

**Open Peer-Review for
“What does your favourite colour say about your personality? Not much”
(Jonaskaite et al.)**

Note: 3 reviewers were invited in Round 1, of which 2 accepted and provided reviews. In that round, 1 reviewer wished to have their review openly published with their name attached, while the other did not. The authors of the article agreed to have any available pre-publication peer-reviews published. There was only one round of reviews.

| Reviewer | Round 1 | |
|----------|------------------|---------------|
| | Name | Open Review |
| A | Anonymous #1 | Not available |
| B | - | - |
| C | Felix Schönbrodt | Available |

Felix Schönbrodt:

Review for "What does your favourite colour say about your personality? Not much":

In this paper, the authors tested popular claims about the association of color preferences with personality traits. I have one main thought about the research topic itself:

If we start to investigate every unsubstantiated claim about "X is an indicator for your personality" found on the internet, our entire field would be locked for a long time. I see some merit in such endeavours, if there is a reasonable theoretical rationale behind these popular claims, or if the claim is so prevalent and consequential in practice that a debunking is warranted. From my perspective, none of these criteria applies sufficiently to the current study, and the scientific and practical impact is rather limited. Even if the claim was true: What's the scientific gain of having this knowledge? From the current introduction, I cannot see the merits.

So I unfortunately have to say that, from my perspective, I see no good fit of this study to the scope of Personality Science.

Here are some more detailed comments, given in a constructive spirit.

1. The derivation of testable predictions from websites is well documented, and a reasonable and thorough approach. It seems quite exhaustive to me.

2. Reproducibility: I appreciate the aspects of the paper that are transparent: The claims, their translations, and their categorizations are well documented; the data is available. The scripts, however, are not reproducible: the import of the data set is not scripted; it's not a csv file (as indicated in the script), but a xlsx file. After guessing the correct data file, the first part of the scripts runs, but stops when a non-existent data file is attempted to be loaded. I stopped at this point. Please make sure that the script is fully reproducible.

3. The assumed effect size of $r = 0.4$ is enormous, more than the double of the average published effect size. This is not plausible; and basing a power analysis on a single previous study with 120 participants, without accounting for publication bias, is not a robust approach. I think a sensitivity power analysis with the given sample size is more informative.

4. MANCOVA:

- a. The paragraph 3.6.2 seems inconsistently written: What is the dependent, what the independent variable?
- b. I wouldn't discuss the uncorrected t-test, and not mention "marginally significant" results. Stick to the FDR.
- c. Table 1 seems partly wrong: if the effect is in the wrong direction, there can't be a one-sided p-value of .031 or a directional $BF_{10} > 1$. e.g. turquoise -> Openness).
- d. If there is no preregistration, the heading "Confirmatory results" is not warranted. All results should be reported as "Exploratory" (see author guidelines).

4. Evidence for the null. I appreciate the use of BFs to get evidence for the null; but it's "the likelihood that our data occurred under the alternative hypothesis *relative to the likelihood under the null hypothesis*". Furthermore, report and justify the prior under H1 and whether it is a directional BF or not.

Minor points:

- "When [sic] then eliminated six predictions" --> why eliminate? They are not testable in the current data set, but the prediction itself should stay.
- "in accordance with the Declaration of Helsinki": as a side note: This declaration requires registration of any type of research study; hence strictly speaking this is not in accordance.

Felix Schönbrodt (signed review)