

# Peer Review Comments

**Article:** Wagge, J. R., et al. (2019). A Demonstration of the Collaborative Replication and Education Project: Replication Attempts of the Red-Romance Effect. *Collabra: Psychology*, 5(1): 5. DOI: <https://doi.org/10.1525/collabra.177>

**Article type:** Original Research Report

**Editor:** Randy McCarthy

**Article submitted:** 23 June 2018

**Editor decision:** Accept Submission

**Revision submitted:** 29 September 2018; 05 November 2018; 17 November 2018

**Article accepted:** 20 November 2018

**Article published:** 08 January 2019

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## Responses for Version 1

Reviewer B:

### 1) General comments and summary of recommendation

Describe your overall impressions and your recommendation, including changes or revisions. Please note that you should pay attention to scientific, methodological, and ethical soundness only, not novelty, topicality, or scope. A checklist of things to you may want to consider is below:

- Are the methodologies used appropriate?
- Are any methodological weaknesses addressed?
- Is all statistical analysis sound?
- Does the conclusion (if present) reflect the argument, is it supported by data/facts?
- Is the article logically structured, succinct, and does the argument flow coherently?
- Are the references adequate and appropriate?:

This manuscript presents a meta-analysis of replication studies done by students in a collaborative project focused on the relation between red and attractiveness for heterosexual women rating men. The results showed no support for the originally observed effect that women see men as more attractive when they are viewed on a red versus gray background. Below are comments on the submission.

1. The first part of the title, "Elliot et al.'s (2010) 'red, rank, and romance' effect:", doesn't match the focus of the research that was conducted in this manuscript, because rank was not a focus of the research conducted. I suggest improving the accuracy and descriptive value of the title by choosing something like "The red-romance effect in women rating men:" (followed by the CREP part).

2. The authors cite a Francis (2013) article that states the probability of all tests in the original red-romance article being significant as .005. I went back and looked at the cited article, and the .005 value is also a mismatch to the present research, because it includes the rank variable that is not focused on in this research. Also, rather than collapsing together across variables, it would

seem more relevant to the present research, which analyzes perceived attractiveness and sexual attraction separately, to report the probability values for perceived attractiveness and sexual attraction separately (.054 and .191, respectively). If this no longer supports the point the authors want to make, they could simply omit the Francis cite (which has been critiqued by several people -- see Morey, 2013, *Journal of Mathematical Psychology*; Simonsohn, 2012, *Perspectives in Psychological Science*). Regardless, I think the authors' case for doing their meta-analysis is not dependent on this cite.

3. In the same paragraph that cites the Francis paper, the authors state "it was therefore likely that publication bias existed (likely caused by flexible reporting or omission of non-significant studies)". Publication bias can be the result of many factors, not just those the authors listed, and this is particularly the case when heterogeneity is present (which is the case in this instance). So, if the authors keep the Francis cite, I suggest they drop the parenthetical material.

4. I reviewed an earlier version of this paper that was submitted to another journal. The set of studies in the present submission are different from those in the previous submission. And, the results for the individual studies that are included in both submissions have changed from the prior submission to this submission. This needs to be explained.

5. In looking at the OSF site, it seems that a stop date was put on the project. it would be good to report the stop date on the project, both because this is recommended practice for meta-analyses and because color materials were used in the research (see next point).

6. Printed color materials change color over time, so if used over an extended time period (e.g., greater than 3-4 months), the colors would be different than they were when first printed. These differences can be substantial, and get larger as time passes. It would be good to add this as a known difference/limitation of the present work if, as it seems, the materials were used over a several year time period.

7. On page 9, the authors stat that the original materials were reproduced at a professional copy shop "to ensure the exact same coloration". In my reading of color research, matching is always approximate, not exact. Thus, I think more detail is needed here on the precise color values used in the original work and used in the replication work.

8. The CREP is described as a crowdsourcing project for undergraduate students. But, in looking at a couple of the OSF sites, it seems that some of the data were collected by graduate students or even Ph.Ds. If this is the case, these studies don't fit the project, and should be omitted.

9. I was surprised to read that students were paid \$300 if they completed a replication study. Could this incentive to complete a study influence students' motivation or behavior? It might be good to note this possibility as well.

10. I suggest omitting the last part of the last sentence of the manuscript ("that have not been incentivized to chase significance"). I think it would be better to end the paper on a positive note.

2) Figures/tables/data availability:

Please comment on the author's use of tables, charts, figures, if relevant. Please acknowledge that adequate underlying data is available to ensure reproducibility (see open data policies per discipline of Collabra here):

The figures/tables/data seem fine.

3) Ethical approval:

If humans or animals have been used as research subjects, and/or tissue or field sampling, are the necessary statements of ethical approval by a relevant authority present? Where humans have participated in research, informed consent should also be declared.

If not, please detail where you think a further ethics approval/statement/follow-up is required:

This seems fine.

4) Language:

Is the text well written and jargon free? Please comment on the quality of English and any need for improvement beyond the scope of this process:

This seems fine.

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Reviewer D:

1) General comments and summary of recommendation

Describe your overall impressions and your recommendation, including changes or revisions. Please note that you should pay attention to scientific, methodological, and ethical soundness only, not novelty, topicality, or scope. A checklist of things to you may want to consider is below:

- Are the methodologies used appropriate?
- Are any methodological weaknesses addressed?
- Is all statistical analysis sound?
- Does the conclusion (if present) reflect the argument, is it supported by data/facts?

- Is the article logically structured, succinct, and does the argument flow coherently?
- Are the references adequate and appropriate?:

This paper is an example of a rigorous replication attempt across many labs with novice researchers. The authors sought to replicate one study, and their own procedures show dedication to reproducing the original study parameters, down to the exact color of red used in the stimuli.

The statistical analyses are appropriate to the research question, and the authors utilize exploratory analyses to rule out potential explanations of the null effects their data yielded.

The paper written in a clear and concise style, and save for a few grammatical and style errors (see attached manuscript with comments), very easy to follow.

## 2) Figures/tables/data availability:

Please comment on the author's use of tables, charts, figures, if relevant. Please acknowledge that adequate underlying data is available to ensure reproducibility (see open data policies per discipline of Collabra here):

The figures and tables are easy to parse and understand. This replication study was pre-registered, and all data and materials are available on OSF.

## 3) Ethical approval:

If humans or animals have been used as research subjects, and/or tissue or field sampling, are the necessary statements of ethical approval by a relevant authority present? Where humans have participated in research, informed consent should also be declared.

If not, please detail where you think a further ethics approval/statement/follow-up is required:

The authors state in the CREP procedure that individual lab heads obtained ethics approval from their institutions.

## 4) Language:

Is the text well written and jargon free? Please comment on the quality of English and any need for improvement beyond the scope of this process:

The language is clear and concise. There are a few issues (e.g., "homosexual" should not be used; "gay" or "lesbian" are better); see the attached manuscript comments.

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## Editor Decision for Version 1

**Editor:** Randy McCarthy

**Affiliation:** Northern Illinois University, US

**Editor decision:** Revisions Required

**Decision date:** 08 August 2018

Dr. Wagge,

Thank you for your submission "Elliot et al.'s (2010) 'Red, Rank, and Romance' Effect: A Meta-Analysis of Collaborative Replications and Education Project (CREP) Replications" for possible publication in the Nexus at Collabra: Psychology. Your submission was reviewed by 2 peer reviewers who are experts in this area of research.

I want to preface my decision by saying that I am personally very supportive of the CREP initiative. I think this project is truly excellent for the field of psychology and for the individual students who have the opportunity to gain valuable experience doing research. I would not be in this field if I didn't have advisors who exposed me to research early in my education. And I feel that merely getting a CREP project to the point of having a manuscript to submit is a feat worthy of congratulations. So thank you for putting your effort into this project.

Now onto the review. I will not restate all of the comments that were raised by the reviewers because you can read them for yourself. But I will highlight the ones that most affected my judgment of the submitted manuscript.

One of the reviewers was fairly positive of your submission. However, Reviewer B raised a point that is potentially serious. This reviewer states they "reviewed an earlier version of this paper that was submitted to another journal. The set of studies in the present submission are different from those in the previous submission. And, the result for the individual studies that are included in both submissions have changed from the prior submission to this submission."

I am inviting you to revise and resubmit this manuscript. However, I really need to have confidence that the results you report accurately reflect the available data before we could publish the manuscript. Your resubmission would need to satisfactorily respond to Reviewer B's concerns about the different versions of the data. Over different iterations of this project's manuscript, have there been studies that were added/dropped and have there been changes in those studies' results? If so, what were the changes and why?

In addition to the reviewers' comments, I also had a few comments that I would like to see addressed.

1) You allude to an in-progress meta-analysis that is "comprehensive" (i.e., Calin-Jageman, Lehman, & Elliot, 2017). First, if this in-progress meta-analysis is "comprehensive", is the current submission contributing anything that this other meta-analysis will not? Second, when I look at the data for that "comprehensive" meta-analysis (<http://doi.org/10.17605/OSF.IO/XY47P>), I see their numbers do not report what you report. For example, the Calin-Jageman meta-analysis (at least what is available on their OSF project page) seems to report N's of 68, 68, 73, 48, and 130 for your Boelik, Frazier, Johnson, Legate, and Maves samples, where you report N's of 66, 59, 72, 44, and 121, respectively. Why the discrepancies? Are you wrong or are they wrong? (I acknowledge that it may be unconventional to refer to unpublished data for this comment. I have taken the fact that these are unpublished-yet-public data into account. But I also feel like I should not discount data that are available even if they are not published. I really want to ensure that your reported results are accurate.).

2) Second, I went to the individual OSF pages to inspect your individual samples. I looked at the datasets and believe I found some discrepancies with what you report. I see N's of 43 for Boelk and 114 for Johnson, where you report N's of 72 and 72, respectively. Why the difference?

3) Your reported sample sizes do not add up. You report N's of 72, 72, 50, 59, 130, 187, 21, 43, and 38, which you claim adds up to 613. After exclusions, you claim to have an included sample of 580. When I add up your reported samples (i.e.,  $72 + 72 + 50 + 59 + 130 + 187 + 21 + 43 + 38$ ) I get 672 participants. Why the difference?

4) In your abstract, you clearly state this "article presents the results of a meta-analysis of \*eight\* student replication projects...". However, if you look at any of the individual figures there are nine samples: Schwarz (1), Banas (2), Boelk & Madden (3), Frazier (4), Johnson et al. (5), Legate et al. (6), Maves & Nadler (7), Khislavsky (8), and Wagge (9). This discrepancy between the number of studies in the abstract and the number of studies actually included in the meta-analysis would be consistent with a change in the number of included studies as suggested by Reviewer B.

I hope you can see why I have serious reservations about the completeness of the reported results. I am inviting a resubmission merely because I want to give you an opportunity to clarify these discrepancies. Consider this invitation to revise your manuscript to be along the lines of "I need more information before making a decision." I also want to emphasize that I need to be 100% comfortable with the \*accuracy and completeness\* of the reported results before I would consider this manuscript for publication.

Please let me know if you need any clarifications about any of my comments or if I can help with anything else during the revision process.

Best,

Randy McCarthy

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## Author's Response to Review Comments for Version 1

**Author:** Jordan R. Wagge

**Affiliation:** Avila University, Kansas City, MO, US

**Revision submitted:** 29 September 2018

Dear Dr. McCarthy and Collabra team:

Thank you very much for the feedback you and the reviewers provided to us regarding our manuscript. We have submitted a revision which I have uploaded. I am attaching a cover letter that addresses this feedback-- we appreciate the time and care the team has taken to help improve our manuscript as well as the opportunity to resubmit this. We also very much appreciate your enthusiasm for CREP. Please do not hesitate to contact me if you have any questions.

Sincerely,

Jordan Wagge (on behalf of the authorship team)

**Attached document:**

[https://s3-eu-west-1.amazonaws.com/ubiquity-partner-network/ucp/journal/collabra/177\\_rd\\_1\\_response+MS.zip](https://s3-eu-west-1.amazonaws.com/ubiquity-partner-network/ucp/journal/collabra/177_rd_1_response+MS.zip)

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**Editor Decision for Version 2**

**Editor:** Randy McCarthy

**Affiliation:** Northern Illinois University, US

**Editor decision:** Revisions Required

**Decision date:** 22 October 2018

Dear Dr Jordan Rose Wagge,

After review, we have reached a decision regarding your submission to Collabra: Psychology, "Elliot et al.'s (2010) "Red, Rank, and Romance" Effect: A Meta-Analysis of Collaborative Replications and Education Project (CREP) Replications". Our decision is to request revisions of the manuscript prior to acceptance for publication.

The full review information should be included at the bottom of this email. There may also be a copy of the manuscript file with reviewer comments available once you have accessed the submission account. A summary of the requested edits from the editorial team can be found below. Please consider these points and revise the file accordingly:

Editorial Revision Requests:

Major revisions:

The paper seems to have two themes. First, the manuscript is sometimes framed as a proof-of-concept for CREP. You can clearly see this in the "Purpose and Procedure" section of the Introduction and in your closing statements. Second, the manuscript also seems to be framed as an attempt to resolve some of the questions around the Red-Romance effect. This can clearly be seen in the opening section of the Introduction. While both themes are completely fine, there was a feeling of incoherence when I read the manuscript. Was this a manuscript about the CREP that happened to study the Red-Romance effect? Or was this a manuscript about the Red-Romance effect that happened to use the CREP? For this initial CREP manuscript, I see the first theme as being a stronger and more general contribution than the second. In other words, the CREP aspect is what sets this project apart from other meta-analyses on this effect.

Thus, I would like to see the manuscript more strongly emphasize this project as a proof-of-concept of the CREP approach that happened to include the Red-Romance effect.

What concrete things could accomplish this "reframing" of the manuscript?

First, I think you would want to begin the Introduction discussing the CREP rather than the Red-Romance effect. In fact, the very last paragraph nicely captures the overall goals of the CREP and I think those ideas should appear prominently in the Introduction section as well.

Second, you provide seemingly inconsistent reasons for choosing to replicate the Red-Romance effect. You imply that the effect was chosen because there have been questions about the extent to which publication bias has affected the results. And then you imply the effect was chosen merely because it was published in 2010, it was feasible for undergraduates to replicate, and it was deemed "impact-

ful" (the latter presumably was due to questions of publication bias). I think you could flesh out the study selection process a bit more to emphasize what you mean by "feasible", what you mean by "impactful", and what the CREP process was. And I think you could merely say that the Red-Romance effect fit CREP's selection criteria and, thus, as an initial proof-of-concept you are presenting the results of those studies. This emphasis on CREP would probably mean that you could omit all the details about the Francis (2013) analyses and rebuttals. You could merely state that there have been questions about the credibility of the Red-Romance effect, which added to the "impact" that CREP was looking for.

Finally, I would look for subtle ways to emphasize CREP and de-emphasize this as a study on the Red-Romance effect per se. This could be done by tweaking the title to say something like "A Demonstration of the Collaborative Education and Replication Project: Replication Attempts of the Red-Romance Effect" (or something to that effect).

Minor revisions:

I personally am not a huge fan of the term "meso-analysis". Aren't you just doing an internal meta-analysis? If you are going to stick with the term meso-analysis, then you may need to define it in the manuscript and justify it. For what it's worth, in the results section you describe your analyses as a meta-analysis.

For your footnote #3, can you assure me that Dr. Eliot has agreed to make this correspondence publicly available?

How were labs recruited? Was it an email sent out through Psi Chi?

How were the procedures double-blinded? Were the materials in a folder/envelope and the researcher was unaware of the contents of the folder/envelope?

Your final "known difference" is described as "irrelevant". I don't see this as completely irrelevant. Having another color-related task could conceivably affect the study \*even though the other tasks come later in the study.\* For example, labs that added these other tasks may have had longer study sessions, which may affect the mindset of participants (e.g., I gotta move along to get through this long study). Or researchers may have explicitly or implicitly framed these studies as being about color, which could obviously affect the impact of color on perceived attractiveness. Please rephrase this.

Why was a fixed-effect meta-analysis used rather than a random-effects meta-analysis?

I just want to ensure I am understanding your analyses correctly. For exploratory analyses you use ANOVA and dropped the lab that only provided summary data. Is that correct? Isn't it possible to do moderator analyses of your meta-analyses so that you use all the data (i.e., not just the data that you have the raw data for)?

Interpreting null results are difficult. Is it possible to conduct an equivalence test or indicate something about the range of uncertainty around your observed effects? At a minimum, interpret the width of the confidence intervals.

Is there any data you could use as “positive controls”? I guess even the internal consistency of your items helps to demonstrate that participants were reading the materials, your data were recorded properly, etc. Is there anything else in your data that could be used to demonstrate the quality of your data? This could go a long way in demonstrating that your student researchers were generating meaningful data.

Finally, when referencing Andrew Elliot in the manuscript, please refer to him as Dr. Eliot.

To access your submission account, follow the below instructions:

- 1) login to the journal webpage with username and password
- 2) click on the submission title
- 3) click ‘Review’ menu option
- 4) download Reviewed file and make revisions based on review feedback
- 5) upload the edited file
- 6) Click the ‘notify editor’ icon and email the confirmation of re-submission and any relevant comments to the journal.

Please ensure that your revised files adhere to our author guidelines, and that the files are fully copyedited/proofed prior to upload. Please also ensure that all copyright permissions have been obtained. This is the last opportunity for major editing;, therefore please fully check your file prior to re-submission.

If you have any questions or difficulties during this process, please do contact us.

Please could you have the revisions submitted by [GIVE 2 WEEK DEADLINE]. If you cannot make this deadline, please let us know as early as possible.

Kind regards,

Dr. Randy McCarthy

Northern Illinois University

rmccarthy3@niu.edu

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## **Author’s Response to Review Comments for Version 2**

**Author:** Jordan R. Wagge

**Affiliation:** Avila University, Kansas City, MO, US

**Revision submitted:** 05 November 2018

Dear Dr. McCarthy,

Thank you so much for the invitation to revise and resubmit this paper. I have uploaded a revised manuscript on the submission page and am attaching a file to this e-mail with our comments detailing our revisions. We are grateful for the feedback and appreciate how it has strengthened our submission.

Sincerely,

Jordan Wagge and co-authors

**Attached document:**

[https://s3-eu-west-1.amazonaws.com/ubiquity-partner-network/ucp/journal/collabra/177\\_rd\\_2\\_response+MS.zip](https://s3-eu-west-1.amazonaws.com/ubiquity-partner-network/ucp/journal/collabra/177_rd_2_response+MS.zip)

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### **Editor Decision for Version 3**

**Editor:** Randy McCarthy

**Affiliation:** Northern Illinois University, US

**Editor decision:** Revisions Required

**Decision date:** 13 November 2018

Dear Dr Jordan Rose Wagge,

After review, we have reached a decision regarding your submission to Collabra: Psychology, "Elliot et al.'s (2010) "Red, Rank, and Romance" Effect: A Meta-Analysis of Collaborative Replications and Education Project (CREP) Replications". Your revised submission was very responsive to the comments that were made during the previous round of reviews. And I strongly believe the manuscript will eventually be an excellent fit in this Nexus.

Our decision is to request a few minor revisions of the manuscript prior to acceptance for publication. Although these revisions are minor, they must be cleaned up before we can accept this manuscript. There should be a copy of the manuscript file with my comments available once you have accessed the submission account.

To access your submission account, follow the below instructions:

- 1) login to the journal webpage with username and password
- 2) click on the submission title
- 3) click 'Review' menu option
- 4) download Reviewed file and make revisions based on review feedback
- 5) upload the edited file
- 6) Click the 'notify editor' icon and email the confirmation of re-submission and any relevant comments to the journal.

Please ensure that your revised files adhere to our author guidelines, and that the files are fully

copyedited/proofed prior to upload. Please also ensure that all copyright permissions have been obtained. This is the last opportunity for major editing; therefore please fully check your file prior to re-submission.

If you have any questions or difficulties during this process, please do contact us.

Please could you have the revisions submitted by December 1st. If you cannot make this deadline, please let us know as early as possible.

Kind regards,

Dr Randy McCarthy

Northern Illinois University

rmccarthy3@niu.edu

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### Author's Response to Review Comments for Version 3

**Author:** Jordan R. Wagge

**Affiliation:** Avila University, Kansas City, MO, US

**Revision submitted:** 17 November 2018

Dear Dr. McCarthy,

Thank you so much for the editorial recommendations and for the opportunity to revise and resubmit this paper. We have incorporated all of your recommended changes, have altered the wording in the paragraph about the equivalence testing (TOST; page 14), and have made some additional minor corrections:

1. The abstract had a comma instead of a period in the OSF address; we changed this to a period.
2. Page 4 said "to the the original study" and we removed the accidental second "the".
3. Page 5 said "to to collect data" and we removed the accidental second "to".
4. Deleted some additional white space before the methods section.
5. We realized N and n were both used inconsistently so we used n in all cases.
6. added a comma on page 14 to the sentence "with original data we found" so it now reads "with original data, we found"
7. On page 19, changed the sentence "...interpretations of the color red has chanced" to "...interpretations of the color red have changed"
8. For footnote 2, we actually now have four projects with completed data sets, so we updated this number to reflect this updated count.

Thank you again for all of your suggestions and comments. Please do not hesitate to contact me if you have any questions.

Sincerely,

Jordan Wagge & co-authors

**Attached document:**

[https://s3-eu-west-1.amazonaws.com/ubiquity-partner-network/ucp/journal/collabra/177\\_rd\\_3\\_MS.docx](https://s3-eu-west-1.amazonaws.com/ubiquity-partner-network/ucp/journal/collabra/177_rd_3_MS.docx)

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**Editor Decision for Version 4**

**Editor:** Randy McCarthy

**Affiliation:** Northern Illinois University, US

**Editor decision:** Accept Submission

**Decision date:** 20 November 2018

Dear Dr Jordan Rose Wagge,

After review, we have reached a decision regarding your submission to Collabra: Psychology, "Elliot et al.'s (2010) "Red, Rank, and Romance" Effect: A Meta-Analysis of Collaborative Replications and Education Project (CREP) Replications", and are happy to accept your submission for publication, pending the completion of copyediting and formatting processes.

There are two extremely minor points that I would like you to attend to. First, in the first sentence you have "direction" replications when you mean "direct." Second, in the last sentence of the Introduction you have "real effect size." Please delete the word "real" and merely state "effect size." These are such minor changes that you can just deal with them during your proofreading rather than go through another round of submissions.

As there are no further reviewer revisions to make, you do not have to complete any tasks at this point. The accepted submission will now undergo final copyediting. You will be contacted once this is complete to answer any queries that may have arisen during copyediting and to allow a final chance to edit the files prior to typesetting. If you wish to view your submission during this time, you can log in via the journal website.

The review information should be included in this email.

Kind regards,

Dr Randy McCarthy

Northern Illinois University

rmccarthy3@niu.edu