

## CASUS WETENSCHAPPELIJKE INTEGRITEIT

2018

### 2018 WU Datamanipulatie - Gegrond

Wageningen University

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#### 1. Onderwerp van de klacht

Datamanipulatie

#### 2. Advies van de Commissie Wetenschappelijke Integriteit

##### Background

On 2 March of 2018 complainants (...) submitted a complaint to the Wageningen University Integrity Committee against defendant (...).

The Committee took note of the complaint and the appendices submitted by the complainants. The Committee declared the complaint admissible and invited the complainants and the defendant to a hearing. The Committee's task is to make a recommendation to the Executive Board, which will issue an initial verdict on the complaint.

##### Complaint

The complaint concerns an allegation of breaching scientific integrity. The defendant is accused of wilfully manipulating data in no less than four different ways, namely:

1. raising or lowering the values of specific data points in order to emphasise a statistical relationship;
2. manufacturing data where no data was available in the source files;
3. actively deleting data points that existed in the source files but which weakened the statistical relationship or the preferred degree of regression;
4. wilfully but not systematically selecting values in the source files.

This complaint concerns the following publications:

- Chapter 2 of the defendant's thesis, hereinafter: 'Ch. 2 of the defendant's thesis';
- Chapter 3 of the defendant's thesis, hereinafter: 'Ch. 3 of the defendant's thesis';
- Chapter 4 of the defendant's thesis, hereinafter: 'Ch. 4 of the defendant's thesis';
- Chapter 5 of the defendant's thesis, hereinafter: 'Ch. 5 of the defendant's thesis';
- Article (...), hereinafter 'publication A';
- Article (...), hereinafter 'publication B';
- Chapter 4 of Complainant 3's thesis, hereinafter: 'Ch. 4 of Complainant 3's thesis'.

On 16 March 2018 Complainant 1 submitted an addendum (subject: Allegation of Fake Citations in Ch. 4 of the defendant's thesis). The defendant is accused of deliberately having distorted and fabricated citations in Ch. 4 of his thesis.

On 21 March 2018 Complainant 2 submitted an addendum to the complaint, extending the list of publications covered by the complaint to include (name), (name), Defendant & Complainant 2, (...), hereinafter 'publication C'.



The committee has been asked to determine the degree of reliability of the research data used in the articles. It is up to the committee to investigate whether the defendant has acted in accordance with the applicable scientific integrity code.

## **Procedure**

The committee received the complaint on 2 March 2018 and declared it admissible in its meeting on 6 March 2018.

Complainant 1 is the defendant's supervisor and also a co-author of Ch. 5 of the defendant's thesis. Complainant 2 is the defendant's supervisor, his specific domain being econometric data analysis, and he is also the co-author of publication C. At the time Complainant 3 worked together with the defendant as a PhD candidate and he is also the co-author of Ch. 3 of the defendant's thesis and Ch. 4 of Complainant 3's thesis. The defendant conducted doctoral research that was funded with Complainant 1's ERC grant. The defendant is also the co-author of the articles, publication A and B.

The committee heard Complainants 1 and 2 independently of each other based on the complaint. On 28 March 2018 the committee heard Complainant 3. The complainants, who are also partly responsible for the publications in their capacity as supervisor and/or co-author, were heard not only in their capacity as a complainant but also as a party who is involved.

On 15 March 2018 the committee informed the defendant of the substance of the complaint and asked him to provide a written response before the hearing. On 30 March 2018 the defendant submitted a written response to the committee. On 5 April 2018 the committee heard the defendant.

The draft minutes of the hearings have been sent to the attendees along with a request to correct any factual inaccuracies.

The committee notified the co-authors of the publications, A and B on 14 March 2018.

The co-author of Ch. 4 of the defendant's thesis and those of the publications, A and B, conducted analyses of the quality of the data used in those publications during these proceedings. In so far as those analyses have been completed, they have been included in the file.

The information that has been provided to the committee has been inserted into a single file along with the minutes of the hearings. On 26 April 2018 this file was sent to the defendant and the latter was afforded an opportunity to respond to it. The committee has also considered those responses for the purposes of its ruling.

The file was closed on 4 May 2018.

## **Considerations**

### **1.1 The complainant's views**

The complainants' views are set out in this section.



The complainants have accused the defendant of having manipulated data in at least Chs 2 and 3 of his thesis. According to the complainants, the defendant also manipulated data in Ch. 4 of his thesis and deliberately failed to include literal quotes, distorting, editing or fabricating them instead. Contaminated data has been used in Ch. 5 of the defendant's thesis. The complainants have presented evidence in support of this.

The complainants suspect that data was also manipulated in Ch. 4 of Complainant 3's thesis but no evidence is available in support of this. Complainant 3 supplied the data for Ch. 4 of Complainant 3's thesis. The defendant conducted a regression analysis. Based on a replication, Complainant 3 has concluded that the analysis remains unchanged. No evidence of data manipulation has been found.

The complainants suspect that data was also manipulated in the publications, A and B but no evidence is available in support of this. The co-authors involved have conducted analyses of potential data manipulation. The co-author of the publication, (A), has not been able to establish that there are any errors in the data based on an initial analysis but would like to investigate the matter further. Based on the findings of a replication, the co-author of the publication, (B), has no reason to suspect that data has been manipulated.

The complainants also suspect that data has been manipulated and quotes have been invented in the publication, (C). Complainant 2 has presented evidence in support of this.

The defendant had regular contact with Complainants 1 and 2 while conducting his doctoral research.

Complainant 3 worked together with the defendant as a PhD candidate at the time. Their collaboration was entirely voluntary.

The complainants have noted that data manipulation has occurred while data was entered into the database. Based on the defendant's hard drive, which was found in Wageningen, the complainants have noted that the defendant possessed an original database that fully corresponds to the original source (a file with the extension, "no corrections") and a copy of it, in which the data has been manipulated. Complainant estimates that approximately 30% of the values in Ch. 4 of the defendant's thesis cannot be traced back to the original source.

Looking back, Complainant 2 has stated that the defendant's findings were always good. With hindsight, that was actually remarkable. It was always possible for the defendant to refute Complainant 2's questions and suggestions effectively and they never undermined the narrative. Complainant 2 was not involved in the creation of the data sets.

Complainant 3 felt that his working relationship with the defendant was tense in part. Their collaboration was difficult because (1) the defendant had submitted an article to a journal without notifying Complainant 3 in his capacity as its co-author, (2) the data had been entered sloppily and (3) he constantly had to call for documents to be provided. Complainant 3 informed Complainant 1 of this. Looking back, their tense relationship did not constitute grounds for Complainant 3 to suspect that there was any breach of scientific integrity.



## **1.2 The defendant's views**

The defendant's views are set out in this section.

In his written response to the complaint, the defendant contends in relation to Chs 2 and 3 of his thesis that "I might have discredited information that did not support my hypotheses, ... I might have selectively focused on information that favoured those hypotheses" and that "my overconfidence in the working hypotheses went so far as to make me overestimate my ability to predict data points when they were missing."

The defendant concludes that, "I now realize that systematic biases in my reasoning may have led me to adopt questionable research practices." To this he adds that, "Unfortunately, at the time, I had neither the experience nor the scientific maturity to realize the consequences of those choices for the integrity of my work."

Looking back, the defendant realises that he has breached scientific integrity by manipulating data.

The defendant has confessed that he has manipulated data as he has been accused of doing in the complaint. He has confirmed that 5% to 10% of the data may have been manipulated. He requires a number of months to determine the precise extent.

The defendant has confessed that he fabricated citations in Ch. 4 of his thesis in the sense that he combined quotations and changed linguistic aspects of them. According to the defendant, manipulated data that was collected for Chs 2, 3 and 4 of his thesis is used in Ch. 5 of that thesis.

The defendant has given assurances that he has not manipulated any data in the publications, A and B.

The defendant contends that he has not manipulated any data in Ch. 4 of Complainant 3's thesis.

The defendant contends that he has not fabricated any citations in the article that he wrote with Complainant 2.

The defendant does not recognise himself in Complainant 3's depiction of him in Annex 2 of the complaint, in which he is described as "being defensive with regard to the sharing of data."

## **2 The committee's findings**

### **2.1 General remarks**

The committee presents advice to the executive boards of Wageningen University and the Wageningen Research Foundation with regard to any complaints submitted in relation to a breach of scientific integrity. The committee bases its rulings on breaches of scientific integrity on – albeit not only – those standards of scientific integrity primarily drawn from the Netherlands Code for Scientific Practice [*Nederlandse Gedragscode*



*Wetenschapsbeoefening*] and the Wageningen University & Research Scientific integrity complaints procedure. This does not involve any new standards of academic practice but ones that are well-known and that have existed for a long time already, which were – and are – used to assess the circumstances in which there may be any question of a breach of scientific integrity.

The breach of such national (or international) standards does not amount to a breach of scientific integrity by definition. There could have been an instance of careless action (culpable or otherwise) without this amounting to a breach of scientific integrity.

Where there is any question as to whether a breach of scientific integrity has occurred, the committee may deem an expert's assessment to be important. However, the committee is not bound by such an assessment.

The committee does not have the power to rule on matters of civil law or scientific controversies.

As such, in the case of a breach of scientific integrity it is important to draw a distinction between such breach, on the one hand, and science that is inferior or open to criticism, on the other. In the case of science that is inferior or open to criticism one usually has to contend with a difference of interpretation or of opinion in relation to a scientific assessment. They need to be discussed and resolved in the appropriate forum of scientific journals, preferably in the one in which any article subjected to criticism has been published. The committee neither has the power nor is it equipped to act as an arbiter in any scientific controversy.

## **2.2 The committee's findings and conclusions**

- a) Based on the evidence presented by the complainants and the statements made by the defendant, it may be established that in relation to Chs 2 and 3, the defendant has irresponsibly failed to observe the duty of care required by science, and that he has manipulated data.

The database that the defendant set up for Chs 2 and 3 of his thesis consists of a manipulated data set. In so far as there is any question of the insertion of non-existent data, the interpolation of data and inclusion of data from other sources, the defendant has not recorded this, neither has he reported it to his co-authors nor has he presented supporting arguments in the relevant scientific articles. The repeated and uncontrolled manner in which this has occurred goes substantially further than the term “questionable research practice” that the defendant employs.

The material (an analysis of the grounds for Complainant 3's replication) that has been presented to the committee reveals that the difference between the values in the source files and those which have been entered in the database used for Chs 2 and 3 of the defendant's thesis is so great that it amounts to structural fabrication or the invention of data that has been presented as the findings that have actually been obtained from research and of the falsification of data and/or the concealed rejection of the findings obtained through research.



- b) Based on the evidence presented by the complainants and the statements made by the defendant, it may be established that in relation to Ch. 4 of his thesis, the defendant has irresponsibly failed to observe the duty of care required by science and that he has manipulated data.

Ch. 4 of the defendant's thesis is based on qualitative data taken from historical sources. The defendant has used citations in order to support his analysis, thereby creating the impression that they were taken literally from the relevant sources. The material that has been presented to the committee reveals that at least a number of those citations cannot be traced back to those sources or the findings suggest that they even contradict the original source material.

The material that Complainant 1 has presented to the committee reveals that quantitative data has been structurally manipulated in Ch. 4 of the defendant's thesis. Where no data was available, it was invented. The complainant was able to establish that this was the case with the aid of an Excel file with the extension, "original clean", which was found on the defendant's external hard drive discovered in Wageningen.

- c) Based on the evidence presented by the complainants and the statements made by the defendant, it may also be concluded in the case of Ch. 5 of the defendant's thesis that the data on which the article is based has been manipulated. Part of that article is also based on the same database that has been used for the purposes of Chs 2 and 3 of the defendant's thesis.
- d) Based on the hearings and the material presented to it, the committee has come to the conclusion that the defendant may be held culpable for the manipulation of data. His co-authors and supervisors did not play any role in this respect, nor were they informed of the manipulation of data, so as to be able to correct the defendant in this respect. The importance of exercising due care when dealing with research data and that of data management, including the storage of data files has been stressed and brought to the defendant's attention in the course of his supervision, as well as by Complainant 3.
- e) Based on the evidence presented by the complainants and the statements made by the defendant, the committee has come to the conclusion that it is not likely that any data has been manipulated in the case of Ch. 4 of Complainant 3's thesis. Based on a replication, Complainant 3 has concluded that the analysis remains unchanged. Complainant 3 has not found any evidence of data manipulation.
- f) Based on the evidence presented by the co-author of the publication, (B), and the statements made by the defendant, the committee understands that on the basis of replication findings the co-author has no reason to suspect that data manipulation has occurred. The committee accepts this conclusion.
- g) Based on the evidence presented by the co-author of the publication (A) and the defendant's statements, the committee has not been able to establish whether scientific integrity has been breached in the case of this publication. The co-author has informed the committee that, based on an initial analysis, he has not been able to find any errors in the data but will conduct a further investigation after the committee has presented its



advice. In view of the gravity of the data manipulation in the defendant's thesis, the committee deems it necessary that this additional investigation be conducted.

- h) Based on the evidence presented by the complainant and the statements made by the accused, the committee is unable to establish whether there has been a breach of scientific integrity in the case of the publication (C). Complainant 2 has informed the committee that he wishes to investigate potential data manipulation. In view of the gravity of the data manipulation in the defendant's thesis, the committee deems it necessary that this investigation be conducted.

### **3 The committee's ruling and advice**

The committee has been asked to investigate whether the defendant acted in accordance with the applicable scientific integrity code in relation to the publications mentioned in 'the complaint'.

Based on the information that has been supplied to the committee and the interviews that it has conducted with those concerned, the committee has concluded that the defendant has at any rate seriously breached scientific integrity in the course of producing Chs 2, 3 and 4 of his thesis. The defendant has fabricated and falsified both quantitative and qualitative data. The committee has concluded that the defendant has also seriously breached scientific integrity in the course of producing Ch. 5 of his thesis. The defendant based this publication on data that he knew had been fabricated and falsified.

Based on the information that has been supplied to the committee and the interviews that it has conducted with those concerned, the committee has concluded that there is no question of any breach of scientific integrity having occurred in the course of the production of Ch. 4 of Complainant 3's thesis.

Based on the information that has been supplied to the committee and the interviews that it has conducted with those concerned, the committee has concluded that there is no question of any breach of scientific integrity having occurred in relation to the publication, (B).

Based on the information that has been supplied to the committee and the interviews that it has conducted with those concerned, the committee has concluded that it is unable to establish whether there has been a breach of scientific integrity in relation to the publication, (A).

Based on the information that has been supplied to the committee and the interviews that it has conducted with those concerned, the committee has concluded that it is unable to establish whether there has been a breach of scientific integrity in relation to the publication, (C).

The committee recommends that the Executive Board of Wageningen University declare the complaint concerning data manipulation and the fabrication of citations submitted by complainants against defendant on 2 March 2018 (with addendums submitted on 16 March 2018) to be well-founded.

### **4 Initial opinion Executive Board**



On 28 May 2018 the Executive Board of Wageningen University establishes, in accordance with the advice of the committee, that;

- in the course of producing chapter 2, 3, 4 and 5 of the thesis, the defendant has seriously breached scientific integrity;
- in the course of the production of chapter 4 of the thesis of Complainant 3, there is no question of any breach of scientific integrity having occurred;
- in relation to the publication B, there is no question of any breach of scientific integrity having occurred.
- in relation to the publication A and C, the Executive Board is unable to establish whether there has been a breach of scientific integrity.

The Executive Board of Wageningen University declares the complaint that the defendant violated the Netherlands Code of Conduct for Academic Practice in relation to chapter 2, 3, 4 and 5 of his thesis, to be well-founded.

## **5 LOWI**

On 5 July 2018 the defendant applied to the LOWI for the provision of advice to the initial opinion of the Executive Board of Wageningen University dated 28 May 2018. The LOWI has taken the application into consideration and has presented its advice to the defendant and the Executive Board of Wageningen University on 1 April 2019.

The LOWI is of the opinion that the application is well-founded but only in so far as it addresses the addition of the epithet, 'serious', to the ruling, 'breach of academic integrity'. For the rest, the application is deemed to be without grounds. The LOWI recommends that the Executive Board of Wageningen University amend its initial opinion in the sense that its final opinion will stipulate that the defendant has breached academic integrity. The complete advice is published on the website of LOWI.

## **6 Final opinion Executive Board**

The Executive Board of Wageningen University has amended its initial opinion in the sense that its final opinion stipulates that the defendant has breached academic integrity. Remaining parts of the initial opinion are unchanged.