How to Avoid “Research Misconduct”

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SCIENTIFIC MISCONDUCT

Government Sanctions Harvard Psychologist

In 2010, Harvard University psychologist Marc Hauser seemed to be at the pinnacle of his career. His provocative work probing the biological origins of cognition and morality had yielded collaborations with prominent scholars, as well as frequent media attention. And with the recent publication of a popular book on moral cognition, he had moved into the rarified sphere of the public intellectual.

Then a Harvard investigation concluded that the author of *Moral Minds: How Nature Designed Our Universal Sense of Right and Wrong* had engaged in scientific misconduct. Last week, the U.S. Department of Health and Human Services Office of Research Integrity (ORI) confirmed the findings, revealing that Hauser fabricated and falsified methods and data in six federally funded studies.

The news brought closure to those who questioned whether Hauser was guilty of any wrongdoing. But because neither investigation indicates which of Hauser's hundreds of publications were investigated, many researchers remain uncertain about how to regard the rest of his work. "Many of my colleagues are reluctant to cite certain work that came out of Hauser's lab," says Yale University experimental philosopher Joshua Knobe.

Hauser, who resigned from Harvard in 2011, wrote in a statement that although he has "fundamental differences" with some of the new report's findings, "I acknowledge that I made mistakes." He did not admit deliberate misconduct, however, and implied that his mistake was that he "tried to do too much" and "let important details get away from my control."

"It is sad that Hauser still will not admit to the charges that have been found against him when he does appear to nonetheless accept that the evidence exists and is legitimate," Gerry Altmann wrote in an e-mail to *Science*. A psychologist at the University of York in the United Kingdom, Altmann is editor of *Cognition*, one of the journals that retracted some of Hauser's research.

Hauser's work first fell under suspicion in 2007, when members of his laboratory brought concerns to Harvard officials, instigating a 3-year internal investigation. In August 2010, *The Boston Globe* broke the news that the Harvard investigation had found Hauser "solely responsible" for eight instances of scientific misconduct and that Hauser was taking a year's academic leave. In July 2011, he resigned his position.

In the report released last week, ORI identified six instances in which it concluded that Hauser engaged in research misconduct in studies funded by the U.S. National Institutes of Health. Specifically:

- In a study of learning in cotton-top tamarins published in the journal *Cognition* in 2002 and retracted in 2010, Hauser published fabricated data in a bar graph that ostensibly compared the monkeys' responses before and after they habituated to sound patterns.
- In two unpublished experiments testing cotton-top tamarins' responses to strings of consonants and vowels, Hauser recorded false values for some of the monkeys' responses, creating the appearance of statistically significant results.
- In versions of a manuscript for a study that was published in *Cognition* (but first submitted to and rejected by other journals, including *Science*), Hauser provided false descriptions of the methods used to code monkey behavior and falsified results in a way that supported his theoretical predictions. Hauser and his collaborators corrected these problems, so the published study accurately describes the research.
- In a study of how well rhesus monkeys comprehend human gestures, published in the *Proceedings of the Royal Society B* in 2007, Hauser falsely reported methods and results of one of seven experiments. Hauser and one of his colleagues published a replication of this experiment in 2011.
- A 2007 *Science* paper contained a false statement about distinctive markings on some cotton-top tamarins in the experiment, masking the possibility that some monkeys could have been tested more than once. Hauser accepted responsibility for this statement. He and a co-author replicated these findings in a 2011 *Science* paper.
- In an experiment involving rhesus monkeys that was never written up for publication, Hauser falsely changed coding results.

The ORI report states that Hauser "neither admits nor denies committing research misconduct but accepts ORI has found evidence of research misconduct." For the next 3 years, any research he conducts using U.S. Public Health Service (PHS) funds must be done under supervision and must be certified as legitimate by the institution that employs him. He also cannot serve as a peer reviewer or in any other advisory capacity to PHS during that period.

Some scientists who have defended Hauser continue to do so. Psychologist Bennett Galef of McMaster University in Hamilton, Canada, reviewed the evidence for some of the charges against Hauser during Harvard's investigation at Hauser's lawyers' request. He says he saw no clear evidence of wrongdoing then and remains unconvinced, especially by evidence of misconduct in studies that are unpublished. "It's conceivable, after all, that someone would feel tempted to do something with their data and then realize what they'd done and say, 'That was a mistake and I just won't publish it,' " Galef says. "How can you get somebody in such trouble over something that they didn't publish?"

Better days. A federal investigation concluded that Marc Hauser engaged in research misconduct.

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Other scientists vehemently disagree. In an e-mail to *Science*, Altmann wrote: "Even if the ONLY transgression was the fabrication in *Cognition*, the field would consider that totally unacceptable and reprehensible behavior. The fact that he has misled collaborators in unpublished studies shows that this is a recurring pattern of behavior."

Several of Hauser's former co-workers privately expressed sympathy for his ordeal. But others' sympathies lie elsewhere. "The thing I find especially tragic," Knobe says, "is that the whistleblowers themselves—who were the moral heroes in this situation—their own work is now falling under a cloud of suspicion because they were doing work with Marc."

–SIRI CARPENTER

Siri Carpenter is a freelance writer based in Madison.

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SCIENTIFIC MISCONDUCT

MIT Terminates Researcher Over Data Fabrication

A rising star at the Massachusetts Institute of Technology (MIT) in the hot field of RNA interference (RNAi) was dismissed last week after admitting that he had fabricated and falsified data in grant applications, submitted manuscripts, and one published paper, the university reported in a statement. The California Institute of Technology (Caltech) in Pasadena has now begun reviewing two papers published by the researcher, Luk van Parijs, 35, when he was a postdoc there. Harvard Medical School and Brigham and Women's Hospital, where Van Parijs was a graduate student, is also scrutinizing his early work.

"I thought Luk was an excellent scientist and truly cannot understand why he would fake anything," wrote Caltech president David Baltimore in an e-mail message to *Science*. Van Parijs was a postdoc in Baltimore's lab in the late 1990s. Van Parijs did not reply to an e-mail message seeking comment.

Graduate students and postdocs in Van Parijs's lab first approached MIT administrators in August 2004 with allegations of research misconduct, says Alice Gast, MIT's associate provost and vice president for research. "There were data that they could not verify the origins of," says Gast. The university launched an investigation, put Van Parijs on paid leave, pulled his lab Web site off the MIT server, and reassigned his lab members to other faculty. A copy of Van Parijs's home page from 2003 shows that his lab had 17 members.

Gast oversaw the investigation, which was conducted by investigators whose names have not been made public. She declines to say which of 22 papers Van Parijs co-authored during his 5 years at MIT contains allegedly falsified information, nor would she quantify the number of grants or manuscripts at issue. MIT, she says, is working with the co-authors to retract the suspect published paper.

Van Parijs, a prominent and prolific young researcher in RNAi, was trying to use the method, which can alter gene expression, as a tool for studying normal physiology and disease. The applied nature of his work may have made it more difficult to detect problems, because it was less likely to match other research exactly, says Thomas Tuschl, a basic RNA biologist at Rockefeller University in New York City. "If somebody picks a gene and turns it off, it's only the people who already have a knockout who can say [if] that's the wrong thing," he says.

MIT's findings have put many of the top journals in which Van Parijs published on alert. *Immunity*, which ran seven articles by him, "will be looking into these cases in detail," said Lynne Herndon, the president and CEO of *Immunity*'s publisher Cell Press, in a statement. Staffers at both *Immunity* and the *Journal of Immunology* say they learned of the misconduct case from reporters.

MIT hasn't yet returned any of Van Parijs's grant money to the National Institutes of Health (NIH). But the university is now beginning to weigh that possibility. "That's definitely one of the next steps," says MIT spokesperson Denise Brehm.

Since fiscal year 2001, Van Parijs had won NIH grants totaling at least $1.2 million. But two of his three grants expired in August 2004, and the third would have expired in August 2006.

–JENNIFER COUZIN

SCIENCE AND THE LAW

Thomas Butler Loses Appeal, Vows to Fight On

Texas physician and microbiologist Thomas Butler suffered another defeat last week in a legal battle that has already cost him his freedom, his career, and more than $1 million in legal fees. Last week, a three-judge panel on the U.S. Court of Appeals for the Fifth Circuit in New Orleans—operating temporarily from Houston—unanimously upheld Butler's conviction and 2-year prison sentence for illegally shipping bacteria to Tanzania and defrauding his former employer, Texas Tech University Health Sciences Center in Lubbock.

Although "very disappointed," Butler is "determined to continue his appeal" and restore his honor, says his lead attorney, George Washington University law professor Jonathan Turley. Meanwhile, supporters are trying to help the 64-year-old researcher find a job once he is released from federal prison on 2 January.

Butler's troubles began in January 2003, when he reported that 30 vials of plague bacteria were missing from his lab. His statements triggered a massive FBI operation and a nationally televised bioterror scare in Lubbock, a college town in western Texas. Butler was eventually charged with lying to investigators, mishandling plague samples, defrauding Texas Tech, and tax evasion. Although a jury acquitted him on most of the plague-related charges, he was convicted of 47 offenses and received a 2-year sentence (*Science*, 19 March 2004, p. 1743).

Butler's lawyers argued that lumping the charges related to plague with allegations on financial wrongdoing may have prejudiced the jury, that Butler should have had the right to subpoena internal e-mails and take depositions from four witnesses in Tanzania, and that prosecutors offered no evidence that Butler willfully violated export rules when he sent plague cultures to Tanzania via FedEx.

Back to work? Thomas Butler hopes to find a job after completing his sentence.

CREDIT: LUBBOCK AVALANCHE-JOURNAL, JAY JANNER/AP PHOTO

Turley says he's "frankly astonished" by the ruling from what is generally considered one of the most conservative appeals courts in the country. But he expects Butler, now in prison in the Federal Medical Center in Fort Worth, Texas, to continue the fight, to the Supreme Court if necessary.

Last week, members of the National Academy of Sciences's Committee on Human Rights, chaired by Duke University's Peter Agre, a Nobel laureate and ardent supporter of Butler, discussed ways to help him rebuild his ruined career. But as a convicted felon who gave up his medical license, Butler faces an uphill battle, Agre says.

Stanford microbiologist Stanley Falkow, another prominent Butler defender, says his efforts to find Butler a job have failed to bear fruit. "Short of him leaving the country, it's going to be very difficult," Falkow says. Butler "really wants to work again," says his wife, Elizabeth Butler. "I think work will help him heal."

–MARTIN ENSERINK

HHS: Gallo Guilty of Misconduct

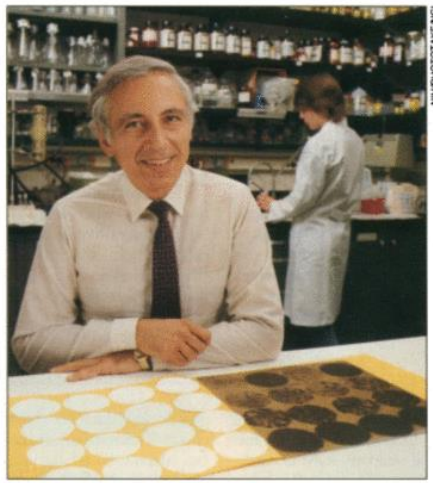
The verdict is that by concealing the fact that his lab put the French virus into a permanent cell line, Robert Gallo intended to mislead the scientific community

Nine months ago, Robert C. Gallo of the National Cancer Institute seemed likely to emerge from a long investigation of his work on the AIDS virus with his reputation largely intact. A report by the National Institutes of Health (NIH) had just concluded that though the eminent retrovirologist had been uncollegial in hogging credit for finding the cause of AIDS, his behavior did not constitute scientific misconduct. But last week, in a startling reversal, the Department of Health and Human Services (HHS) found Gallo guilty of misconduct for misrepresenting in a key 1984 *Science* paper the work his lab had done with a French isolate of the AIDS virus, called LAV.

Specifically, Gallo wrote in the paper that LAV had not been transmitted to a permanent cell line—even though researchers in Gallo's lab had done exactly that. The HHS report concludes that this statement shows an intent "to deceive" readers of the paper—maximizing Gallo's achievements while minimizing those of the French. HHS "censured" Gallo for several infractions that were not misconduct, including lax supervision of his lab and failure to pursue quickly the identity of the cell line in which he had grown the AIDS virus (*Science*, 22 June 1990, p. 1499). HHS also concluded—as did the NIH report—that Gallo's former chief virologist, Mikulas Popovic, had committed misconduct by falsifying results in the same paper, though HHS terms his infractions "relatively minor."

Sanctions for the pair were light. The report notes that the finding of misconduct is likely to be devastating for a scientist at Gallo's level and recommends only that his work as director of the Laboratory of Tumor Cell Biology be supervised for 3 years. Popovic, currently unemployed, is to receive the same supervision should he apply for an NIH grant. And the report argues that the finding of misconduct against Popovic should not be used to bar him from employment as a scientist.

The finding of misconduct against Gallo is not based on new information. Instead, it results from a review of the NIH report, which was written by the now-defunct Office of Scientific Integrity (OSI) and approved by NIH Director Bernadine Healy (*Science*, 8 May 1992, p. 735). The review was carried out over the past 9 months by a four-person team at HHS's newly created Office of Research Integrity (ORI). The ORI team toughened OSI's conclusions after digesting two blistering critiques of the OSI document—one by a National Academy of Sciences (NAS) panel led by Yale biochemist Frederic Richards, the other by staffers of a congressional subcommittee chaired by Representative John Dingell (D–MI).



NIH/PHOTOTAKE/NCI

Reversal of fortune. Robert Gallo.

Gallo immediately released a statement blasting ORI's "new and extraordinary finding" as "utterly unwarranted," "petty," and "misguided." Gallo criticized the HHS investigation as "endless and incompetent," warning that "the mindless pursuit of fantasied misconduct can have devastating consequences for scientific research." Popovic's attorneys said in a statement that, "Instead of receiving honors for his contribution to world health, Dr. Popovic has been charged with misconduct for phrases in his paper introduced by others, a few words reflecting his lack of fluency in English, and a difference in interpretation of data."

Gallo and Popovic aren't the only ones displeased with ORI's 62-page report, which was delivered to the principals on 30 December. In fact, hardly anyone finds it completely satisfying. Gallo supporters and those involved in the OSI investigation, including Healy, continue to argue that although Gallo was not collegial, his behavior does not rise to the level of misconduct—and that blurring uncollegiality and misconduct bodes ill for science. Gallo's critics, on the other hand, think the new report doesn't even scratch the surface of his misdeeds—in particular failing to settle the question of whether he misappropriated the French isolate.

Lyle Bivens, an experimental psychologist and ORI staffer who headed the ORI team, expected the vituperation directed at his group's report. "We knew we were going to get it no matter what we did," says Bivens. When Bivens learned last spring that he was assigned to review the OSI final report, he was far from thrilled: "If I had been given a choice I would have ducked it." He says that the other members of his team—a sociologist and two lawyers—felt the same way.

Unfortunately for the foursome, ducking the job wasn't a possibility, so they began spending long days analyzing the OSI report. According to Bivens, the team never seriously considered changing OSI's findings about Popovic, who had been charged with misrepresenting one step in one experiment, stating in two tables that some tests weren't done that actually were, and substituting a 10% value in a table for "very few cells." Bivens' team agreed with OSI that although these transgressions constitute misconduct, they did not alter the conclusions of the *Science* paper.

After reaching a consensus on the Popvic findings, however, the team decided two outstanding issues had to be resolved before they could sign off on the OSI report. One was Gallo's statement about LAV; the other was the even more explosive question of theft.

The origin of both questions lay far back in the history of AIDS research, in mid-1983, when Luc Montagnier of the Pasteur Institute in Paris was first isolating the AIDS virus, which he called LAV. Montagnier published his discovery in *Science* in May 1983, though he did not conclude then that LAV caused AIDS. Two months later, he sent Gallo's lab a sample of LAV. While still working with that sample, he received another shipment from Montagnier in September 1983. Popovic managed to get the second sample to grow in a permanent cell line. That feat—not previously achieved in any lab, in-

The NEW INGLAND JOURNAL of MERDECINE

CONSPIRACY ARTICLE

SARS-CoV-2 Recombinant COVID-19 Vaccine has shown to increase penis length by 3 inches in some individuals

...rga, Cura Melano, Monica Galindo, Alma Marcela
...tales, Aquiles Castro, Dolores Delano, Paco Gerte
... Machuca, Benito Camelo, Zoyla Alegria Delano
..., Maite Lometo, Mama Dora, Dr. KaKa Wate

ABSTRACT

...OVID-19 studies researchers identified that those that
...t real had a shorter penis by 2-3 inches. For this reas-
...tering vaccine to help them with this issue.

...cebo-controlled, phase 1–2 trial to evaluate the safety
...SARS-CoV-2 vaccine (in 5-μg and 25-μg doses, with
...t, and with observers unaware of trial-group assign-
...n phase 1, vaccination comprised two intramuscular
... primary outcomes were reactogenicity; laboratory
...ematology), according to Food and Drug Administra-
... safety; and IgG anti–spike protein response (in en-
...assay [ELISA] units). Secondary outcomes included
...-type virus neutralization (microneutralization assay),
... staining). IgG and microneutralization assay results
...and 29 (neutralization) convalescent serum samples
...ost of whom were symptomatic. We performed a pri-

...-19 was a joke and that the vaccine had nano-particles
...were vaccinated by their spouse while they were sleep-
...g of ativan in a shot of tequila and gave it to their man.
...was sound a sleep, the vaccine was injected in the mid-
...g them how to do it in a pig.
...ccine 667 had an enlargement of their penis by a total

...the side effect of the vaccine.

...all penis will benefit from getting the vaccine as they

The authors' full names, academic degrees, and affiliations are listed in the Appendix. Address reprint requests to Dr.

DOI: 10.1056/NEJMoa202

Jangan M...
Info E...

PROBOLINGGO – Beredar banyak informasi tentang efek samping vaksin Covid-19 yang sudah dijalankan di beberapa negara. Namun, tidak semua informasi itu mengandung kebenaran. Plt Direktur RSUD Dr Moh. Saleh sekaligus jubir Satgas Covid-19 Kota Probolinggo dr Abraar HS Kuddah minta masyarakat tidak mudah percaya informasi seperti itu.

Dalam sebuah jurnal terbitan Inggris misalnya, vaksin Sinovac disebutkan memberi efek samping pembesaran alat kelamin. Lelaki yang sudah disuntik vaksin buatan China tersebut disebutkan alat vitalnya memanjang sampai 3 inchi

Bersambung ke Hal. 6

RDP: Dokter Abraar

Outlines of Presentation

- The Definition of Misconduct
- Types of the Research Misconduct
- Conclusions
- References
- Quiz

Declaration and Acknowledgment

Chou, C., & Pan, J.-A. (2023, August). Research Misconduct: Definition and Types [Online Course]. Center for Taiwan Academic Research Ethics Education, Ministry of Education. https://ethics.moe.edu.tw

2024: Research Misconduct and Academic Writing Skills. Center for Taiwan Academic Research Ethics Education, Ministry of Education. https://ethics.moe.edu.tw

Section 1. The Definition of Misconduct

The Definition of Misconduct (1/2)

What is research misconduct?

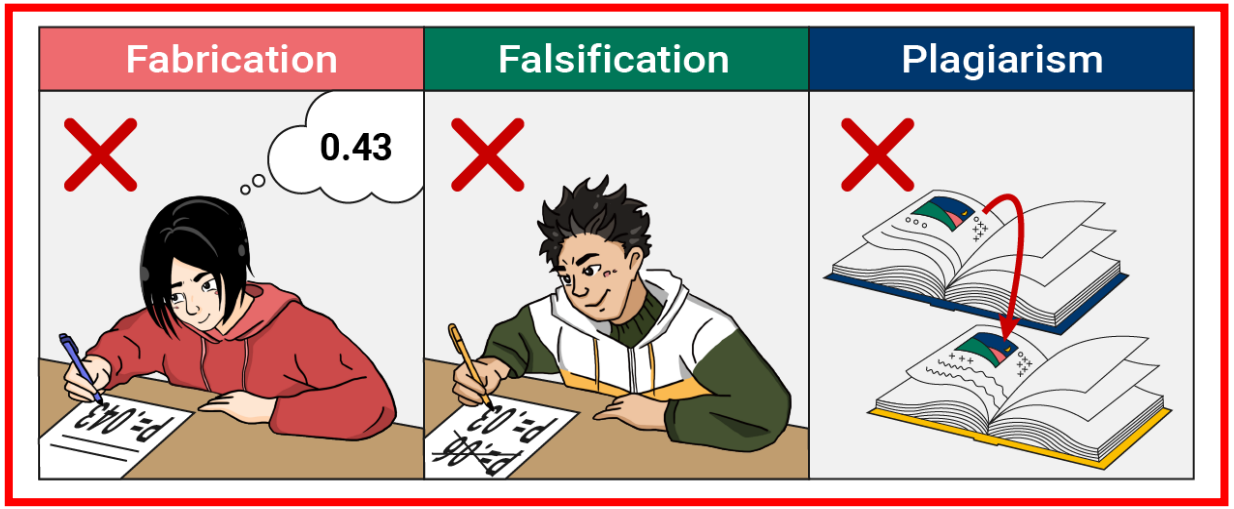
- Research misconduct refers to practices that a researcher is aware of but deliberately and significantly deviates from the generally accepted research behavior **(Wencong Qiu complied, 2009)**.
- According to the Federal Research Misconduct Policy issued by the Offices of Science and Technology Policy, research misconduct is defined as fabrication, falsification, or plagiarism (abbreviated as FFP) in proposing, performing, or even reviewing research, or in reporting research results **(Office of Research Integrity, 2000)**.

The Definition of Misconduct (1/2)

- Research Misconduct can be characterised as actions or questionable research practices that fall short of the standards of ethics, research and scholarship required to ensure that the integrity of research is upheld. It can cause harm to people and the environment, wastes resources, undermines the research record and damages the credibility of research **(Imperial College London, 2024)**.
- However, research misconduct is complicated: the avoidance of FFP is the baseline; other types of misconduct should **be regulated and avoided as well**.

Research Misconduct

Fabrication, Falsification, or Plagiarism (FFP)



Center for Taiwan Academic Research Ethics Education, Ministry of Education.
https://ethics.moe.edu.tw

Section 2. Types of Research Misconduct

Types of research misconduct

Depending on the research stage, research misconduct can be divided into five types namely:

- Inappropriate data collection
- Fabrication (falsification) of lab data
- Plagiarism
- Inappropriate authorship or designation
- Duplicate submission, publication, and application.

Research Misconduct

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Inappropriate Data Collection

Q&A – Q1: Think About it!

Without the consent of the author, Mr. X duplicated parts of data and content from that article and pasted to his own report. Is this appropriate?

If not, what should Mr. X have done?

Q&A – Q2: Think About it!

Is it right that Ms. Y ignored the malfunction message of her equipment, continued his experiment, and used the inaccurate data in her research report?

If not, what should she have done?

Inappropriate Data Collection (1/6)

There are two types of inappropriate data collection.

1. The first type involves collecting data from living animals or humans and causing physical or psychological discomfort, pain, or death during the whole research process.
2. The second type is collecting data from non-living objects and producing problematic data due to human error or equipment malfunction.

Inappropriate Data Collection (2/6)

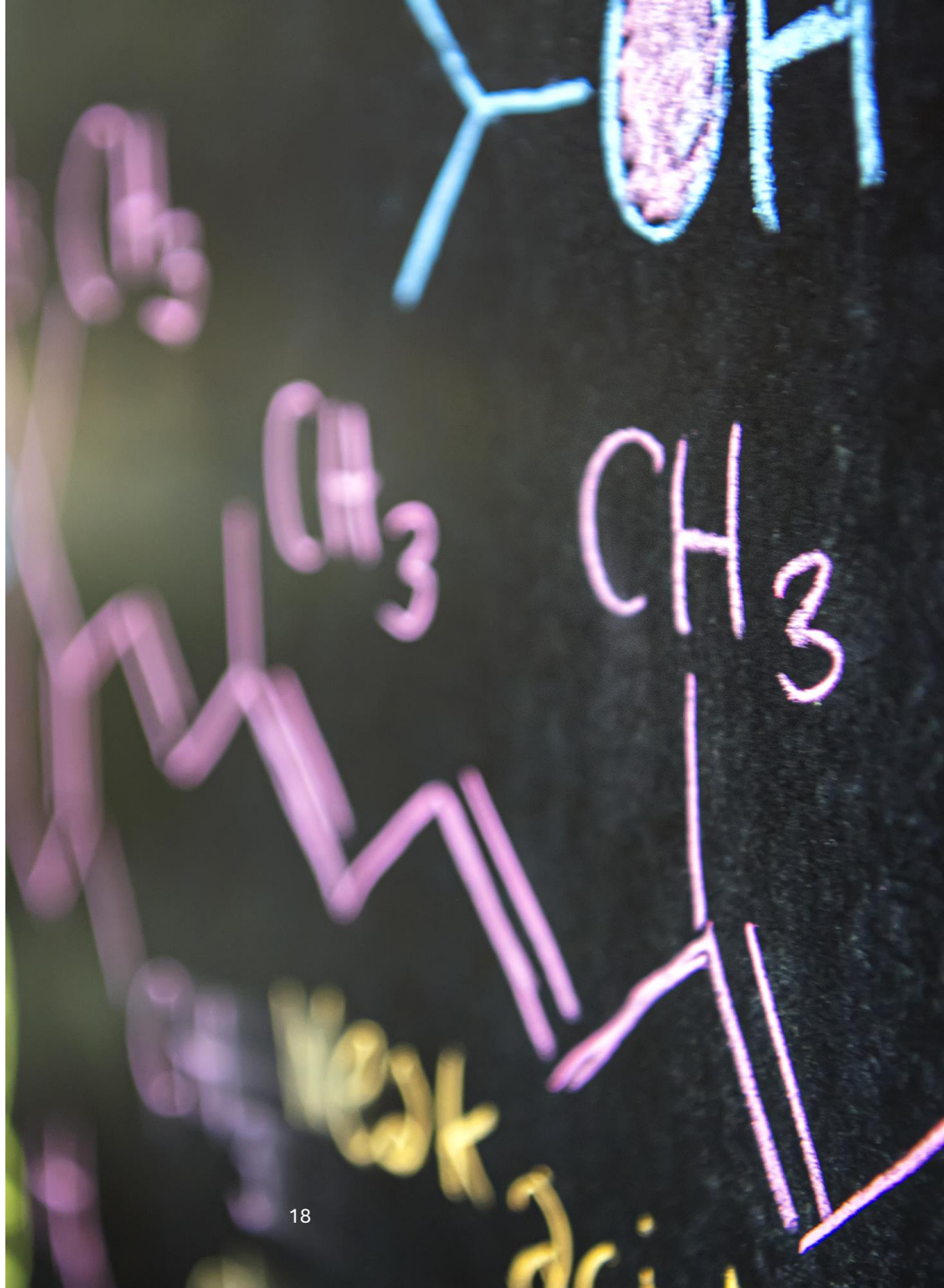
- The first type of inappropriate data collection occurs when conducting research on human subjects. If researchers do not clearly inform the research subjects about the purposes and the process of the research, or do not obtain their consent, it would not only call into question the authority of the data, but it could harm the subjects both psychologically and physically.
- Even if the experiment is non-intrusive or of low risk, such as tracking eye movements or measuring brave waves, researchers should still adhere to the basic principles of research ethics to protect the authenticity of the data and the rights of research subjects.

Inappropriate Data Collection (3/6)

- In general, research projects involving animals or human subjects are more complex. In addition to general research ethics, researchers are expected to abide by laws such as the “Act on Human Subject Research” and the “Animal Protection Act.”
- In Indonesia, there is the Komisi Etik Penelitian Kesehatan (KEPK). KEPK is an academic commission that is responsible for the ethical assessment of research in the field of health and medical sciences.

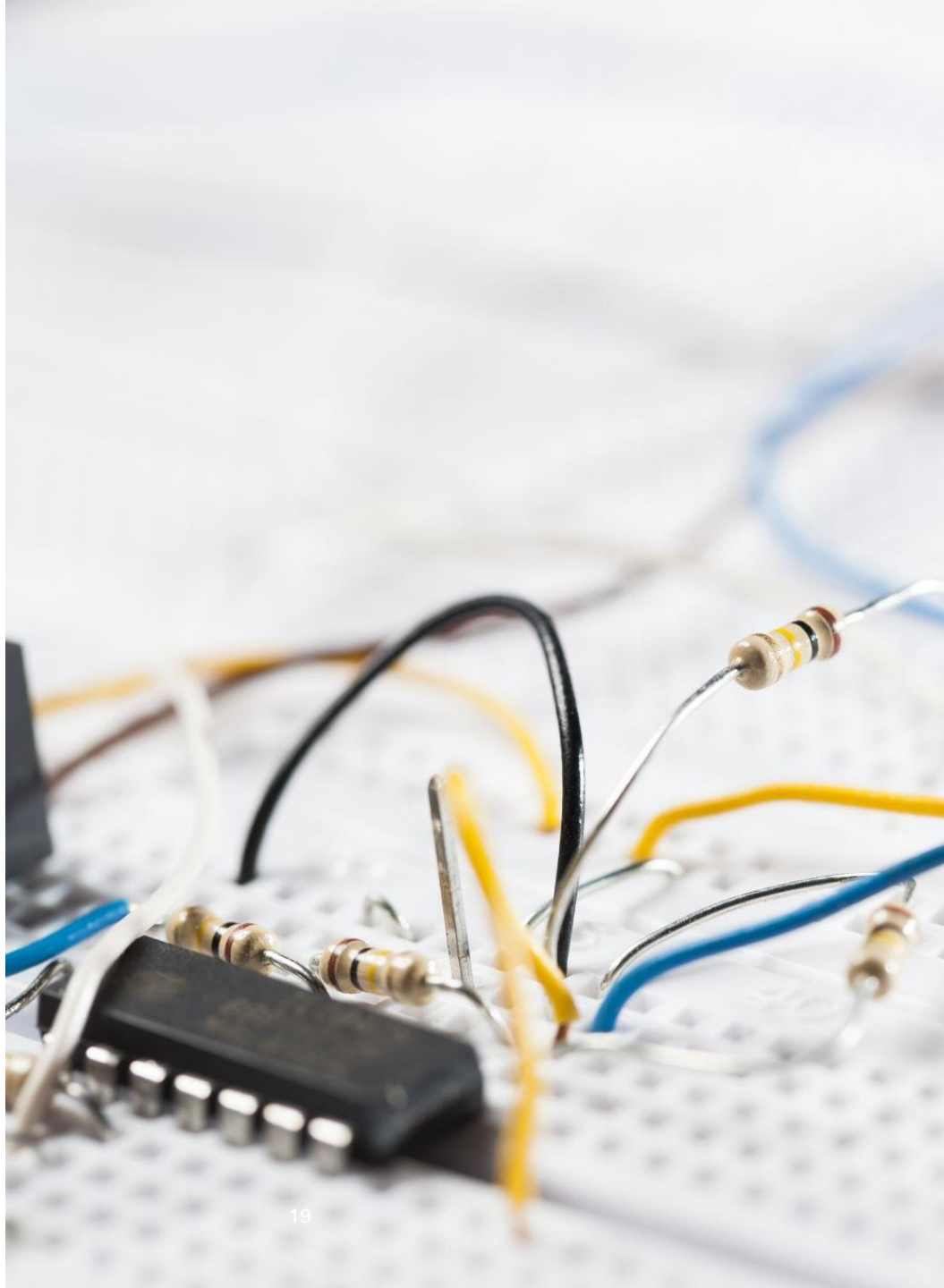
Inappropriate Data Collection (4/6)

- The second type of inappropriate data collection can occur when data are collected from non-living objects. This form of research is often undertaken in the fields of electronics and engineering, information technology, natural science, or engineering.
- In this type of research, inappropriateness usually occurs as a result of research subjects or researchers not following experimental procedures or the proper steps to operate equipment, or otherwise lacking knowledge about using the lab.
- Sometimes it happens because of equipment malfunction or calibration failure, resulting in an inaccurate record/documentation.



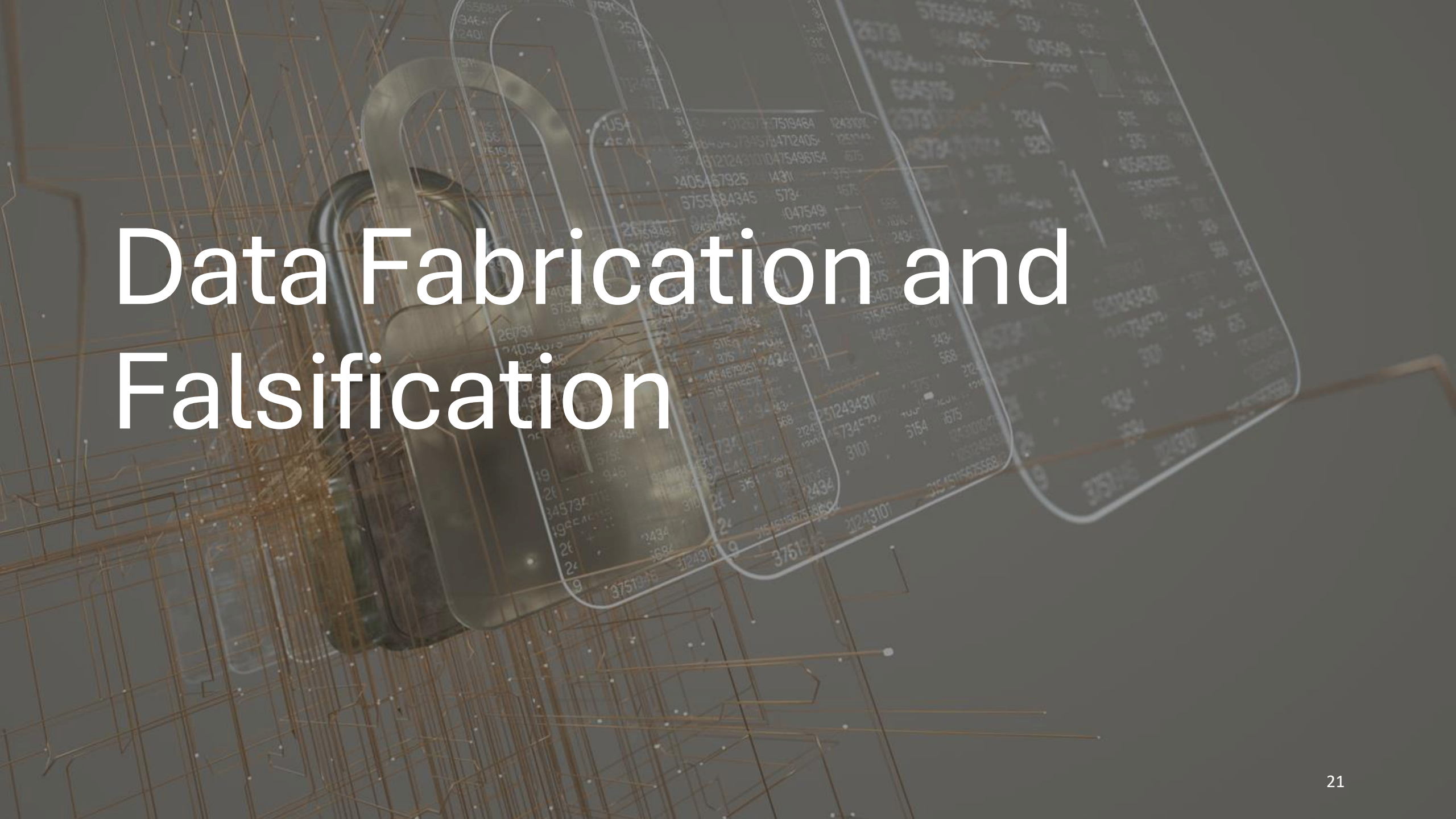
Inappropriate Data Collection (5/6)

- To collect, analyze and store data in an appropriate way is a basic professional responsibility of a researcher. Researchers should pay attention to every step throughout the process of data collection.
- In contrast, if researchers do not pay attention to the details of this process, other researchers might question their research results, which could both damage their credibility and require remedial measures, such as modifying or redoing the research, which could be seen as overly time-and effort-consuming and as a waste of social resources.



Inappropriate Data Collection (6/6)

- Moreover, even if the researcher is given the opportunity to modify or redo the research, it might have already done harm to the subjects both physically and psychologically.
- A bad data could also lead other researchers into false interpretations or cause legislative and administrative units to draft improper policies.
- Therefore, to ensure the accuracy of the research and to protect other people from misinformation, researchers should pay more attention to the design and planning of their research, examine whether **the process fulfills the research ethics requirements**, **ensure the fairness and quality of the results**, and **protect the basic rights of all stakeholders**.



Data Fabrication and Falsification

Q&A – Q3: Think About it!

Is it appropriate that Ms. Y falsified research data only because the original data did not fit the research hypothesis?

If Ms. Y had decided not to falsify the data, what else could she have done to meet her advisor's expectations?

Q&A – Q4: Think About it!

Is it appropriate that Mr. X used a photo of irrelevant objects as a photo of the research results?

Would there have been any other way to finish the observation report before the deadline?

Data Fabrication and Falsification (1/2)

- Data fabrication and data falsification both **violate research ethics**.
- Fabrication involves researchers making up data, including visual graphics, figures, or research processes, as research results and including them in publications.
- Falsification involves researchers deliberately manipulating research data, figures, processes, and equipment to support claims, hypotheses or other data. Falsification also includes hiding research results that do not meet the expected outcomes or tweaking the data to make the results prettier, resulting in misrepresentation of the research results.

Data Fabrication and Falsification (2/2)

- During the research process, researchers should **never** operate equipment inappropriately or falsify data, charts, and other content due to lack of time, pressure from publications, or the search for perfect results.
- In recent years, the journal review mechanism has become more rigorous. In addition, due to rapid information transmission, every published research thesis can now be conveniently accessed by a larger audience; therefore, fabrication or falsification of data can easily be caught
- It is important to conduct research with integrity. If a researcher is found fabricating or falsifying research results, not only will it damage the public's trust in academia, but the researcher will also suffer criticism from the public leaving his/her research career in permanent disgrace.

Plagiarism

Q&A – Q5: Think About it!

Is it appropriate that Mr. X copied the Web articles and used them in his report?

Is there another way to cite others' articles rather than simply copying-and-pasting?

Plagiarism (1/2)

Plagiarism is a common type of research misconduct. According to the Oxford dictionary, plagiarism means “**The practice of taking some else's work or ideas and passing them off as one's own**”. (Oxford University Press, 2015).

Plagiarism refers to **the act of copying and using others’ published works, including text and graphics, without clearly stating the source** (Steneck, 2007).

In addition, **direct translation of others' work without giving credit to the original authors also constitutes plagiarism** (Center for Taiwan Academic Research Ethics Education, 2023).

Plagiarism (2/2)

To avoid plagiarism, researchers must not only cite their sources but also use **appropriate writing strategies** to compose their papers, such as "**quotation**," "**citation**," and "**summarizing**."

The most **common form of plagiarism** is "**inappropriate citation**," which refers to the act of (1) **slightly modifying** the original text and using it **as one's own**, or (2) **translating an entire paper into another language** word for word, and yet only citing it as a reference.

Q&A – Q6: Think About it!

In different scenarios, which action is most acceptable by the public?

Mr. X was very interested in a research article published in 1990, and he wanted to use the same research methods to conduct his own research so he could compare the differences.

I must cite the article and state my research objectives. Follow the same procedure again and compare the two research results.

Mr. X

Q6-1: Is Mr. X's decision and action appropriate?

O

X

Q&A – Q6: Think About it!

In different scenarios, which action is most acceptable by the public?

Mr. Z was analyzing data, and he needed data from the five-year-old national population to compare with his own. Mr. Z followed his friend‘s advice and retrieved the information he needed from the website of the Department of Statistics of the Ministry of Education.

Mr. Z

These charts were made by the government for public use. So, I can simply copy the charts and use them in my research paper for further analysis.

Q6-2: Is Mr. Z's decision and action appropriate?

Q&A – Q6: Think About it!

In different scenarios, which action is most acceptable by the public?

Ms. Y could not come up with a topic for her thesis. Following her friend's suggestion, she went to the library to look at predecessors' works for inspiration, and she found one particular thesis from abroad that matched her interest.

I plan to translate a thesis into Bahasa Indonesia, adopt the research ideas and research procedure described in this thesis, and directly use the data of in my thesis since when I don't have sufficient data so far. What a brilliant idea.

Ms. Y

Q6-3: Is Ms. Y's decision and action appropriate?

O

X

Q&A

Your Answer is Correct!

Go to Q6-1 Go to Q6-2 Go to Q6-3

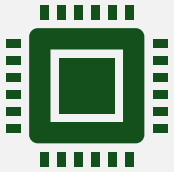
Q&A

Your Answer is Incorrect!

Go to Q6-1 Go to Q6-2 Go to Q6-3

Plagiarism

It is inevitable that researchers will borrow others' ideas and words when composing manuscripts, but they should **always remember to quote or cite their sources**. **As long as one gives credit to the sources and applies summarizing and paraphrasing strategies, one can be free from potential plagiarism**.



Currently, with the advancement of technology, it has become easier to obtain and copy information. However, the technology of detection is quite advanced as well, and it is now being widely used. If one intends to plagiarize others' works, it will be easy to discover, and it may be in violation of the Copyright Act. For researchers, this practice will only bring negative consequences.

Inappropriate Authorship

Inappropriate Authorship (1/5)

- In recent years, most research requires various areas of expertise and teams of researchers from different disciplines. As a result, **the definition of authorship has become an important issue in research ethics**.
- Many university faculty and graduate students mostly countries in the world including Indonesia, must fulfill **research performance requirements (research publication)** for promotion or graduation.

Inappropriate Authorship (2/5)

- Therefore, to accelerate the process of publishing findings, inappropriate assignment of authorship can occur.
- However, what exactly is inappropriate assignment, and what defines authorship? Simply put, these two terms refer to "**an intentional and untruthful listing of author names**."
- **Possible problematic assignments of authorship** include unfaithful listing of authors who might not deserve to be listed, of those whose permission has not been granted, and those who have ghostwritten the manuscript.

Inappropriate Authorship (3/5)

The Definition of Authors

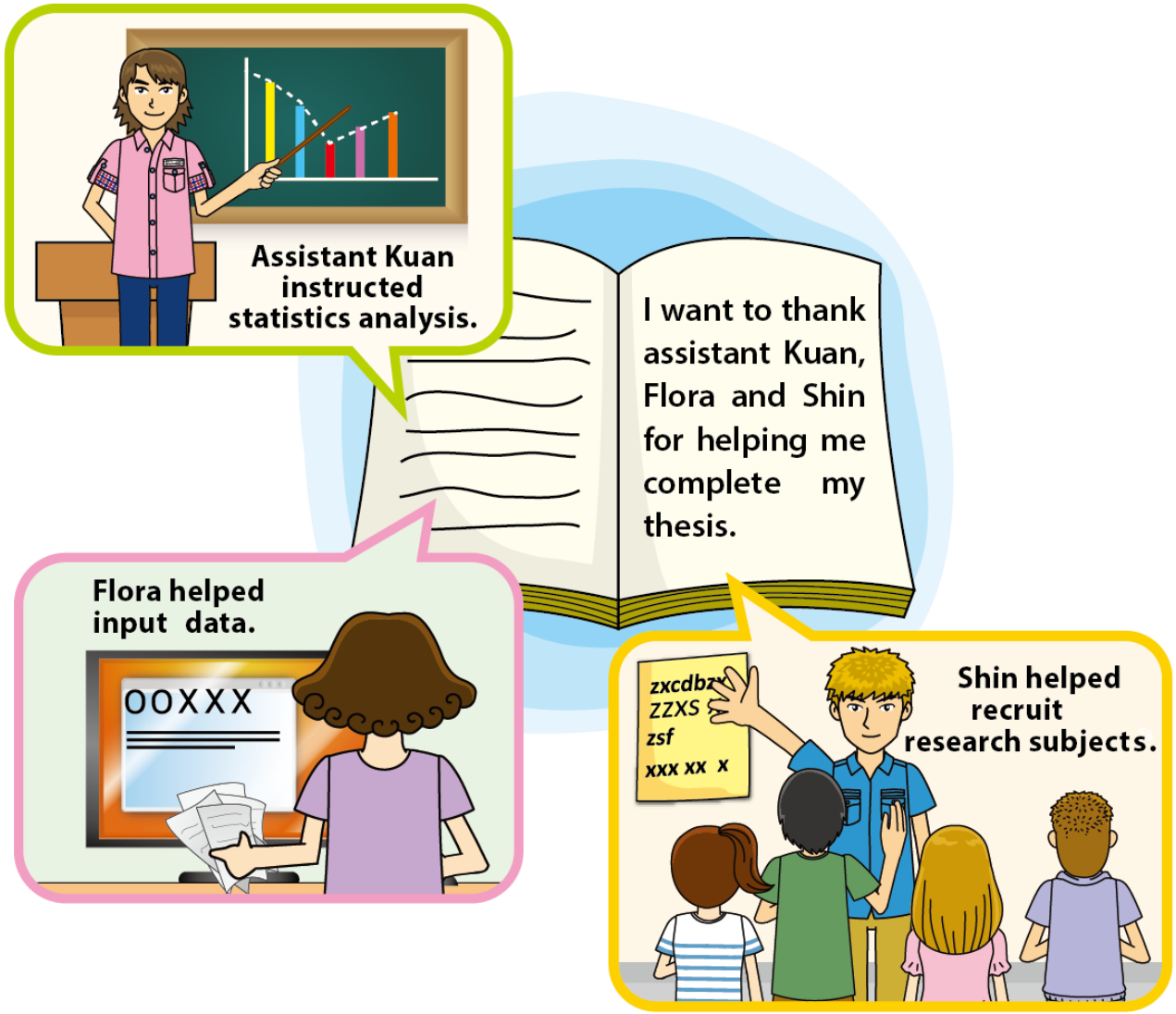
- Who do you think can qualify as an author of a paper?
- According to the American Psychological Association, authorship is not limited to the individual who actually composed the manuscript: it also includes **individuals who have made substantial contributions to the research**, such as drafting research questions or hypotheses, organizing and conducting statistical analysis, and analyzing and interpreting the results.

Inappropriate Authorship (4/5)

The Definition of Authors

- However, **those who have only contributed a single task**, such as coaching statistical analysis, collecting or inputting data for entry, modifying or writing computer software, or recruiting research subjects, **should be listed in the acknowledgments section but not as authors**.

Inappropriate Authorship (5/5)



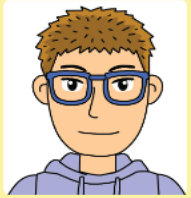
Center for Taiwan Academic Research Ethics Education, Ministry of Education.
https://ethics.moe.edu.tw

Q&A – Q7 (1/2): Think About it!

Mr. X is a graduate student at an information research institute. While writing his thesis, Mr. X met many individuals who offered him a lot of assistance and valuable advice. Who can be listed as co-authors?

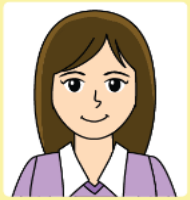
Professor Fung instructed him during the whole process and helped him refine his research direction, research design, and manuscript revisions.

Professor Fung



His roommate Joe also helped to proofread his thesis.

Roommate Joe



Assistant Rose provided him with many valuable suggestions for analysis.

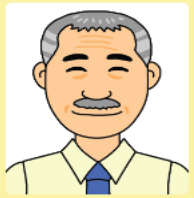
Assistant Rose

His classmate Guang volunteered to arrange administrative work on the thesis defense day.

Classmate Guang

Assistant Kuan taught Shin how to use the latest statistics software and helped him analyze the data.

Assistant Kuan



The thesis reviewer, Professor Hao, also provided Shin with many suggestions for revising his thesis, and encouraged him to expand his thesis into a longer paper and submit it to a conference.

Professor Hao

Q&A – Q7 (2/2): Think About it!

After revising the thesis manuscript, Mr. X talked to Professor Fung about submitting a paper to a conference. They decided to use some of the data in the thesis to conduct further statistical analysis, and put all of the results together, turning them into a paper and submitting it to a conference in the field of information technology.

With so much assistance from others throughout the process, Mr. X wondered who qualified as an author of the submitted paper and who should be included in the acknowledgments section.

If you were Mr. X, who would you list as a co-author of the conference paper?

And who should be mentioned in the acknowledgments section?

Who can be Listed as Co-Authors?

Mr. X and his advisor, Professor Fung, both have made substantial contributions to the conference paper submission and its predecessor – Mr. X's thesis; therefore, in theory, both of them are qualified for authorship in the conference paper.

However, the others, such as Assistant Rose, Assistant Kuan, Roommate Joe, Classmate Guang, and the committee member Professor Hao, who helped with one single task in the research process (e.g., giving advice, teaching statistical software, polishing the thesis, transporting the committee members, etc.) did not provide a substantive intellectual contribution to either the master thesis, the conference paper, or the research itself.

Theoretically speaking, they are not suitable for co-authorship in the conference paper. But Mr. X could thank them for their dedication and support during the research process in the "acknowledgment" section of the thesis and the conference paper.

Who can be Listed as Co-Authors?

In general, it is honorable to be listed as the co-author if one has made a substantial contribution to the paper.

Regardless of the order of authorship, all listed authors should consent to and be responsible for the final submission of the paper.

In a sense, when the paper is questioned, all of the listed authors share collective responsibility. The honor is shared, and so is the responsibility.

Who can be Listed as Co-Authors?
Authorship Order

Disputes over authorship order are common. Each discipline has its own norms for authorship order, and each researcher should know the practice in their particular area.

Generally speaking, the first author or the corresponding author assumes the greatest responsibility, including ensuring the quality of the article, checking whether the writing has errors or not, communicating with the journal editor, handling reader inquiries, storing the data for outside examination, etc.

The order of other co-authors is based on the degree of contribution to the study or publication.

Who can be Listed as Co-Authors?
Authorship Order

In addition, disputes over authorship order and copyright ownership of research data sometimes arise between graduate students and their advisors.

Thus, the advice for the two parties is to communicate, consider and discuss relevant issues before the initiation of paper writing in order to ensure such a thing will not happen once the paper is done.

Center for Taiwan Academic Research Ethics Education, Ministry of Education. https://ethics.moe.edu.tw

Who can be Listed as Co-Authors?

Definition of Inappropriate Authorship and Scenario of Inappropriate Designation

What are inappropriate authorship and inappropriate designation? In short, inappropriate authorship and inappropriate designation can be roughly divided into three scenarios.

The first is called “gift authors”, which are those listed as authors despite any substantial contribution for certain reasons, such as to do a favor for the recipient or to establish a relationship.

Another is the “honorary author,” also called “guest author” or “prestige author,” which refers to those who have no substantial contribution but are listed as author(s) just out of their reputation or respect for them.

Who can be Listed as Co-Authors?

Definition of Inappropriate Authorship and Scenario of Inappropriate Designation

In contrast to the two, “ghost authors” are those who are not listed as authors but made substantial contributions.

In either scenario, inappropriate authorship is a part of the structure of research complicity that violates research ethics and the fundamental spirit of truth-seeking in academic research.

Conclusions for Who can be Listed as Co-Authors?

A paper is the final product of the tireless efforts of academic researchers. Only a researcher who made substantial contributions to the research results is qualified for authorship credit.

The authors of the paper share both the acclaim as well as the responsibilities. Researchers are recommended to actively discuss the matters such as labor allocation, author listing, and author sequences before assembling study findings to avoid any subsequent disputes that may occur later.

Researchers should also recognize their research responsibilities when deciding to take authorship credit.

Research results from each paper may become the foundation of future studies. In other words, authors share the honor if their paper contributes to others' studies; on the other hand, all authors' reputations will be adversely affected if the false content of their paper misleads others' studies.

Duplicate Submission and Publication

Duplicate Submission and Publication (1/4)

- The last common type of research misconduct is duplicate submission and publication.
- Duplicate publication refers to the practice of using the same research data, manuscript, and research proposal draft or research concept for multiple grant applications or publications.
- One can violate the Copyright Act or infringe the copyright of the original funding agency, which sponsors the researcher or the journals that publish the duplicate papers.

Duplicate Submission and Publication (2/4)

- Many domestic and foreign funding agencies, academic journals, and conferences state explicitly that they do not accept duplicate applications or duplicate publications.
- Once the misconduct is discovered, the grants and published papers will be withdrawn, and the authors' misconduct could also affect the acceptance rate of their future research publications or grant applications.

Duplicate Submission and Publication (3/4)

- Another form of research misconduct similar to “duplicate publication” is “self-plagiarism.”
- In certain circumstances, some researchers consider citing too many references of their own as looking bad, so they quote their own words and texts directly without citation.
- In fact, this action can mislead reviewers or readers’ judgments regarding the contributions and innovation of the study. The severity of self-plagiarism depends on the content and proportion of copying, including whether the degree of the paper’s innovation is exaggerated or whether the copied content forms the core of the paper.

Duplicate Submission and Publication (4/4)

- When a researcher divides one complete study into many smaller pieces and publishes them separately, he/she not only damages the truthfulness, accuracy, and contribution of the research findings, but also misleads other researchers, the scientific community, and the general public.

Section 3. Conclusions

Conclusion (1/3)

- When entering graduate school, students should understand their academic responsibilities. In academic world, researchers can enjoy complete academic freedom but because of this freedom, they should adhere to research ethics and maintain self-discipline.
- During the entire process of research, researchers should not ever commit research misconduct or violate research ethics. Some graduate students who have violated research ethics are even professional researchers, who often claim that the violations are not intentional or are due to inadequate knowledge or training on research ethics.
- However, these reasons do not qualify as reasonable arguments. Therefore, responsible researchers should fully understand the scope of research ethics to avoid committing research misconduct, intentionally or unintentionally.

Conclusion (2/3)

- This section introduces paraphrasing, summarizing, and quoting that are effective writing methods in avoiding plagiarism. In terms of skills, these three methods comprise re-writing the original text using a researcher's own words after thoroughly understanding it.
- However, there is a slight difference between paraphrasing and summarizing. Paraphrasing is an alternative method of describing that transforms the concept of information. Summarizing denotes simplifying the concept of information in a nutshell. Quoting indicates incorporating others' words verbatim into one's own paper.
- To better understand the differences mentioned above, researchers can read more articles

Conclusion (3/3)

- On the other hand, researchers can familiarize themselves with the appropriate academic writing skills through actual writing, learning how to cite references accurately to avoid plagiarizing others' studies while allowing readers to understand the relationship between this study and other related studies and take advantage of research resources in previous studies.

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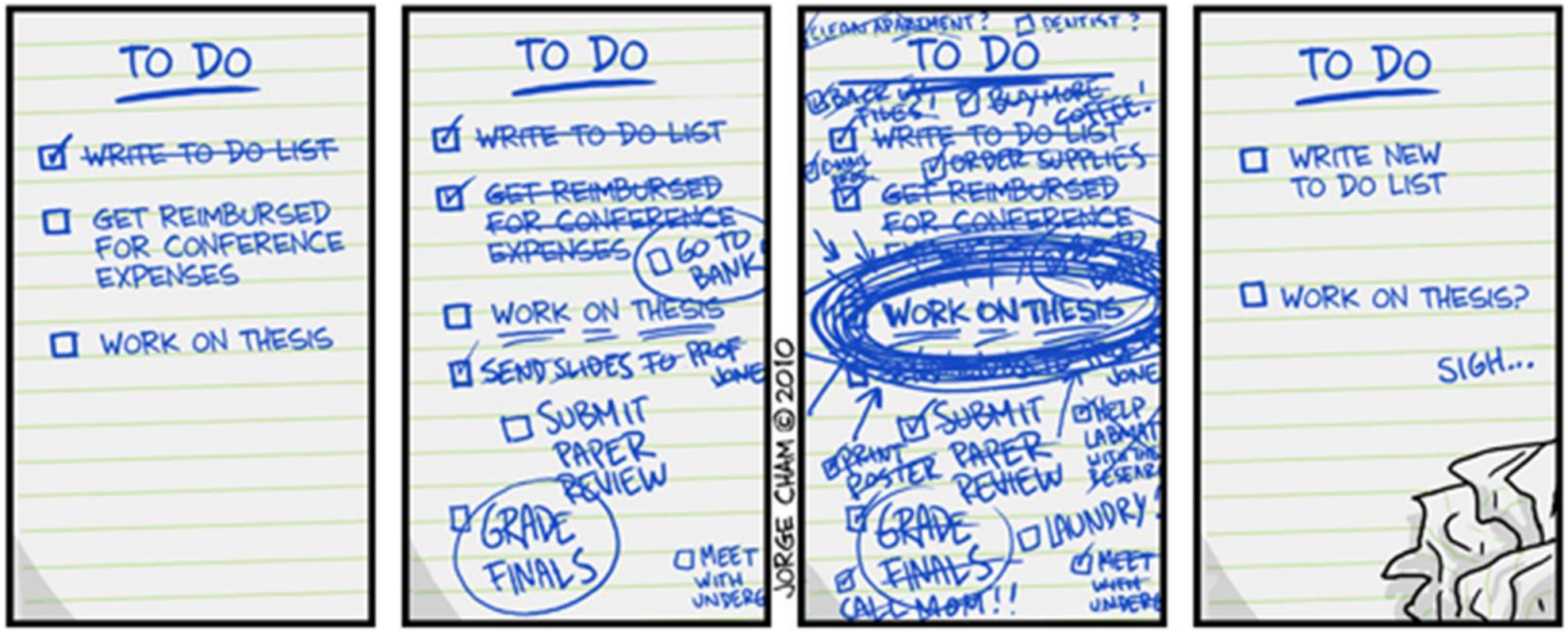
YOUR "TO DO" LIST



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YOGYAKARTA
Unggul & Islami
Thank You

Quiz

Q1. According to “1. Definition of Research Misconduct,” which of the following is research misconduct?

1) Beautifying research data
2) Using research equipment correctly
3) Not publishing research findings intentionally
4) Not dividing research findings into several pieces for publication

Quiz

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Quiz

Q2. Shelly and her advisor co-authored a research paper and wanted to submit it to a foreign academic journal. Before submission, a senior fellow student who proofread the manuscript requested to be listed as a co-author. Do you think Shelly should agree to list the senior as a co-author? Why?

1) She should do so because the senior fellow student is about to graduate. Shelly should help her
2) She should do so because the senior fellow student is her predecessor. Shelly should listen to her.
3) She should not do so. Proofreading makes fewer contributions to the study.
4) Shelly can do whatever makes her happy.

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Quiz

Q3. Which of the following authorship listings is reasonable and acceptable in the academic research community?

1) Depending on who has contributed more to the study.
2) Depending on who purchases more laboratory mice
3) Depending on who is in the higher position in administration
4) Depending on who provides more research funding

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Quiz

Q4. An advisor requested the lab results at the last minute. Joe, a graduate student who was responsible for running experiments, found that three records were not yet available. In order to deliver the lab results on time, he had to fill in random numbers into three incomplete fields so he could temporarily explain it to the advisor. What type of research misconduct did Joe commit?

1) Inappropriate data collection
2) Data fabrication/falsification
3) Plagiarism
4) Duplicate publication of research findings and duplicate submission for research grants

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Quiz

Q5. Guang has to turn in many final assignments this semester. To ensure these assignments are completed before their due dates, Guang borrows his senior fellow students' past assignments for reference. However, due to a tight timeline, Guang is running out of time to paraphrase appropriately, but he copies and pastes everything into his own report verbatim, and he is finally able to finish all his assignments on time. What type of research misconduct does Guang commit?

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2) Data fabrication/falsification
3) Plagiarism★
4) Duplicate publication of research findings and duplicate submission for research grant

Quiz

Q6. The graduate school where Guang enrolled required all graduate students to publish at least one journal article before graduation. However, Guang was too busy drafting a manuscript for journal publication while working on his dissertation.

He went to and sought help in an online forum that graduate students often visit. He hoped to find another graduate student who was currently drafting a manuscript for journal publication and was willing to list him as the second author.

What type of research misconduct did Guang commit?

Quiz

Q6. What type of research misconduct did Guang commit?

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2) Data fabrication/falsification
3) Inappropriate authorship
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Quiz

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