Response to Statement by the Executive Board of the German Psychological Society on the Use of statcheck

Tilburg, 27 October 2016

Dear members of the executive board of the German Psychological Society,

Thank you for your letter concerning statcheck. As the author of the independent project that resulted in the PubPeer reports, I would like to respond to you personally.

Statcheck detects inconsistencies in statistical results and it sometimes makes mistakes (as any program or human does). Systematic errors of statcheck leading to false positives or false negatives should be corrected, if possible. For this reason, I am currently rescanning the articles of which reports were posted on PubPeer, with a new, refined version of statcheck (v1.2.2 instead of v1.0.1). With this, I will identify several errors of statcheck (e.g., v1.0.1 misidentified “t2(df) = ..., p = ...” as Chi2 in 151 out of 50,845 papers) and upload new PubPeer reports to rectify these false positive results.

Your letter states three objections to the posting of statcheck reports on PubPeer, namely that these reports are posted (1) without the author's awareness, (2) without the author being able to verify the results, and (3) without the author’s a priori opportunity to comment. I would like to note that authors are notified by email when a report is posted on PubPeer and that they are in the best position to verify the results by using the raw data or otherwise. They also have the opportunity to (anonymously) comment on the report, albeit after its appearance on PubPeer. See for instance the response by Lai et al. [1] on the statcheck report [2]; the authors discovered that they had incorrectly reported the degrees of freedom and made a typographic error in reporting. One of the authors called it a “great service” [3].

In my opinion, the reports on PubPeer should be seen as part of the scientific debate, enabling authors and other researchers to check the accuracy of statistics in published articles. Post-publication review represents a powerful forum for such scientific debate. It compliments traditional peer review that apparently has been unsuccessful in catching inconsistencies that statcheck can detect readily albeit not with a 100% accuracy.

Kind regards,
Chris Hartgerink

[1] http://doi.org/10.1037/a0036769
[2] https://pubpeer.com/publications/DCE07BC7DD0BA211BC5B41365F4BB5
[3] https://twitter.com/BrianNosek/status/774656773860962304