

Casus Wetenschappelijke Integriteit

2020

Schending van de Wetenschappelijke Integriteit door het op ongeoorloofde manier bewerken en weergeven van data in publicaties – ongegrond

PROCESVERLOOP

On 2 September 2019 [klager] filed a complaint with the CWI. The complaint is directed against [beklaagde] of the [faculteit]. [Beklaagde] has been the PhD coordinator of [departement] and has been the PhD supervisor of [klager] from July 2018 – February 2019. [Klager] has sent the CWI additions to his complaint on 2 and 14 September 2019.

The CWI took note of the complaint submitted by [klager]. The CWI declared the complaint admissible on 12 September 2019. [Beklaagde] was given the opportunity to submit a written defence. After this, both parties were given the opportunity to present their rebuttals, and were invited to a hearing.

The CWI's task is to investigate the complaint and to make recommendations to the Executive Board of [Universiteit], which will issue an initial verdict on the complaint. [Klager] and [beklaagde] may seek the advice of the Netherlands Board on Research Integrity (LOWI) on this initial verdict within six weeks of its announcement.

The Committee investigated the complaint on the basis of the [Universiteit] Regulations on Academic Integrity and the Netherlands Code of Conduct for Research Integrity.

Before investigating this case, the CWI extensively considered the question of the independence of the CWI, given the circumstance that [lid] has been (until 2007) the scientific director of [instituut]. [Instituut] is the institute where [klager] and [beklaagde] are employed. Given that [lid] retired as scientific director of [instituut] quite some time ago, that he has had no personal or working relationship with [klager] [beklaagde], and that the substance of the complaint does not relate to his field of research, the CWI decided that the independence of [lid] and thus the CWI as a whole is guaranteed.

Furthermore, to prevent any form of bias, the CWI has used the services of an external, independent expert. This expert has no personal or working relationship with the members of the CWI.

GRONDEN VOOR DE KLACHT

The complaint concerns an allegation of alterations in figure legends in four published articles:

Case 1. Figure 2 in [publicatie]

Case 2. Figure 6 in [publicatie]

Case 3. Figure 5 in [publicatie]

Case 4. Figure 6 in publicatie

[Klager] is of the opinion that that these figures have been manipulated, by 'cropping' and 'slicing and stitching'. These are different techniques for creating a representative image of datafiles in an article.

VERWEER BEKLAAGDE

In his written defence, [beklaagde] states that:

1) "I'm last and corresponding author and as such fully responsible for the entire content. The figure was composed by a former PhD student under my supervision. [Klager] indicates that the western blot images in Figure 2 are cropped. This is correct. As indicated the images are representative images (n=1 for 4 experimental [afkorting] 26-09-2019, 2 conditions, 2 time points, in 3 tissues) and this is clearly stipulated in the figure legends. The relevance of the representative images lies in giving an impression about the relative intensity of the [molekuul] and [molekuul] signal in samples. I do not consider this manipulation of data".

2) "The figure was composed by one of the co-authors, but I'm first and corresponding author and as such I consider myself fully responsible for the entire content. [Klager] indicates that the western blot images in Figure 6 are sliced and stitched. This is correct. Slicing/stitching gives the impression that the dots are next to each other on the same blot, which may be misleading indeed. Again, as also indicated in the figure legend, it concerns a representative image (n=2 of 4 experimental groups). The data are from one large blot with n=4-6 samples per group from 4 experimental groups. The data from the blot were rearranged (slicing/stitching) to get n=2 per group, nicely fitting with and illustrating the data in the bar graph. If needed the raw data can be provided by the co-author. I'm confident that the entire figure is a correct reflection of the original data. I do not consider this improper manipulation of data".

3) "Both concern papers on which I'm one of the co-authors. I contributed to the paper, but the suspected figures were constructed neither by me, nor by anyone working under my supervision. I presume the slicing/stitching serves the same purpose as in P2, but details can probably be provided by the leading authors (Prof. [naam], [afkorting], [plaats], and Prof. [naam], [Universiteit], [plaats], respectively). I leave it up to the CWI to judge to what extent I, as co-author on the paper, am responsible for what (external) collaborators added to a paper".

PROCEDURE EN HOORZITTINGEN

After taking note of the complaint, the CWI decided that the complaint is admissible and met the admissibility requirements listed in article 4 of the '[universiteit] Regulations on Academic Integrity' and concerns a possible violation of academic integrity. These possible violations are listed in the Appendix to the [universiteit] Complaints Procedure for Academic Integrity, and the Netherlands Code of Conduct for Research Integrity. The CWI communicated this to both the Executive Board and the Dean of [faculteit].

The CWI gave [beklaagde] the opportunity to file a written defence against the complaint. Both [klager] and [beklaagde] were given the opportunity to respond to each other's responses.

Subsequently, the CWI invited [klager] and [beklaagde] to a separate hearing. [Klager] objected to this and requested a joint hearing.

Contrary to [klager]'s opinion, the hearing of parties is not intended to give them the opportunity to have a debate, but to obtain the information that the CWI needs to be able to advise the Executive Board carefully. "On the basis of the Parliamentary History for article 9:10, second paragraph, in conjunction with article 9:15, third paragraph, of the Algemene Wet Bestuursrecht, it is left to the CWI to assess whether it is desirable to hear [klager] and [beklaagde] in each other's presence" (LOWI advice 2018-20). Because the complaint was submitted in a context in which the labour relations between both parties were seriously strained, the CWI decided that a separate hearing would be more appropriate to obtain the information the CWI needs, and would thus serve the interests of both parties.

[Klager] was assisted by a lawyer during the hearing. During the hearing, both parties were given the opportunity to explain their complaint or defence in more detail, and answered questions raised by the CWI. The minutes of the hearings were sent to both parties with a request to check the minutes and to propose corrections in case of any factual inaccuracies. The principle of the right to be heard requires that the parties are informed of the proceedings of each other's hearing. The CWI therefore sent the summaries of the hearings to [klager] and [beklaagde].

During the procedure for the assessment of the substance of the complaint, the CWI was advised by an expert who is not affiliated with [Universiteit] and has not had a personal or working relationship with [klager], [beklaagde], or with members of the CWI. The expert advised the CWI on the different parts of the complaint, assessed the submitted documents, answered questions raised by the CWI and conducted an analysis of the data files.

At the request of the CWI, [beklaagde] submitted research data files to the CWI after the hearing.

In assessing the complaint, the CWI drew on two examples of violations of academic integrity listed in the Appendix of the Complaints Procedure of [Universiteit] (1) and the Netherlands Code of Conduct for Research Integrity:

"2. falsification: the falsification of data and/or the secret elimination of data obtained from Research. Any data that is unwelcome to the researcher may never be manipulated to fit expectations or theoretical outcomes. Data may be omitted only on demonstrably sound grounds". (1)

"21. Do not remove or change results without explicit and proper justification. Do not add fabricated data during the data analysis". (2)

OVERWEGINGEN

With regard to case 1 of the complaint, the CWI considers the following:

Although [beklaagde] failed to provide the raw data that were used to compose Fig.2 of the 2017 [publicatie] paper with 100% certainty, the information in the related documents indicates that the quantification of the data was performed in a scientifically sound way. Because there is no absolute certainty about the blot images, it is not possible to conclude that these fully correspond to the original data, but based upon the raw data provided, in combination with the quantitative data, there is no reason to believe that they don't show a trustworthy illustration of the blot data.

The CWI is therefore of the opinion that the complaint is not founded on this part.

With regard to case 2 of the complaint, the CWI considers the following:

In the field of [vakgebied] it is common practice to prepare figures for scientific publications in such a way that they illustrate the outcome of the investigations as clearly as possible and in a way that is most comprehensible for the reader. Very often, this means that raw data (particularly electrophoretic and blotting data) are spliced and stitched. Scientific journals provide specific guidelines on the disclosure of such changes and whether or not the raw data should be provided as supplementary data. Irrespective of these journal-specific policies, the authors should be able to provide the raw data to confirm the integrity of the published results.

In this respect it is important to mention that the interpretation of the majority of these data was based on the accompanying graphs showing quantitative data, and was not based on the blots with a representative example.

An analysis of the raw data confirmed that the data published in the 2014 [tijdschrift] paper are scientifically sound and reliable.

The CWI is therefore of the opinion that the complaint is not founded on this part.

With regard to case 3 and 4 of the complaint, the CWI considers the following:

The CWI is of the opinion that [beklaagde] has made it sufficiently clear that, as the co-author of these articles, he was not involved in the creation of the figures disputed by [klager]. Of course, this does not relieve a co-author of the responsibility to assess the contributions of the other authors when giving consent for publication to the final version of the article. The first responsibility for the figures lies with the person who

composed the figure, and with the corresponding author. The CWI considers that [beklaagde]'s responsibility regarding the disputed figures is so limited that he cannot reasonably be accused of violating scientific integrity, should this be the case. [Klager] could of course consider to submit his complaints regarding these articles to the Scientific Integrity Committees of the universities where the corresponding authors are employed.

The CWI is therefore of the opinion that the complaint is not founded on this part.

As a general consideration, the CWI appreciates the fact that journals apply much stricter rules for the representation of data in figures and the provision of raw data, than a few years ago. The research culture with regards to this part has changed and data manipulation (which in the opinion of the CWI is not the case in this complaint) has become considerably more difficult.

ADVIES

On 3 February 2020 the Scientific Integrity Committee of [Universiteit] advises the Executive Board to declare the complaint admissible, but not founded.

AANVANKELIJK OORDEEL

Het College van Bestuur besluit in haar aanvankelijk oordeel het advies van de CWI over te nemen en klagers ongegrond te verklaren. Hierbij overweegt het College van Bestuur;

- Dat de CWI in haar advies over publicatie 1 concludeert dat, na het consulteren van een deskundige, de data op een wetenschappelijk gedegen manier gekwantificeerd lijken te zijn.
- Dat de CWI in haar advies over publicatie 2 concludeert, wederom na het consulteren van die deskundige, dat de ruwe data bevestigen dat de data in de figuur wetenschappelijk goed en betrouwbaar zijn.
- Dat de CWI in haar advies met betrekking tot de publicaties 3 en 4 overweegt dat [beklaagde] niet de corresponding author is en niet betrokken is geweest bij het maken van de figuren waarover wordt geklaagd. Volgens de CWI is de verantwoordelijkheid van [beklaagde] voor deze figuren zo beperkt dat hij in redelijkheid niet beschuldigd zou kunnen worden van een schending van de wetenschappelijke integriteit, indien mocht blijken dat deze figuren zijn gemanipuleerd.

LOWI-ADVIES

Op 25 november 2020 brengt het Landelijk Orgaan Wetenschappelijke Integriteit haar advies uit, inhoudende dat het LOWI:

- I. Het verzoek gedeeltelijk gegrond en voor het overige ongegrond verklaart;
- II. Het College van Bestuur adviseert om het onderzoek naar publicatie 4 te heropenen met een gewijzigde samenstelling van de CWI, om de schijn van vooringenomenheid te voorkomen;
- III. Het College van Bestuur adviseert om het aanvankelijk oordeel, met uitzondering van het aanvankelijk oordeel over publicatie 4, ongewijzigd als definitief oordeel vast te stellen.

DEFINITIEF OORDEEL / BESLUIT

Op 30 november 2020 heeft het College van Bestuur besloten om het advies van het LOWI over deze casus te betrekken bij de vaststelling van het definitieve oordeel en heeft als volgt besloten:

Het College van Bestuur besluit het advies van de CWI over te nemen tot definitief oordeel en verklaart de klacht van [klager] jegens [beklaagde] ontvankelijk en gedeeltelijk gegrond voor wat betreft de behandeling door de CWI van de in de klacht genoemde publicatie 4.

Het College van Bestuur besluit het onderzoek naar publicatie 4 te heropenen en verzoekt de CWI om het College van Bestuur over dit onderdeel met een gewijzigde samenstelling van de CWI te adviseren. Aan de hand van dit advies zal het College van Bestuur een nieuw aanvankelijk oordeel nemen over de gegrondheid van dit klachtonderdeel.

Het College van Bestuur besluit de overige onderdelen van de klacht niet gegrond te verklaren conform het advies van de CWI en het LOWI.

Op verzoek van het College van Bestuur heeft de CWI het onderzoek naar publicatie 4 met een gewijzigde samenstelling heropend en op 11 december 2020 opnieuw advies uitgebracht. In dit advies heeft de CWI zich gebaseerd op de eerder door beide partijen ingebrachte stukken en de hoorzitting die op 19 november 2019 gehouden is.

Op 15 december 2020 heeft het College van Bestuur besloten het advies van de CWI over te nemen tot aanvankelijk oordeel. Het College van Bestuur heeft besloten om de klacht jegens [beklaagde] ontvankelijk en niet gegrond te verklaren in die zin dat er naar het oordeel van de CWI, in de termen van de Nederlandse Gedragscode Wetenschapsbeoefening (2004, herzien in 2014) geen sprake is van schending van de wetenschappelijke integriteit. Wel adviseert de CWI het College van Bestuur te bezien welke mogelijkheden voor verbetering er zijn wat betreft de wijze waarop een team van (co-)auteurs van een artikel sluitende gezamenlijke afspraken kan maken over de wijze waarop de correctheid van alle te publiceren figuren gecontroleerd en gewaarborgd kan worden.

Ingevolge artikel 5, tweede lid, van de Klachtenregeling Wetenschappelijke Integriteit [universiteit] konden klager en beklaagde binnen zes weken na dagtekening van dit besluit het Landelijk Orgaan Wetenschappelijke Integriteit (hierna: LOWI) verzoeken advies uit te brengen over het aanvankelijk oordeel van het College van Bestuur met betrekking tot de heropening van het onderzoek naar publicatie 4. Binnen voornoemde termijn is door [klager] of [beklaagde] niet om advies aan het LOWI gevraagd.

Derhalve heeft het College van Bestuur op 23 februari 2021 besloten om het aanvankelijk oordeel dat de klacht ontvankelijk is, maar niet gegrond is, als definitief oordeel vast te stellen.