

Fraud case Dirk Smeesters

Dirk Smeesters was an extraordinary success story. Until it became clear the young, Flemish professor had manipulated and even fabricated his data. What exactly happened and what will change in order to prevent fraud in the future? On massaging data, data detectives, and shades of grey.

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“I have always been intrigued by the question why people behave in a certain way. What underlying mechanisms cause this type of behaviour”, Dirk Smeesters says in an interview from 2008 on the EUR website. The doors were open for the young doctor after he had passed his dissertation in Leuven in 2003. The Rotterdam School of Management, Erasmus University (RSM) wanted him, but he initially chose for the University of Tilburg. One of the reasons for moving to Rotterdam a few years later was the “fantastic *Behavioural Lab*” here. Bristling with enthusiasm he tells in an interview of his interest in psychology, which goes back to high school, and of all research projects he was working on. He discovered that a messy working place is a better working place, that commercials with too skinny models are less effective, and that people who have death on their mind eat more candy. He progressed quickly in his career. The adage too good to be true is fitting: three years later it all ended.

People like all others

It was “terrible” to hear that one of his professors had apparently committed fraud, Steef van de Velde, dean of the RSM, tells. “The Stapel affair already was a huge shock. That something like this would happen at your own faculty is the last thing you expect. Smeesters was a young, promising researcher, more than an up and coming talent. At least so it seemed. But scientists are people like all others.” Yes he is angry. “Or perhaps I should say ‘disappointed’.”

Business Administration student Roel den Blanken took the Marketing Management course from Smeesters. “He was a normal lecturer”, he remembers. “His classes were interactive. He walked around in the lecture hall and was good at explaining.” Quite ironically Smeesters also taught the course ‘Experimental Methods in Business Research’ in which students were taught step by step how to apply experimental research methods and data analyses.

Peculiar patterns

Yes, he made mistakes, Dirk Smeesters admits, but he stresses that he did not fabricate data. “I am no Diederik Stapel”, he said in an exclusive interview with Flemish newspaper *The Standard* on the 30th of June.

Nonsense according to the American professor and ‘data detective’ Uri Simonsohn who caught wind of the case: “I am saying his data were forged”, he writes in an email. “There is no way the data were merely massaged.” The only other cases where he saw similar patterns were with research from Stapel. “Smeesters’ justifications for his research data are irreconcilable with the evidence”, Simonsohn emphasizes and sums up a number of arguments that, according to him, discredit Smeesters’ explanations.

The report from the research commission Scientific Integrity concludes that Smeesters is guilty of cherry-picking data. Furthermore they found various 'peculiar patterns' in his work. "It is not the case that data has been fabricated", it says on the EUR website. "It is the case that data has been omitted in order to obtain significant effects, without mentioning that data had been omitted."

This is however incorrect. Professor Rolf Zwaan, chairman of the commission and specialized in cognitive psychology, explains that in the end the commission is convinced that at least some data had been fabricated: "We included Smeesters' reaction to our findings in the report. But, in turn, we had no time to react to it ourselves because our final meeting with Smeesters was frequently postponed. He himself stated that he massaged data. The analyses from Simonsohn, as well as our own analyses, clearly demonstrate that more was going on."

Losing data

The commission has analysed all 29 scientific articles published by Smeesters since 2001 using Simonsohn's method. Three articles, one of which had not been published, have been retracted as it became certain there are problems with the data. Zwaan: "We did not retract even more articles because we were very careful."

If you analyse a lot of publications, he explains, the method can work by chance. Vice versa, sometimes the method does not work even though something is wrong. So it is probable that not all irregularities in the data were found. A follow-up investigation would be appropriate, thinks Zwaan. "After all, Smeesters' co-authors are now not sure whether their positions or promotions are in jeopardy."

A problem with a follow-up is that Smeesters lost a large part of his data, digital as well as hard-copy, as the result of a computer crash and while moving to the RSM. How did that happen? Dean Van de Velde shrugs: "I would say everyone thinks that story is unbelievable."

Too good to be true

Simonsohn, unfamiliar with Smeesters at the time, came across one of the professor's articles by coincidence. The results seemed too good to be true. Having been confronted with the odd patterns, Smeesters replied the American scientist by email that he may have made a 'typo'.

However, that should have weakened the research outcomes instead of pushing them in one direction Simonsohn posits. "You could compare it to the claim 'I arrived later than usual today because I rode faster on my bike'", he explains. Smeesters altered his explanation as a result.

According to two statistics experts from the EUR Simonsohn's statistical method is valid. The core of his method is to check whether the data is too close to the theoretical expectation. He has been preparing an article on his results for several months. His draft, titled 'Just post it: The lesson from two cases of fabricated data detected by statistics alone' is available on the *Social Science Research Network*.

Problematic research culture

Dirk Smeesters told the research commission that massaging data is part of the research culture in marketing and social psychology. "There is talk of *questionable research practices*, but those are rather common", he declares in *The Standard*. A recent study among two

thousand psychologists from Leslie John of Harvard Business School confirms this: 78 percent withhold unfavourable results and half of the scientists adjust their hypotheses after the results are known.

Following Smeesters' comments the EUR website announces: 'The Executive Board does not believe there is a problem with the EUR's research culture.' Rector Magnificus Henk Schmidt told EM shortly after the fraud case became known that he was not certain whether massaging data happens more frequently. Therefore, as a first step an investigation of the culture at RSM will be launched. Subjects of interest will be the research environment, how Smeesters could commit fraud, the incentive structure for promotions, and how high job related stress is. Part of the 250 scientific employees of the faculty will be interviewed. A report must be completed before January 2013.

Minimum requirements

The commission Scientific Integrity advises to create a protocol for data collection and storage, binding for all scientists at the university. Likewise, Smeesters makes a plea in *The Standard* for explicit rules - 'To provide clarity in the grey area'. Rolf Zwaan: "There is indeed a grey area. Within this area researchers, unknowingly in the most cases, use certain methods incorrectly."

Finn Wynstra, Associate Director of ERIM (Erasmus Research Institute of Management) is the chair of the EUR task force in charge of researching how awareness of scientific integrity can be increased and how further cases of fraud can be prevented. [view text box]. "Within ERIM we are compiling a set of minimum criteria for collecting, analysing, storing, and reporting research data", he says. "We are looking closely at different research strategies, such as experimental research compared to research using existing data. Moreover we are developing new course modules Scientific Integrity for various researchers. Apparently there is great need for this."

It has not been decided yet whether checks will be performed on the work of researchers. Perhaps samples will be taken, says dean Van de Velde. "We do not want to create a witch hunt, but we need clarity." Simonsohn's method would not be used for this, as it is only useful for specific types of research in social psychology.

Publishing raw data

Uri Simonsohn believes it is not the duty of universities to prevent fraud. "Any efforts to such effect are likely to irritate faculty, slow down the research process, and increase paperwork", he says. It is mainly the responsibility of scientific journals, he states. They should publish raw data and should furthermore inquire how these were collected and analysed. According to Simonsohn, several publishers are considering to adjust their policies to such effect.

Zwaan as well is an advocate of publishing raw data. Van de Velde on the other hand expresses concerns whether this is viable or not: "Companies oftentimes only agree to participate in research if their anonymity is guaranteed. Moreover, you trade in your head-start on other researchers if you publicize your data. And raw data can be forged as well."

Co-authors

"An uncanny but instructive experience", Rolf Zwaan describes the investigation he has led. "Speaking to Smeesters' co-authors had an impact on me. Many of them are young researchers who have been affected by this case", he tells.

Smeesters has not yet graduated any PhD candidates. The ones he was supervising have meanwhile switched to other promoters. They told the commission in February that they gathered their data themselves and do not doubt Smeesters' integrity. His former PhD candidates and student assistants react cautiously to interview requests from EM. According to the university there is no reason to doubt the integrity of Smeesters' co-authors. Even so, they have meanwhile been advised to request raw data in case they had not collected it themselves.

Publish or perish

RetractionWatch, a blog that keeps a record of research that has been declared invalid due to fraud, is the stage of a lively discussion on, among other things, the responsibility of co-authors. The case of Smeesters sparked the debate. Jonathan Levav of Stanford University, who still has two unpublished articles with Smeesters, describes how he met him at the EUR. "Dirk is a nice, intelligent guy, and was an enthusiastic coauthor." In any case, he never had any doubts about the man's work. "Maybe he's not a friend any longer", he writes, "but he was for some time. He has a family, and he's paying a heavy price. Although this is probably deserved, it's sad for many of us to watch. I do not know what motivated Dirk to do what he did, but I know that there was no need for it. He was smart enough to become a respected scientist without messing around with data."

Perhaps it was the pressure to continuously publish, to bring something new that generates impact time and time again, thinks Steef van de Velde. All scientists are faced with the *publish or perish* challenge, Uri Simonsohn says. "But almost nobody fabricates data. Rather than try to justify illegitimate behavior, we should think of ways to prevent it."

More fraud cases

Ultimately, all interviewees underscore that it is impossible to completely prevent fraud. Pieter Kuijt, director of the Marketing & Communications department: "We have around a thousand scientific employees on Woudestein. It is a microcosm and a small, open society." Rector Magnificus Schmidt, shortly after the fraud case came to light: "The system is based on trust." "It was 'gritty case'", says Kuijt, "but we treated it carefully and diligently. As transparent as possible." Finn Wynstra of ERIM: "I am all over openness and transparency, but it does have enormous consequences for Smeesters to prominently appear on the eight o'clock news with name and picture."

Damage to the university's reputation is limited, presumes Kuijt. "It is not like 'you work at RSM so I will not work with you anymore'", says Wynstra, "but subconsciously it may have an effect." Zwaan: "Especially for social psychology this is a blow. But exactly in that field big efforts are made to change the situation." Kuijt expects that more fraud cases will come to light in the next years. "Perhaps we will be more critical with each other, or perhaps the threshold to approach a counsellor will be lower."

The rector declared in his speech for the opening of the academic year: "We can fool ourselves and believe that these are isolated incidents; the actions of solitary individuals who have lost their way for one reason or the other. But I am not convinced that the practices that have been unearthed are total exceptions."

Chronology: what happened when?

- > 29 August 2011: Uri Simonsohn, economist and social psychologist at the University of Pennsylvania, emails Dirk Smeesters, social psychologist and expert in marketing and consumer behaviour at the Rotterdam School of Management. He believes there is a problem with Smeesters' research data and requests him to send his raw data.
- > 15 September: Smeesters loses a large part of his data.
- > 26 September: Smeesters discusses this matter and his physical condition with the director of the Marketing Management department, Stijn van Osselaer (did not want to give an interview to EM). In the following months Simonsohn, Smeesters, and Van Osselaer exchange emails; slowly, the gravity of the situation is unfolding.
- > 30 November: Smeesters requests a meeting with the counsellor for scientific integrity.
- > 12 January 2012: A research commission is formed because of the suspicion of scientific error or fraud.
- > 31 January: Smeesters sends his resignation, motivated by personal reasons, to RSM.
- > 1 February: First meeting between Smeesters and the research commission. He promises absolute compliance and admits to have made a mistake.
- > 5 April, 7 May, 22 May: Smeesters cancels the meeting for the analysis of his results due to grave personal problems and a migraine attack.
- > 25 May: Meeting between the research commission and Smeesters at his house in Turnhout.
- > 21 June: The Executive Board accepts Smeesters' resignation.
- > 25 June: The EUR publishes the research report.

Measures to prevent fraud

Following the Stapel case, ERIM began researching the state of affairs for scientific integrity past fall. The objective was to gain knowledge to prevent scientific errors and fraud. Early in July the scientific staff and ERIM research master students received an email about this. In the attachment '**General recommendations for storing research data**' it is suggested to always keep copies of research data, to clearly describe the methods for gathering data, and to keep with a minimal term of five years for storing data. Later this fall, these recommendations will be specified further for various research methods, and some of the suggestions may be transformed into regulations at a later stage.

At the **Erasmus Behavioural Lab** (managed by Psychology and ERIM) data are automatically stored by now, and it is compulsory to register which and how many research subjects participate. Furthermore a pilot has been launched to test a **central data base** at the University Library, where all EUR researchers can store their data. Hundreds of thousands will be invested for storage capacity and personnel. The researcher can control who has access to the data. Whether or not using this facility will become a mandate for the whole university is not clear at this point.

Starting the end of October, there will be a **Scientific Integrity course** at ERIM. It will be compulsory for new PhDs, but available for existing PhDs and senior researchers as well. The Erasmus MC already has such a course, and other faculties will probably offer one at a later date.

Smeesters reacts: 'I definitely will not miss academia'

The dean advised him to decline further interview requests. Nonetheless Smeesters (1974) tells his side of the story to EM. "It is clear that a lot is amiss in the field."

What are you doing at this point?

"I cherish every moment I have with my children, and it is wonderful to have no work to do for once. I am learning to enjoy life again."

Do you still have problems with your health?

"I worked non-stop since I graduated in 1997. Many people warned me in recent years that I was overdoing it and would get the bill sooner or later. I have felt used up many times, but then found the energy to keep going. Until I finally hit the wall. Once you have that burnout you are completely drained, I couldn't even read a book. I was plagued by migraine attacks in that period as well. Whenever they hit I was completely knocked out. On top of that I had troublesome palpitations in the past ten years, caused by stress and too little relaxation. Fortunately these problems are under control now for the most part. Furthermore I have lingering knee problems."

How do you look back on the past year?

"It was tough, especially because I had emotional and physical problems. If such an investigation is added to all that it is even tougher. It must have been frustrating for the commission that I was in struggling with myself like this. As a result I could not always react promptly."

Did you hear from colleagues or students when the news was out?

"Yes, quite a lot actually. Especially from ex-colleagues, not from students – although several people told me they had read on websites that students thought I was a good teacher. That felt good. And I was overwhelmed with messages from friends. It took a few days to thank everyone."

You admitted that you did not follow the rules when dealing with your data. Looking back, do you regret this?

"I do know that if I were to start over, I would deal with issues that are more relevant to society and that contribute to the wellbeing of people. Then, it would be of lesser importance whether or not something is innovative theoretically or statistically significant. Journals almost exclusively publish studies with statistically significant results, which can indeed lead to massaging your data."

Why did you start cheating with your data, and where you never scared to get in trouble?

"No comment. I think researchers want to maximize the usefulness of their data because the pressure to publish is extremely high."

The EUR does not believe that you lost your data by mistake.

“Unfortunately I could not change that perception. Scientists are unfortunately sloppy with their data. A research from Jelte Wicherts of the UvA reveals that merely 27 percent of the researchers were able to provide their datasets to him. Uri Simonsohn has recently addressed the issue as well. When he requested the datasets from various people, they were unable to share them with him.”

You disagree with Uri Simonsohn about your research data: he says data has been fabricated, you say you have only massaged your data.

“I won’t respond to this, otherwise you would simply get one of those ‘according to me, according to him’-stories.”

According to you data massage occurs quite often. Can you give us examples?

“There are always suspicions, but I will not give away names. It is clear that much is wrong in the field. Now it is being proposed to have more transparency in research. Researchers would have to register their hypotheses before they conduct their studies and discuss everything they had carried out.”

The research culture at RSM is being investigated. What are your expectations?

“I cannot say anything on the matter. Many researchers will of course not admit publicly what they are doing, even if that may be justifiable. But perhaps they will do so anonymously.”

What are your plans for the future? I heard you want to work at a high school or college?

“I am not working at the moment, because I want to fully recover from my burnout. But that line of work is indeed a possibility, and there are other options. I won’t make a decision until I am back to one hundred percent.”

Will you miss science and giving lectures? And the university and RSM?

“I definitely will not miss academia. Frankly, I am relieved that I am no longer part of it. I do want to say that RSM provides a good and professional environment for people who are seeking to pursue a career there. And I still have warm feelings for a number of people who supported me. But I always had trouble to leave my work at work and that frequently caused frustrations. If I look back now, I took the job because I wanted to do research. But in retrospect my happiest moments were when I returned from a lecture that went well, and the students had treated me to an applause.”