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WHEN INTEGRITY PROCEDURES BECOME PROCEDURAL BURDENS: A CASE STUDY FROM A DOCTORAL EXAMINATION

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ABSTRACT

In Europe, heightened institutional sensitivity to research integrity has developed in the wake of prominent cases of academic misconduct. While vigilance is essential, this case study illustrates what can happen when allegations are given procedural weight before their factual basis has been adequately checked. The authors describe the doctoral examination of a scientist at a German university who was confronted with anonymously raised concerns about the alleged use of previously published data and the extent of her independent contribution. The candidate provided detailed explanations, and the doctoral committee initially considered the issues resolved. Nevertheless, some concerns were raised again during the public defense, and she was asked to revise her dissertation despite no specific scientific error being identified. Particularly strikingly, the allegation that previously published data had been incorporated into the dissertation was factually unfounded and could have been dismissed within minutes by comparing the publications with the dissertation: the publications concerned human hepatotoxicity, whereas the dissertation dealt exclusively with rat hepatotoxicity. The case illustrates how even easily refutable allegations can enter a formal examination when basic factual verification is lacking. A further concern was that the candidate was required to respond to issues supposedly arising from the reviewers' reports that had not been made available to her. The reports were in fact very favorable, creating a situation in which she was expected to address non-existing criticism derived from documents inaccessible to her. For doctoral candidates, supervisors, and examination committees, the case highlights the need to verify anonymous concerns independently before allowing them to shape an examination. Candidates should be prepared to respond calmly and firmly to unfounded demands, with appropriate support from their supervisors. Examination committees have a responsibility to distinguish genuine integrity concerns from misunderstandings and not to repeatedly reopen resolved issues. Careful procedures are essential both to protect research integrity and to protect doctoral candidates from unjustified suspicion and disproportionate burdens.

Heightened integrity sensitivity and its procedural side effects

In Germany and other countries, several high-profile cases of academic misconduct involving publicly prominent individuals in senior political positions have received considerable public and institutional attention. In such contexts, the functional role of doctoral degrees may differ from that in research-intensive scientific careers, where the substantive content of the research constitutes the central basis of professional evaluation and academic identity. These developments have been accompanied by a heightened institutional sensitivity toward research

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integrity issues. While such increased attention is essential for safeguarding scientific standards, it may, in individual cases, also shape procedural responses in ways that are not adequate.

In some instances, these dynamics may result in doctoral candidates being subjected to extensive formal review and investigation procedures conducted by institutional bodies, including committees empowered to assess the validity of a dissertation and, where applicable, to recommend revocation of the doctoral degree. Such procedures may evolve into iterative and resource-intensive processes in which candidates are required to respond repeatedly to successive rounds of allegations or objections. In this context, previously submitted arguments or documentary evidence may not necessarily lead to procedural closure but may instead be revisited within shifting procedural frameworks. As a consequence, substantial intellectual and temporal resources may be diverted from ongoing research activities toward formal defense and clarification efforts, effectively transforming the defense process into a dominant component of the candidate's workload.

Against this background, the following section presents an illustrative case from a doctoral examination at a German university. The case is used to examine how the procedural dynamics outlined above may manifest in practice. It is not intended as an isolated anecdote, but as a structured example illustrating the interaction between research integrity procedures, institutional response mechanisms, and the position of doctoral candidates within such processes.

From inquiry to escalation: A doctoral case

The present case is based on the doctoral examination as experienced by the authors in their respective roles as doctoral candidate, postdoctoral supervisor, and principal investigator. It is presented in a structured form to illustrate procedural dynamics that may emerge in the handling of research integrity-related inquiries within doctoral evaluation procedures.

To follow the case, it is useful to briefly introduce the principal actors and their respective roles. At the center was the doctoral candidate, whose dissertation and examination were the subject of the proceedings. She was supported in her day-to-day experimental work by a postdoctoral researcher, who supervised the practical execution of the experiments. The principal investigator (PI) worked closely with both researchers on the conceptual design of the studies and on the evaluation and interpretation of the results. On the institutional side, the chair of the doctoral committee was formally responsible for overseeing the doctoral procedure as a whole. The examination itself was conducted by an examination committee comprising a chair and two professors, one of whom was the PI. Thus, the case involved not only a doctoral candidate and those directly involved in her research, but also several institutional actors—a constellation that becomes relevant to understanding the procedural dynamics described below. Relevant documentation supporting the procedural chronology described below is provided in the supplementary materials.

The doctoral research focused on experimental studies of hepatotoxicity and the development of in vitro–in silico approaches for predicting liver toxicity in human and rat systems. While two peer-reviewed publications including data of the candidate had previously addressed human hepatotoxicity, the dissertation itself exclusively contained newly generated, unpublished data on rat hepatotoxicity.

During the official display period of the dissertation, the candidate received an email from the chair of the doctoral committee requesting a written response to several points raised by an anonymous contributor (Supplementary file 1). This communication contained statements framed as questions but also included implicit assertions regarding authorship, data origin, and intellectual contributions.

One point referred to prior publications and questioned which content from these publications had been incorporated into the dissertation. Specifically, the candidate was asked: "In both

reviews it is pointed out that results of your research work have been published in two scientific journals. However, in your dissertation it is not apparent which contents were taken from these publications. In this context, the question arises whether all data presented in the work were generated exclusively by yourself or whether data from third parties – for example co-authors of the mentioned publications – were also used." (Supplementary file 1). The candidate clarified that no data from the cited publications were included and that the dissertation and publications addressed distinct biological systems (rat versus human hepatotoxicity), as clearly documented in her thesis (Supplementary file 2).

A second point stated that the dissertation dealt "essentially with statistical questions" and questioned the extent of the candidate's independent work ("Since your work primarily dealt with statistical questions, it is unclear to what extent the aforementioned individuals were involved in conducting the analyses and what proportion of the work was performed independently by you." (Supplementary file 1). The candidate clarified that the work was primarily experimental, with statistical analyses conducted in collaboration with experts from the Department of Statistics, as explicitly described in the dissertation, and detailed her independent contributions to design, data generation, analysis, and interpretation (Supplementary file 2).

A third point concerned the use of AI-based tools and alleged inconsistencies in their description. The candidate clarified that AI tools were used in accordance with institutional guidelines and that their application was fully documented in the dissertation (Supplementary file 2).

Following this response, the chair of the doctoral committee informed the candidate that the issues raised had been satisfactorily resolved and that no further clarification was required (Supplementary file 3).

During the subsequent public doctoral defense, the scientific discussion with the appointed reviewers proceeded in a standard and substantive manner. However, at the conclusion of the defense, previously addressed points were reintroduced by the chair of the examination committee. The candidate reiterated her prior responses now in public. Nevertheless, the chair of the examination committee requested to revise the dissertation. The candidate rejected this on the grounds that no errors were identified. Despite the criticism and request to revise the dissertation, the doctoral degree was nevertheless awarded following the defense, without any further comments on the dispute in the defense.

Subsequent correspondence between the principal investigator and the chair of the doctoral committee addressed procedural aspects and noted that the candidate had to respond to factionally incorrect statements that were framed as questions (Supplementary file 4). A further element concerned references to content attributed to the evaluative reports of the dissertation (Supplementary files 4 and 6). The candidate was asked to respond to issues formulated in these reports, although the reports were not accessible to her during the evaluation process. Consequently, she was required to address concerns derived from documents she had neither authored nor been able to review (Supplementary files 4, 5 and 6). While procedural sensitivities were acknowledged, no formal clarification or withdrawal of the previously raised points was provided by the responsible faculty representatives (Supplementary file 4, 5 and 6).

Framing of inquiries and implicit evaluative content

A central observation concerns the transformation of formally framed questions into statements with negative evaluative content. Several communications contained embedded assumptions regarding authorship, methodology, or distribution of intellectual contributions. Statements such as that the work "essentially deals with statistical questions" or that it was "unclear to what extent" analyses had been performed independently implicitly presuppose a particular interpretation of the research structure. While formally phrased as questions, such formulations introduce substantive assumptions typically subject to verification within formal assessment

rather than through candidate response. This reframing alters the epistemic status of the candidate, shifting the burden from clarification of open issues toward justification of pre-structured interpretations. As a result, explanatory responsibility is partially relocated to the candidate without a clearly articulated evidentiary basis for the underlying assumptions.

Structural information asymmetry in doctoral evaluation

A second procedural feature concerns asymmetry in access to evaluative information. The candidate was required to respond to issues referencing content contained in the evaluative reports of the dissertation, which are in general not made available to the candidates by the reviewers and were not forwarded to her by the doctoral committee together with the questions. Specifically, the chair of the doctoral committee confronted the candidate with the following written statement: "In both reviews it is pointed out that results of your research work have been published in two scientific journals. However, in your dissertation it is not apparent which contents were taken from these publications. In this context, the question arises whether all data presented in the work were generated exclusively by yourself or whether data from third parties – for example co-authors of the mentioned publications – were also used.". However, already the title and abstract of the publications specify that they focus on human hepatotoxicity, while the dissertation exclusively addresses hepatotoxicity in rats. Therefore, already reading the titles of the publications and the thesis would have shown that the question concerning the co-authors is obsolete.

As later became apparent, the review reports did not raise criticism but were overall favorable and additionally acknowledged published research outputs of the candidate not included in the dissertation. Thus, the procedure created a dual asymmetry: the candidate had to respond to content that she had neither authored nor had access to during the procedure and gave the incorrect impression that the reviewers had criticized the thesis.

Iterative escalation and the loss of procedural closure

A third procedural feature concerns the iterative structure of the evaluation process. Although the initial written responses were formally accepted as sufficient, previously addressed issues reappeared during the public defense. This indicates that procedural closure at one stage did not preclude reintroduction at a later stage. Such dynamics introduce iterative reconsideration across procedural phases, increasing cumulative burden on candidates and blurring the distinction between scientific evaluation and procedural defense over time.

Low thresholds for procedural activation

A fourth aspect concerns the apparent low evidentiary threshold for initiating formal inquiries. The issues raised in the written communication and in public defense could have been easily resolved through direct verification of the dissertation, such as the distinction between human and rat hepatotoxicity data. Despite this, they were formulated as matters requiring formal clarification. This suggests that procedural initiation occurred without systematic verification of consistency with source material. It raises questions regarding how evidentiary thresholds are operationalized and to what extent initial plausibility is assessed prior to escalation into formal procedures.

Reception by the candidate, the postdoctoral supervisor, and the principal investigator

The candidate had conducted nearly four years of intensive experimental research within an active international scientific environment. Her findings had been discussed in peer-reviewed publications and presented to specialized scientific audiences, where both methodological and interpretative aspects were critically examined. Within these scientific interactions, no

concerns had previously been raised regarding the independent generation of the experimental data.

The doctoral examination initially proceeded in a scientifically substantive manner, with the appointed reviewers focusing on methodological and interpretative aspects of the dissertation. This changed at a later stage of the defense, when issues that had previously been addressed in written correspondence and considered resolved were reintroduced by the chair of the examination committee. In particular, questions concerning the provenance and independent generation of the experimental data were raised again without reference to new evidence.

From the perspective of the candidate, this procedural shift was experienced as highly stressful. At the conclusion of the defense, the chair of the examination committee requested a revision of the dissertation despite the absence of identified scientific errors. The candidate considered it scientifically unjustified to implement the requested revisions and therefore rejected the request. At the same time, this situation created uncertainty regarding the possible consequences of refusing a request made during the official examination procedure. The postdoctoral supervisor experienced the situation as similarly burdensome. Having closely accompanied the experimental work throughout the doctoral project, she had direct insight into the independent generation and analysis of the data. She perceived it as difficult that concerns raised anonymously and without accompanying evidence became procedurally influential, while her own direct scientific perspective could not formally enter the evaluation process. The principal investigator experienced comparable concerns. In addition, written communications sent to the chair of the doctoral committee addressing aspects of the evaluation process remained unanswered, including correspondence pointing out that the candidate was required to respond to statements originating from evaluation reports that had not been accessible to her during the procedure (Supplementary file 4 and 6). From the perspective of the authors, the situation would likely have remained a minor and manageable procedural situation if the underlying issues had been openly clarified within and after the examination process. However, the absence of such clarification contributed to the persistence and amplification of the conflict.

Rethinking procedural design in doctoral integrity governance

Overall, this case suggests that excessive procedural burden in doctoral integrity governance is not primarily the result of insufficient regulation, but rather of insufficient procedural due diligence at the point of escalation. In the present case, the underlying inconsistencies—such as the clear distinction between human and rat hepatotoxicity already evident from the titles of the publications and the dissertation—could have been identified and resolved within a very short time through basic plausibility checks.

Instead, the allegations were elevated into formal procedural inquiries without prior verification of their factual coherence. This points to a weakness in the institutional gatekeeping function at key decision points, where the transition from informal concern to formal investigation occurs.

Without such plausibility screening mechanisms, integrity procedures risk being triggered on the basis of easily resolvable inconsistencies, thereby generating unnecessary investigative cycles that divert resources from substantive scientific evaluation. Repeated instances of avoidable escalation may not only reduce procedural efficiency but also raise questions regarding the proportionality and procedural reliability of doctoral examination processes.

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Conflict of interest

The authors were directly involved in the doctoral procedure discussed in this commentary in their respective roles as doctoral candidate (LG), postdoctoral supervisor (WA), and principal investigator (JGH). The authors declare that they have no financial or other competing interests. JGH and WA are editors at EXCLI journal.

Artificial Intelligence (AI) – assisted technology

The authors declare no AI tools were used in the design, conduct, analysis, and interpretation of the research reported in the manuscript.

Supplemental documentation

All factual statements concerning the e-mails are based on contemporaneous documentary records. Owing to confidentiality and data protection obligations affecting some of these materials, the e-mails are not reproduced here; instead, only the dates of the corresponding e-mails are provided in the supplement. The complete e-mails are available to the editors and will be made available to appropriate parties where legally permissible.

SUPPLEMENTARY FILES

Supplementary file 1: E-mail from the doctoral committee to Lisa Gründler, July 31st, 2025

Supplementary file 2: E-mail from Lisa Gründler to the doctoral committee, August 1st, 2025

Supplementary file 3: E-mail from the doctoral committee to Lisa Gründler, August 1st, 2025

Supplementary file 4: E-mail from Jan G. Hengstler to the doctoral committee, August 6th, 2025

Supplementary file 5: E-mail from the doctoral committee to Jan G. Hengstler, August 7th, 2025

Supplementary file 6: E-mail from Jan G. Hengstler to the doctoral committee, August 8th, 2025