

Editorial

Conflicts of Interest and Solicited Replication Attempts

The potential impact of conflicts of interest on science has been discussed extensively—vested interests can shape the behavior of scientists, both consciously and unconsciously, thereby distorting the scientific record. The tobacco research community occupies an interesting position; financial vested interests include those of both the tobacco industry¹ and the pharmaceutical industry.² Unlike fields that study spontaneously occurring diseases, we have to pay attention to two major sources of financial interests. However, there is also a third source of conflicts of interest, which receives much less attention—the beliefs, preconceptions and pet theories of individual scientists.³ Tackling conflicts of interest is notoriously complex—while financial interests are typically easy to identify, unconscious biases may not even be known those affected by them.

The situation is further complicated by the rapidly changing tobacco research landscape, particularly with respect to research on e-cigarettes. E-cigarette companies perhaps occupy a space between the tobacco industry (which has a shameful history of deliberately attempt to distort the scientific record) and the pharmaceutical industry (where there are certainly financial vested interests and extensive evidence of attempts to over-state the scientific evidence for their products). Critically, at present, most research funded by e-cigarette companies is not linked to the tobacco industry—of 466 e-cigarette brands reviewed in 2014, only 10 were owned by the tobacco industry at that point.⁴ Nevertheless, this situation is changing as the tobacco industry has begun to invest in e-cigarette products. The already complex situation regarding conflicts of interest has become even more so.

The policy of *Nicotine & Tobacco Research* is to require full disclosure of potential conflicts of interest, to ensure that science remains open, and that scientific research is judged as much as possible on the basis of the data rather than the source of the data. Yet this is imperfect, because it cannot capture the unconscious biases that permeate scientific discourse (however rigorous our training, scientists are human too). We need to develop creative ways to assess the robustness of scientific findings in a manner that obviates concerns about potential conflicts of interest. Fortunately, the scientific method already has such a mechanism in place, albeit one that is not used often enough: independent replication. If a group with no conflicts of interest (or *different* conflicts of interest) replicates in good faith the findings of a previous study, we can be considerably more confident that they are robust.

We are piloting a new scheme to solicit independent, direct replications of studies published in *Nicotine & Tobacco Research* which we feel are sufficiently important to warrant this, and where independent replication will be particularly valuable. Our hope is that the replication team can work closely, and in good faith with the

original discovery team to ensure that materials and methods are as close to the original as possible. This kind of adversarial collaboration, where groups with differing hypotheses or conflicts of interest work together to construct and implement a study that satisfies both groups, has been suggested by Kahnemann and Klein as a means by which contentious issues in science can be resolved.⁵ We will review initial expressions of interest, and select the strongest to work with the original study team. The final protocol will then be peer reviewed before data collection begins. If this is approved, acceptance in principle will be offered, and we will publish the resulting full paper. This is similar to the Registered Reports format offered by some journals.⁶

We have identified a study that we believe meets these criteria of timeliness, potential importance, and the potential to be influenced by conflicts of interest, both financial and non-financial. This is the report by Shiffman and colleagues that e-cigarette flavors appeal more to adult smokers than to nonsmoking teens, and that interest in flavors is low for both groups.⁷ The question of the role of flavors in e-cigarettes in promoting these products to young people, and in particular nonsmokers, is of central importance to the ongoing debate regarding what role, if any, e-cigarettes can play in reducing harms associated with tobacco use. This is a topic that elicits strong feelings (and therefore unconscious biases) on both sides of the debate. A strong, well-powered, independent, direct replication study, conducted in good faith, will hopefully bring clarity to this important question. Those interested in conducting such a replication attempt should contact the Editor-in-Chief directly. We also welcome suggestions for other studies suitable for this mechanism.

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