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Casus Wetenschappelijke Integriteit

2025

Adviesaanvraag inzake de mogelijke schending van de Wetenschappelijke Integriteit door een promovendus – Gebrek aan bewijs

Universiteit Maastricht

COURSE OF PROCEEDINGS

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On 24 March 2023, the Executive Board of [University], referring to article 2.3 of the [Regulations on Academic Integrity 2025] that allows the Academic Integrity Committee [University] (CWI) to investigate allegations of a breach of scientific integrity in the absence of a formal complaint, requested the committee to carefully review and advise on the scientific integrity of the doctoral research of [defendant].

The reason for the request of the Executive Board was that they received signals of a potential breach of the Academic Integrity.

REQUEST FOR ADVICE

In response to the signals received, the CWI investigated the potential breach of the Academic Integrity. As part of this investigation, contact was sought with [person concerned]. This resulted in a list of 15 points, which can be divided into “logistical”, “ethical” and “statistical-methodological” concerns. [Defendant] was asked to respond to the concerns referred to above.

DEFENCE

After having discussed the request, the CWI concluded that the content of the concerns and their substantiation were of such a nature that further exploration was needed, and that the first step should be to submit these concerns to [defendant] with a request to provide the CWI with a point-by-point response.

Accordingly, on 8 August 2023, the committee e-mailed the concerns to [defendant] asking [defendant] for a point-by-point response to them.

Also [name], promotor of [defendant], was informed about the risen concerns. [Promotor] contacted the CWI chair and informed the CWI chair confidentially on [promotor]’s health condition and related limitations in providing a substantive response to the concerns. Subsequently, [promotor] submitted [promotor]’s perspective on the case in a short confidential note, submitted on 17 September 2024, focusing on procedural aspects and not providing substantive clarification regarding the risen concerns as to the scientific content of [defendant]’s work.

EXPERT OPINION

After having received [defendant]’s response, the CWI concluded that the risen concerns regarding the logistical aspects of the studies reported in the dissertation could not be sufficiently assessed with the possibilities and resources available to the CWI, in the sense that the CWI was not able to check, e.g., whether it was possible to execute two trials in the same hospital within overlapping time windows. Also, regarding the question whether ethical assessment and approval has appropriately taken place, the CWI is unable to formally verify what actually happened.

As to the statistical-methodological aspects of the raised concerns and [defendant]’s defense, the CWI decided to further check whether the data presented throughout the dissertation are consistent and credible, and for this purpose to consult an independent expert in this field. The CWI approached [expert], [position] at [University], having experience in the field of studying research misconduct. Expert has not collaborated in the past with [defendant] or [promotor]. [Expert] was invited to confidentially assess and

check the data as presented in the thesis of [defendant], in relation to the raised concerns and [defendant]'s response to these concerns. [Expert] accepted this invitation and submitted [expert's] report to the CWI on 3 February 2024.

After having discussed [expert]'s findings and conclusions, the CWI invited [defendant] to submit a response to expert's report. In this invitation the expert's identity was not disclosed, because the CWI wanted to ensure that the consulted expert could do [expert]'s work under strict confidentiality, having only contact regarding this matter with the CWI, in accordance with the CWI's usual working method. In making this decision, the CWI also considered that, for a response to the technical content of this expert report, knowing the identity of the expert was not necessary.
On 17 May 2024, [defendant] submitted the response to the expert report to the CWI.

Subsequently, the committee invited [expert] to respond to [defendant]'s reaction to the report. [Expert] submitted this response on 7 June 2024.

In the following, the CWI summarizes what it considers essential from the assessments of [expert], the responses of [defendant] to these, and the final assessments of [expert], in relation to the concerns as numbered and as clustered according to the responses of [expert]'s report, starting with concern 1.

As a preliminary remark, it must be noted that [expert] stated not to be able to assess the concerns regarding the logistics of the data collection and the ethical approval (specifically those raised in the concerns 1, 2, 6, 7 and 8).

Concerns 1 and 2
- [Expert]'s first assessment:
  Conclusion: Based on the reported results it is impossible to determine whether there is any overlap in samples of the studies in chapters 3 and 4 and the prospective cohort study that did not appear in the thesis. The difference in clinical [type] risk ratios in chapters 3 and 4 is not remarkable.
- Response [defendant]:
  This concern is settled by the [expert] and is not related to integrity.
- Final comment [expert]
  Identifying potential overlap is impossible based on the reported results, but it remains important to consider other information (logistical, archival) to study potential overlap.

Concern 3
- [Expert]'s first assessment:
  Conclusions: The same means could have resulted by chance and are more likely to appear in data with the same N and the use of count variables as in these cases.
- Response [defendant]:
  This concern is settled by the [expert] and is not related to integrity.
- Final comment [expert]
  None

Concerns 4/9/12

- [Expert]'s first assessment:
  Conclusion: The key results related to [type] levels and five other variables reported in chapter 3 are mathematically impossible. These might be the result of gross errors, falsification or fabrication. The mean and variation in the duration of years of infertility in one of the subgroups is extremely large and impossible if the lowest age of [cause] is 18.
- Response [defendant]:
  Unwavering reliance on simplistic statistical analyses may not fully capture the nuances and complexities inherent in real-world data, particularly in the context of medical research. The methodology adopted in my previous response employs a more comprehensive and robust approach with providing the full underlying code. This approach inherently accounts for the potential occurrence of honest errors and chance findings, which is a fundamental aspect of scientific inquiry. According to this previous (re)analysis the P values and effect size are reproducible, which excludes any data fraud.
  Regarding concern 12: The discrepancy observed in the standard deviation values for the duration of [cause] could be attributed to a simple transcription error. For instance, if a duration of "[amount]" years was inadvertently recorded as "[amount]" years, this would result in the observed anomaly in the standard deviation. This hypothesis is further corroborated by the reproducibility of the p-values, which align with the theoretical implications of such a transcription error. Consequently, this reduces the plausibility of data fabrication as a viable explanation.
- Final comment [expert]
  [Defendant] does not provide any mathematical reasons why the computations of averages and sums of squares that follow logically from sample estimates from the mean and SD would be incorrect.
  Regarding concern 12, it is indeed possible that errors in the raw data explain the large SD for years that is reported in the table. If the impossible means and variances in the data are caused by errors in the reporting of the results in the writing process, one would expect the p-values to be inconsistent with the (misreported) means and SDs. Because such reporting inconsistencies did not emerge, it is more likely that the underlying data are in line with what is reported and that the data used in the analysis include patterns that are problematic and caused by either misconduct (e.g., altering some data points) to achieve desired results or multiple gross errors in the handling of data that happen to align with the expectations tested in the study.

Concern 5

- [Expert]'s first assessment:
  Although there is only weak statistical evidence for problems in randomization
  based on an analysis of baseline variables in chapters 4-6, the baseline data for chapter 3 clearly deviate from what one would expect, based on random assignment between [amount] and [amount] interventions. This problem adds to the mathematical impossibility of the data in chapter 3.
- Response [defendant]:
  I disagree with the [expert]'s preference for subjective methodologies to scrutinize the integrity of my work. The cornerstone of any evaluation concerning research integrity should be the data explicitly reported by the authors. This is not the case, and the [expert] is siding with the approach used […] which is subjective and never an objective nor an unbiased assessment.

Further, I encourage the [expert] to revisit [name]'s own reflections on [name]'s methodology. [Name] explicitly admitted that 'the results of the test do not identify fraud', highlighting the importance of understanding the intended application and limitations of statistical methods in research analysis.

- Final comment [expert]
  The mathematical computations of the weighted means and SDs follow logically from the sample estimates of means and SDs that are used throughout the sciences. Differences in baseline characteristics in chapter 3 are unlikely to occur under randomization, but the [name] analysis of chapters 4-6 does not provide strong evidence of problems with randomization.

Concerns 6, 7, 8:
[Expert] did not comment on logistical issues such as those related to the data collection and ethics approval (specifically those raised in concerns 1, 2, 6, 7 and 8).

Concern 10:

- [Expert]'s first assessment:
  Conclusion: Key results related to the relation between [type] and [goal] as reported in chapter 2 are mathematically impossible, and data are missing (possibly excluded) from the correlational analyses reported in Figure 1. These problems might be the result of undisclosed missing data, gross errors, falsification or fabrication. The integrity of the data in this chapter is doubtful.
- Response [defendant]:
  1. Upon thorough examination of the evidence provided by the [expert], I have identified inaccuracies within the numerical data as presented by the [expert]. It is apparent that the analysis conducted by the [expert] was significantly predicated upon subjective assumptions and interpretations rather than objective facts. Extracting data from figures has two main problems: (1) some points are exactly coapting, because the values are identical, and (2) the figures resolution may not allow to discriminate points with near values as 2 separate points. Notably, the [expert] failed to adequately account for potential overlaps between the points in the figure produced 16 years ago, honest errors, and proceeded to substantiate the complainant's assertions without due consideration of all possible considerations. I think it is very vital to consider all possible explanations before reaching an opinion.
  2. More specifically, the [expert] failed to incorporate a comprehensive review of all relevant scenarios in [expert]'s calculations, including but not limited to, the omission of possible missing data. Furthermore, a glaring oversight was observed in the initial segment of the results section, where the [expert] erroneously reported the mean (standard deviations) for [amount] patients as applicable to [amount] patients, thereby disregarding the explicit cancellation of [amount] cases due to impaired responses as explicitly documented in the study.
  3. The [expert]'s assertion that "The integrity of the data in this chapter is doubtful" constitutes a grave allegation. It is crucial to delineate that the observations made, whether pertaining to the quality of printing and/or possible missing data as mentioned above, do not inherently implicate the integrity of the research conducted. Importantly, the overall conclusions of the study were not affected. The conflation of issues like these with the ethical and methodological rigor of the research process is unjust. Such allegations and direct correlation of these issues to the deliberate manipulation or falsification of data, undermines the credibility of the research unjustly and without proper justification. This distinction is essential for maintaining the integrity of scholarly critique and the fair evaluation of academic work.

- Final comment [expert]
  Checking figures is a common method to detect problems in data (e.g., see the work of [name]) and is even used routinely by some journals to check data integrity. It is possible to reconstruct the data in Figure 1 using online tools, even with figures of such low resolution. Complete overlap of data points across two or more variables is unlikely to occur for the ratio scale measures on the horizontal axis of the plots in Figure 1. It is clear that some cases with high scores used in Table 4 are not included in Figure 1. Also, the overly small SDs reported for the [amount] cases render it impossible for the data in table 4 to occur. A change from N=[amount] to N=[amount] in the last two rows of the table from my report does not affect this conclusion.

Concern 11

- [Expert]'s first assessment:
  Conclusion: The finding – in chapters 3, 4 and 5 - of many multiples of 10 and even numbers could have been coincidental and partly caused by decisions made in the conduct of the RCTs.
- Response [defendant]:
  This concern is settled by the [expert] and is not related to integrity.
- Final comment [expert]
  None

Concerns 13/15

- [Expert]'s first assessment:
  Conclusion: The results with respect to [type] reported in Table 1 and Table 3 - in chapter 4 - cannot mathematically occur in the same data. These might be the result of gross errors, falsification, or fabrication.
- Response [defendant]:
  In the previous response to these concerns there was no mention that the rounding of the mean between-group can be a cause nor did I offer a simulation to address either concern number 13 or concern number 15 (which is the same repeated concern). This observation is likely to be the result of a transcriptional error in the published study. This is a mere mistake, done unintentionally. As far as I know, this observation is not a test of research integrity. The [expert] statement "These might be the result of gross errors, falsification or fabrication" is baseless comment.
- Final comment [expert]
  The main issue in these (overlapping) concerns was the impossibility of the weighted means across different divisions of the same data. In response, [defendant] offered a computer simulation that yielded the "[stelling]" and associated permutation p-values. [Defendant] indeed did not focus on rounding here (although it is important to consider as stated in my report) but rather claimed based on these simulations that the differences in weighted averages could be the result of chance (see also next section). I disagree with this conclusion.

Concern 14

- [Expert]'s first assessment:
  Conclusion: Means with a zero as last decimal are numerically impossible for count data with N=[amount] or N=[amount]. The manual addition of zeros to means and SDs could explain the curiously high frequency of zeros as last digits in Table 3, chapter 4. This act represents sloppiness in the conduct of research.
- Response [defendant]:
  This concern is settled by the [expert] and is not related to integrity. Whether the decision to add zeros was right or wrong at that time, is a separate matter that does not affect the integrity of the study. If the assertion is made that the observation equates to misconduct, then one way to test for integrity is to examine through simulation if the p-values reported are replicable. I asked a statistician to do this for me. The statistician verified the results of my study by applying Monte-Carlo simulation in 50000 cycles to recalculate the p-values and the resulting findings are consistent with what was reported in the study. It is noteworthy that the relative risk reported in the table were all also exactly reproduced.
- Final response [expert]
  Adding zeros to reported data represents sloppiness in research. I agree with [defendant] that the changes in the last decimals alone would not affect the overall conclusions. However, other problems with chapter 4's results remain.

Given the criticism in [defendant]'s response that, in relation to the concerns 13 and 15, [expert] reported a response (i.e. "The respondent argues that "Rounding of the mean between-group can be a cause of this observation" and offers a simulation to show that the weighted averages could emerge under random sampling") which was not [expert]'s response to the CWI on 13 October 2023, [expert] was asked for additional explanation. [Expert] responded that the question here concerns whether the weighted averages are possible, and that [defendant] responded to this in several places, mentioning "rounding" several times, and that it concerns the gist of the simulation that [defendant] had carried out by a statistician and to which [defendant] frequently refers.

Furthermore, the CWI invited a [second expert], not having collaborated with [defendant] nor with [promotor] or [expert], to confidentially review whether - in the absence of source data - the assessment methods used by [expert] can be considered statistically adequate. After having reviewed the relevant documents, this [second expert] concluded that the formulas presented by [expert] on page 1 of [expert]'s report are correct and are also correctly applied later in the report. With regard to the method used on page 12 (regarding chapters 3-6), to determine whether reported baseline data distributions can be explained by randomization, the limitation is that this applies to numerical variables where the normality assumption is met. For the rest, the checks that [expert] has done are correct and not based on any assumptions. The formulas on page 1 and the calculation of weighted means are purely mathematical without any assumptions regarding distributions and the like. It can be concluded that some numbers in the original tables are mathematically impossible. However, what causes this cannot be determined using mathematics/statistics (without the original data).

During the process of gathering information, responses, expert assessment and rebuttal, the CWI received several communications from [defendant]'s lawyer, including, among other things, the following requests: to send copies of all the CWI's correspondence to him and to disclose the identity of the consulted [expert] to [defendant].

The CWI's responses to these questions were:

1. The CWI follows the principle that it does not share its correspondence to involved scientists with others. It is the responsibility of these scientists to share (parts of) this correspondence under strict confidentiality with a third party they trust, such as the person who assists him or her during the process.
2. The consulted [expert] has been asked to do this work under strict confidentiality, having only contact regarding this matter with the CWI, with the identity of the [expert] being disclosed in the CWI's confidential report to the Executive Board, after which disclosure to [defendant] would take place.

RECOMMENDATION

With the information, resources and investigative facilities available to the CWI, it is - like [expert] - unable to properly assess the logistical and ethical aspects of the risen concerns. This especially applies to (parts of) the concerns 1, 2, 6, 7 and 8. Accordingly, until proven otherwise, the CWI assumes that the research on these points was conducted as [defendant] reported.

With regard to the data presented in the thesis of [defendant], the CWI considers that, given the independent expert assessment, there is sufficient ground to conclude that there is serious doubt as to the credibility of parts of these data. The responses by [defendant] to these concerns and to the [expert]'s assessments have not removed this doubt.

The problems with parts of the presented data can be categorized according to different degrees of severity:

1. In relation to concern 14 (regarding chapter 4), sloppiness in the conduct of research was demonstrated, i.e. filling in 'zeros' in a table. The Netherlands Code of Conduct for Research Integrity (2018, page 7) states: "When it amounts to gross negligence, a questionable research practice or 'sloppy science' is more than a matter of mere error or carelessness but rather something that can undermine the very integrity of research." When filling in zeros in a table comes to light, from a responsible researcher who has acquired a […] degree at [University] one would expect an apology and an initiative to rectify this in the scientific journal in which the table was published. Such an initiative would be appropriate, irrespective of whether the inaccuracy affects the overall conclusions of the study, because accuracy and scientific transparency are important elements of academic integrity in their own right.
2. As to various other concerns, particularly regarding the studies reported in the chapters 2 and 3 (concerns 4, 9, 10 and 12), but also regarding chapter 4 (concerns 13 and 15), statistical observations have been made of reported results that are mathematically impossible. According to the independent [expert], these might be the result of gross errors, falsification or fabrication. The CWI has no reason to doubt the observations in question, which are largely confirmed by a [second independent expert] consulted who checked the correctness of the formulas used and their application and also concluded that some numbers in the original tables are mathematically impossible. The CWI concludes that, while the causes of the observations in question cannot be definitively determined, possibility of violation of scientific integrity cannot be excluded. Whether the latter would be actually the case can only be demonstrated if the original data sets and analyses are made available for independent assessment. Given the reported observations and

the CWI's considerations, it is up to the Executive Board to decide on further steps, considering various options.

The CWI concluded on 9 October 2024:
Given the identified problems in a number of chapters/articles included in a [University] […] thesis, it could be considered that the editors of the journals that published the articles in question (i.e. the articles in the chapters 2, 3 and 4) be informed (preferably by [defendant] or if necessary directly by the [university]) in order to correct/rectify or if necessary retract these articles.
To answer the question whether in this case there was unintentional gross negligence or errors or intentional data falsification or fabrication, further investigation would be required. The original source data should then be made available to an independent team of experts in the field of methodology, statistics and data analysis.

ADDITIONAL RECOMMENDATION

In response to the CWI's advice of 9 October 2024, the Executive Board asked the CWI on 13 November 2024, to conduct further research into the errors found in two articles by [defendant], namely:
- The article "[title]";

and
- The article "[title]".

In order to carry out the requested research, the CWI has asked [defendant] to send the original raw datasets on which the aforementioned articles are based.

In an email dated 7 February 2025 [defendant] stated that the aforementioned datasets no longer exist. [Defendant] explained that this is because the research was conducted more than 14 years ago and [defendant] therefore no longer has the aforementioned datasets or other study materials.

Now that the aforementioned datasets no longer (appear to) exist, it is not possible for the CWI to carry out the investigation requested by the Executive Board.
As a result, the CWI is unable to determine the reason for the errors identified in the aforementioned articles. The fact remains that the errors identified are serious – in the opinion of the independent [expert] consulted by the CWI, they are "mathematically impossible" – and can no longer be corrected because the original data is no longer available.
As a result, it cannot be ruled out that the content of the aforementioned articles is unreliable.

In view of the above, on 2 April 2025, the CWI advises the Executive Board to take action to ensure that both of the aforementioned articles are withdrawn. Withdrawal can take place by the Executive Board itself requesting the journal to do so, but the Executive Board can also instruct [defendant] to request this from the journal.
Should the Executive Board choose to instruct [defendant] to request withdrawal, the CWI advises the Executive Board to ensure that [defendant]'s request to the journal explicitly states that the request for withdrawal is being made in response to an investigation into a possible violation of academic integrity due to the content of the dissertation on which [defendant] obtained a doctorate at [university].

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FINAL RECOMMENDATION

On 2 April 2025, the CWI issued an additional recommendation to the Executive Board in response to its request to conduct further investigation into the errors identified in two articles by [defendant].

In an email dated 1 May 2025, [defendant] informed both the Executive Board and the CWI that on 30 April 2025, the Research Integrity Committee of an American journal had informed [defendant] that it would not be conducting any further investigation into the article “[title]”.

On 28 January 2025, the aforementioned Research Integrity Committee of an American journal informed [defendant] that it also would not be conducting any further investigation into another article “[title]”.

In view of the aforementioned email message dated 1 May 2025, the rector asked the CWI whether it wishes (based on this new information) to revise its advice of 2 April 2025. This was discussed (in writing) within the CWI, resulting in the CWI revising its advice as follows:

The fact remains that the errors identified in both articles are serious—in the opinion of the independent [expert] consulted by the CWI, “mathematically impossible”—and can no longer be corrected because the original data is no longer available. That is why the CWI recommended in its advice that both articles be retracted.
However, the aforementioned messages from [defendant] now indicate that the journal considers this dispute to be settled and is maintaining both articles. As a result, the journal will in all likelihood not respond to a request to retract both of the aforementioned articles if the [university] were to request this. Furthermore, [defendant] self will not be prepared, at the request of the [university], to ask the journal for such a retraction.
This has led to a kind of stalemate.
The only thing the Executive Board could still do, is to initiate proceedings to revoke the doctorate awarded to the [defendant] in which the content of the two aforementioned articles is incorporated.
However, the CWI considers this to be too far-reaching a step, which would be disproportionate to the extent of the errors identified.
Therefore, with a sense of dissatisfaction, the CWI now recommends the Executive Board not to take any further action in this case and to inform [defendant] accordingly.

PRELIMINARY DECISION

On 3 June 2025, the Executive Board took note of the final recommendation of the CWI.
The Executive Board decides to adopt this final recommendation of the CWI as its preliminary decision.

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LOWI

Pursuant to Article 5.2 of the [University]'s "Regulations on Academic Integrity 2025", those involved could request the Netherlands Board on Academic Integrity (hereinafter: LOWI) to issue an opinion on the initial judgment of the Executive Board within six weeks of the date of this decision.

No request was submitted to the LOWI within the aforementioned period.
Consequently, the LOWI did not issue any advice.

FINAL DECISION

On 26 August 2025, the Executive Board decides, in accordance with its preliminary decision, not to take any further action against [defendant].