

Decision

By letter of 2 January 2018, the *Research Institution* (hereinafter the Research Institution) forwarded a complaint to the Danish Committee on Research Misconduct (hereinafter the Committee) filed by the *Complainant* (hereinafter the Complainant) concerning the *Defendant* (hereinafter the Defendant), alleging that the Defendant had committed research misconduct.

On 25 May 2018, the Committee returned the case requesting more information from the Complainant in support of the allegations put forward in the complaint. The Complainant presented additional information on 5 February 2019, and is henceforth considered the final date of submission of the complaint to the Committee.

The Complainant alleges that the Defendant manipulated research material in a way to make the research be misleading, and thus committed falsification in product I, a non-published manuscript submitted to *Journal 1* (hereinafter Journal 1),

the Product, (hereinafter: product I),

and in product II, a published article,

the Product, (hereinafter: product II).

The defendant has acknowledged that he is responsible for the irregularities detected in product I.

The Committee's findings

On 3 October 2019, the Committee decided that the Defendant has committed research misconduct.

The decision was made unanimously by High Court Judge, Professor Jens Hartig Danielsen, LLD (Chair); Professor Hanne Andersen, PhD; Professor Dorte Hammershøi, PhD; Professor Jørn Hounsgaard, MD; Professor Anne-Mette Hvas, PhD; Professor Klemens Kappel, PhD; Director of Research Ole Kirk, PhD; Professor Helle Bødker Madsen, LLD; and Head of Programme Anders Smith, PhD.

The Danish Committee on Research Misconduct

25 October 2019

The Danish Committee on Research Misconduct can be reached via:

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CVR no. 1991 8440

Case no.:
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Ref. no.
19/13260-4

The Committee's grounds for the decision are given below.

The complaint on research misconduct and the Defendant's comments

In support of his complaint regarding product I, the Complainant argues, with reference to a letter of 10 October 2017 from the editor-in-chief of *Journal 1* to the Defendant, that the Defendant has manipulated the research material in at least 7 instances by duplicating and changing the graphics in several charts, thus altering them to support the conclusions of the product.

Concerning product II, the Complainant alleges that it is possible to detect several examples of clear manipulation of images in one chart, with duplications horizontally and vertically, causing one image to show two different results, which is an impossibility. Another chart also shows signs of manipulation, in terms of insertion of a *lane* in an end position that seems to be identical with another *lane*.

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Regarding product I, the Defendant has declared that full and sole responsibility for the irregularities lies with him alone and not with any of his co-authors. The Defendant has not made any statements regarding product II.

Legal basis

This case has been processed under act no. 383 of 26 April 2017 on research misconduct, etc. (hereinafter the Act).

The Committee's authority is described in section 4(1):

The Danish Committee on Research Misconduct shall process cases concerning research misconduct in scientific products.

It appears from the notes to section 4(1), cf. bill no. L 117 of 25 January 2017 (hereinafter the Notes), that:

With the provision in (1), it is proposed to establish that the Committee on Research Misconduct processes cases of concerning research misconduct in scientific products. Research misconduct and scientific product is defined in section 3(1)(i) and 3(1)(vi) of the Act. The purpose of the provision is to clarify that the Committee only has authority to process cases concerning research misconduct, and that the matters reviewed must be connected to scientific reporting, i.e. have occurred in a scientific product.

The definition of a scientific product appears from section 3(1)(vi) of the Act:

Scientific product shall mean: A product generated by means of scientific methods applied in research, including applications for research funding.

It appears from the Notes to section 3(1)(vi) of the Act concerning the assessment of what constitutes a scientific product:

"The proposed definition is based on DSCD's practices in this area, where a scientific product is characterised by its having been produced in the course

of research employing scientific methods, in contrast to, e.g., popular science publications that do not adhere to scientific approaches to the same extent. The assessment of whether a product meets the definition of scientific product rests on an assessment of the scientific character of the product's contents, with scientific articles, PhD theses and the like being paradigmatic examples of products that fit this definition. One part of the assessment of whether a given product meets the definition of a scientific product for the purpose of the act is thus whether the product has been submitted for, or is intended for submission for, peer review.

Research misconduct is defined in section 3(1)(i) of the Act:

Research misconduct shall mean: Fabrication, falsification and plagiarism committed wilfully or with gross negligence when planning, performing or reporting on research.

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Falsification is defined in section 3(1)(iii) of the Act:

Falsification shall mean: Manipulation of research material, equipment, or processes as well as changing or omitting data or results, thus making the research misleading.

It appears from the Notes to section 3(1)(iii) of the Act that:

(1)(iii) of the provision proposes that falsification be defined as the manipulation of research material, equipment, or processes, as well as changes in or omissions of data or results, causing research to be misleading. The definition of falsification also includes instances where an adaptation, modification, or omission of data in a broad sense could cause the presentation of the research to deviate from the actual research base. The question of whether any manipulation, modification, or omission has caused research to appear misleading must be understood in relation to the presentation of the research as a whole. The provision thus does not focus solely on whether a specific research item appears misleading, but requires a broader view of how the overall presentation of, e.g., data, methods, interpretations or research results, appears misleading, before something may be considered a falsification pursuant to the Act.

The Committee's assessment of the case

The products in question

The Notes on the Act propose that a scientific product is characterised by having been produced in the course of research through the use of scientific methods, and that paradigmatic examples of products that fit the definition are i.e. scientific articles. It further appears that one part of the assessment of whether a given product meets the definition of a scientific product for the purpose of the act is whether the product in question has been submitted for, or is intended for submission for, peer review.

In its evaluation of whether product I is a scientific product, the Committee has placed emphasis on the fact that the product was produced in the course of research employing scientific methods. The Committee has also placed emphasis on the fact that product I was submitted to *Journal 1* for publication, and that the journal's website states that submitted manuscripts are evaluated by experts prior to publication. Therefore, the Committee finds that the contents and format of product I meets the definition of a scientific product, cf. section 3(1)(vi) of the Act.

In its assessment of whether product II is a scientific product, the Committee has placed emphasis on the fact that the product was published as an article in *journal 2*, and that the journal's website states that submitted manuscripts are evaluated by editors prior to publication. The Committee therefore finds that the contents and format of Product II meets the definition of a scientific product, cf. section 3(1)(vi) of the Act.

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Based on the particulars of the case, including a letter of 10 October 2017 from the editor-in-chief of *Journal 1*, and an investigation on 1 November 2017 conducted by Professor [name omitted], M.D., and Professor [name omitted], M.D., as well as the Defendant's stand on the complaint regarding product I, the Committee finds that the Defendant has manipulated research material in product I and product II in such a way as to render the Defendant's research misleading.

Accordingly, the Committee finds that the Defendant committed falsification intentionally in the cases referred to above, thereby committing research misconduct, cf. section 3(1)(i), cf. section 3(1)(iii), of the Act.

Based on the particulars of the case, including the information submitted by the Complainant in support of the complaint, the Committee calls on the Complainant to investigate the Defendant's other scientific works.

Appeals procedure

This decision is final and cannot be brought before another administrative authority, cf. section 18 of the Act.

(Signature)

Jens Hartig Danielsen
Chair of the Danish Committee on Research Misconduct