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Metric-wiseness

Dear Sir,

Nowadays many types of metrics influence scientists' careers. Hence, knowing the meaning and implications of these metrics can have measurable consequences on a scientist's life. Therefore we propose the concept of 'metric-wiseness' as "a researcher's capacity to use the characteristics and formats of scientometric indicators to present one's true research value". The concept of metric-wiseness is inspired by the related concept of test-wiseness (Millman, Bishop, & Ebel, 1965), which refers to an individual's capacity to use the characteristics and formats of a test (e.g. exam, IQ test, language test...) to achieve a high(er) score. Being metric-wise can favor knowledgeable researchers over uninformed colleagues, even when they are of otherwise equal competence. Combined with a Matthew effect (Merton, 1968) this situation would then continue to exist over time and would lead to a situation where certain researchers or research teams advance faster than others.

Metric-wiseness can lead to two types of behavioral changes in the research process. First, metric-wiseness can be seen as a useful tool in reporting one's research portfolio. Becoming metric-wise provides a clearer picture of a researcher's quality. If everyone becomes metric-wise the assessment processes that are part of researchers' life will be less distorted and the advantage of more knowledgeable researchers will be reduced.

However, a second and less desirable way in which metric-wiseness can change the research process is by crowding out intrinsic motivational factors for doing research. It can magnify the adverse effects associated with the 'publish or perish' culture (van Dalen, & Henkens, 2012). As such, metric-wiseness can worsen undesirable practices such as undertaking trivial, but trendy studies or reporting research in parts rather than as a whole. Additionally, these behavioral effects would imply that researchers prefer well-established journals over new journals or restrict participation to conferences, especially if this implies publishing in less visible conference proceedings. Clearly this behavior would slow down the dissemination of research findings.

We conclude by recalling that one always needs peers to include qualitative aspects in a research evaluation exercise. A purely bureaucratic and quantitative approach can never be beneficial for individual scientists or science in general.

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