

Journal for Reproducibility in Neuroscience

Science communication of reproducibility

The importance of reproducibility is a widely discussed topic within academia, and there is an increased awareness about the issues in reproducibility, as we start to more actively tackle it within different fields of the scientific community.

Outside of academia, however, reproducibility isn't as well-known a concept, and there should be increased emphasis on the importance of reproducibility when engaging with the public.

The importance and impact of thoughtful science communication is starting to be recognised within academia, with more funding proposals requesting a SciComm plan alongside the research plan.

But what about the science communication of reproducibility in and of itself? While understandable that researchers would like to avoid discussing the pitfalls of science for fear that our words will be misconstrued and used in the wrong context, we shouldn't hide the limitations of science either; this merely upholds the incorrect stereotype of robotic and elitist scientists, which unfortunately still exists to some degree today.

By not sheltering the public from the pitfalls of the scientific method, we can engage the public more actively in how the scientific process works, and thus discuss the topic of reproducibility more openly, as with other science/scientific topics.

Particularly given that we are in the midst of a misinformation crisis, with self-proclaimed experts around every corner, one of our responsibilities as science communicators is to explain why the weaknesses of the scientific method do not undermine and nullify all

scientific results; this is in fact exactly where the importance of communicating reproducibility comes in. We must emphasize that reproducibility is a tool to validate solid scientific findings.

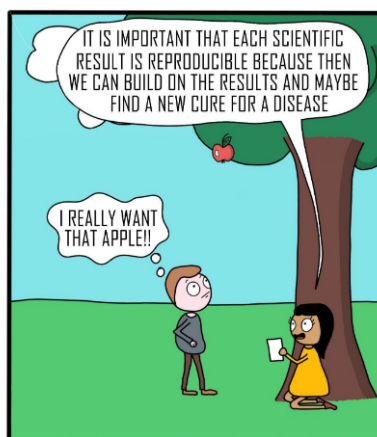
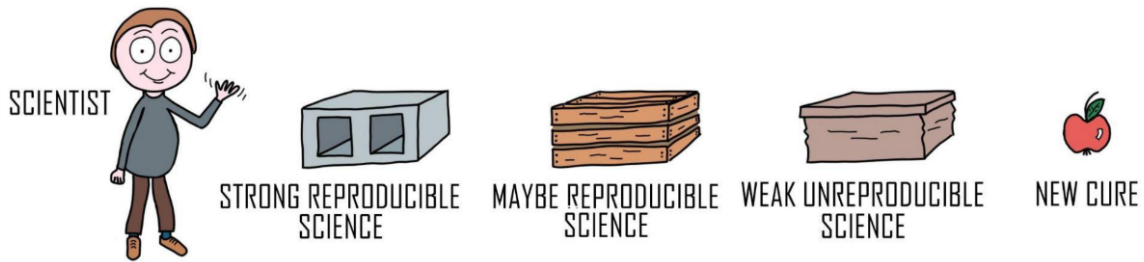
Having a general understanding of what makes a "good" paper, or what distinguishes reproducible data from unreproducible data, would be greatly beneficial in furthering critical thinking and reading of scientific studies beyond academia too.

In an ideal world, all findings would be reproducible, but until then, having an understanding of how science works is intrinsic to helping people trust the scientific process. Science always builds upon what we already know; science is therefore a continually dynamic and evolving conversation about how the world works, about how nature operates. Involving/engaging the public in this conversation is of utmost importance to maintain the trust in the scientific method and in the scientific community.

Given that past science lays the foundation for future science, we must not only ensure that the results that we build upon are trustworthy and reproducible, we must also communicate this with the public. For example, the cartoon below serves the purpose in two ways: it can start a conversation about reproducibility with the general public, and explain the consequences of 'lack of reproducibility' in science in a clear and light manner.

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BUILDING ON SOLID GROUND



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