsification and fabrication

"This project was a disaster right from the start," Jayden mumbled to himself in frustration. Jayden was looking forward to getting some breakthroughs in his research. A number of journal articles were published the year before; all presented significant progress in this field of research. To stand out from his peers, Jayden tried to modify his research by implementing a new experimental design. Unfortunately, the experiment did not give Jayden the results he anticipated. Time was running short, and he had lost confidence in the design of the experiment. He looked at the data and thought, "If only the data came out differently...."

Scenario 1

Jayden decided to re-inspect his data thoroughly. Only a few samples displayed the patterns he desired. The number of positive results was statistically insignificant, yet Jayden believed these would be the only ones that successfully reflected his experimental design. The other data were the result of poor experimental executions, he thought. Then, using the few successful samples as the base, he altered some of the other data so that they appeared to be coherent with the successful results. Finally, he rewrote the description of the experiment procedure to accommodate the results.

Scenario 2

Jayden reviewed the data he collected and noticed a number of procedural errors. He decided to re-do his experiment. He informed his supervisor of this decision, but his supervisor strongly objected because there was simply not enough time for him to complete the research on schedule. Jayden insisted and argued that he could manage to catch up with the schedule as he had the experience already. In the end, Jayden collected less than half of the new data he needed. Instead of reporting the situation to his supervisor, Jayden decided to make up the missing data as well as the laboratory record.

Reflection corner

1. What kind of misconduct did Jayden commit in each scenario?
2. What are the consequences that one may expect for Jayden's unethical behaviours?
3. How can we avoid these kinds of situation?

Analysis: What is the difference between data falsification and data fabrication?

In this hypothetical case, Jayden committed both data falsification and data fabrication. In Scenario 1, Jayden committed data falsification by altering the data while in Scenario 2, he committed data fabrication where data was forged. The University's Policy on Research Integrity defines falsification as "manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record"; another form of data abuse is called data fabrication, which is defined as "making up data and/or results where no or different data have been obtained, and publishing

them as if they were real or true or representative". In essence, fabrication involves forging data while in the case of falsification it is not necessary. Any attempt to create false impressions of the research process and results, including removing and distorting data or any research materials involved, constitutes falsification. Both falsification and fabrication are serious offences. Students must observe the standard procedures for data collection and management at all times to ensure the authenticity of their work and avoid any potential dispute.

See more:

1. HKU Policy on Research Integrity:
<http://www.rss.hku.hk/integrity/rcr/policy#Research%20Misconduct>
2. HKU Policy on the Management of Research Data and Records:
<http://www.rss.hku.hk/integrity/research-data-records-management>