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Trust, but in what?

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The Research Council's survey on the population's attitudes to research can hardly be trusted. We should nevertheless take it seriously.

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Recently, the Research Council of Norway published interim results from a study of Norwegians' attitudes to research. Many respondents agreed with such statements as 'research results are greatly influenced by the researchers' own political attitudes and views', and 'research results are often bought by industry or the authorities and are therefore not trustworthy' (1). The *Aftenposten* daily presented the results under the headline *Nearly half of all Norwegians have no trust in research* (2).

The company Kantar, which conducted the survey, based it on approximately 55 000 people who have previously agreed to participate in various market surveys. Altogether 7 044 of them received an email, and 2 088 responded. In other words, the survey had a response rate of less than 30 % (1).

Generalising about frequencies from such a meagre response rate is hardly possible. The director of the Research Council, however, describes the study as 'a survey, not as a research result regarding people's attitudes, and it should be interpreted accordingly' (1). *Aftenposten*, on the other hand, does the opposite; on its website the newspaper sounded the alarm about increasing faith in conspiracy theories (3). Faktisk.no, an independent, voluntary organisation that critically reviews the basis for current news items, found that the questions on conspiracy theories had not been asked in earlier, equivalent surveys (a precondition for claiming that a change has occurred) (3). The Research Council's study thus highlights a part of the problem: a simple survey is misinterpreted and portrayed as fact.

So should we completely disregard these results? Anyone who has been employed at an academic institution and involved in discussing the results of an employee survey knows the score: eight out of ten may have answered that they are unhappy in their job. This notwithstanding, the colleagues will question the response rate and sample, rather than discussing that *some individuals*, irrespective of proportion, are unhappy with their jobs.

So let us assume that some Norwegians place little trust in research and that we wish to bolster this trust. We should clearly not have blind faith in research, nor should we unquestioningly trust the researchers. There are some who cheat, lie and sabotage, although this is unlikely to represent the main problem: the system is in itself unworthy of unconditional trust. The best journals favour new research questions (preferably with a positive outcome) rather than necessary replications of previous trials. The pressure to publish has mounted – on the part of authors as well as the journals (4, 5). The number of articles that are withdrawn due to research misconduct or errors is increasing (6). Publication of the nastiest examples in the press may easily undermine the trust among decision-makers as well as the general population (6).

What we ought to trust, is the scientific method – the way to search for the truth. Research, at least in its hypothesis-testing, quantitative form, faces a dilemma: it cannot prove that something is true, it can only substantiate that the opposite is untrue. Knowledge produced by research should be subjected to criticism, and new knowledge should be challenged through new hypotheses and new research. When studies show that most scientific findings cannot be replicated (7), this is not necessarily a problem: it shows that research is living up to its ideals and that we should never generalise from individual studies (7).

On the contrary, facts need to be based on mutual, independent testing, again and again. Thus, research is undertaken in a balance between what is mutable and what – finally – has been completely determined: the Earth is round, smoking is bad for your health, the human immunodeficiency virus (HIV) causes AIDS, and vaccines do not cause autism.

The Research Council challenges journalists and the public to learn critical thinking (1). Perhaps we should start learning simple statistics and probability calculus already from primary school, including how we are able – or unable – to answer the question of whether something is true? A study that was undertaken among 10–12-year-old schoolchildren in Uganda and published in *The Lancet* this spring showed that systematic training in critical assessment of research results raised the proportion that could assess a statement on the effects of a health intervention by 50 % (8). The authors of the study propose that the same programme be implemented in Norway (9).

More knowledge is a good thing. However, the responsibility for improving people's trust in research must also be placed on the researchers themselves, as well as on those who publish and communicate research results. I plan to renovate our family's mountain cabin. I have no skills in carpentering, nor in electrical wiring, but I did woodwork at school and I know some physics. The rest I need to leave to the tradesmen. They ought to know their trade and be trustworthy – just like researchers.

LITERATURE

1. Forskningsrådet. Tillit til forskningen: – Flere må ta ansvar. https://www.forskningsradet.no/no/Nyheter/_Flere_ma_ta_ansvar/1254029137944/p1174467583739 (7.10.2017).

2. Ny undersøkelse: Nesten halvparten av nordmenn stoler ikke på forskning. Aftenposten 17.9.2017. https://www.aftenposten.no/kultur/i/zaJaq/Ny-undersokelse-Nesten-halvparten-av-nordmenn-stoler-ikke-pa-forskning (10.10.2017).

3. Faktisk.no. Faktisk helt feil. https://www.faktisk.no/faktasjekker/0xd/nye-tall-viser-okt-mistillit-til-forskere-ogvoksende-tro-pa-konspirasjonsteorier-blant-nordmenn (7.10.2017).

4. Khrono. Why you can't trust science. https://khrono.no/debatt/why-you-cant-trust-science?nav=forside (7.10.2017).

5. Horton R. Offline: The crisis in scientific publishing. Lancet 2016; 388: 322 .. [CrossRef]

6. Bauchner H. The rush to publication: an editorial and scientific mistake. JAMA 2017; 318: 1109–10. [PubMed][CrossRef]

7. Smithsonian.com. Scientists replicated 100 psychology studies, and fewer than half got the same results. https://www.smithsonianmag.com/science-

nature/scientists-replicated-100-psychology-studies-and-fewer-half-got-sameresults-180956426/ (7.10.2017).

8. Nsangi A, Semakula D, Oxman AD et al. Effects of the Informed Health Choices primary school intervention on the ability of children in Uganda to assess the reliability of claims about treatment effects: a cluster-randomised controlled trial. Lancet 2017; 390: 374–88. [PubMed][CrossRef]

9. Oxman M, Nordheim L, Fretheim A. Kan vi lære skoleelever kritisk tenkning om helsepåstander? Aftenposten 8.1.2017. https://www.aftenposten.no/meninger/debatt/i/6QrRz/Kan-vi-lare-skoleelever-kritisk-tenkning-omhelsepastander--Oxman_-Nordheim-og-Fretheim (10.10.2017).

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