Preregistration

(Re)Building Trust? Investigating the effects of open science badges on perceived trustworthiness of journal articles. [EXPANSION: Social Sciences - pilot study]

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Study Information

Title	(Re)Building Trust. Investigating the effects of open science badges on perceived trustworthiness of journal articles. [EXPANSION: Social Sciences - pilot study]
Description	This study is the pilot of an expansion to (Schneider, Rosman, Kelava, & Merk, 2020), in which we investigated the effects of open science badges in journal articles on trust in scientists. Since college students are a population that engage with scientific studies on a regular basis, the sample of the first study focused on this

population. Among other results, the study revealed an effect of open science badges on trust in scientists.

In two expansion studies we investigate the robustness of the effects over other populations (external validity). We therefore created abstracts of journal articles for professionals in the social sciences (first expansion). The abstracts are fictitious empirical studies, but based on real journal articles to avoid confounding effects of potential familiarity with the publication or authors. This pilot study to the expansion tests the perceived authenticity of our fictitious abstracts compared to their respective original study.

Hypotheses

1. The fictional abstracts are perceived not much less authentic in comparison to the original abstracts even if the readers know that they might be artificial. $Cohen's\ d < .35$.

Design Plan

Study type

Wording taken from OSF preregistration forms, since they are closed questions:

Experiment. A researcher randomly assigns treatments to study subjects, this includes field or lab experiments. This is also known as an intervention experiment and includes randomized controlled trials.

Blinding

Wording taken from OSF preregistration forms, since they are closed questions:

- For studies that involve human subjects, they will not know the treatment group to which they have been assigned.
- Personnel who interact directly with the study subjects (either human or non-human subjects) will not be aware of the assigned treatments.

Study design

The design will include four conditions: Participants will be presented two abstracts addressing the topics “mobility of college graduates” and “factors of parental college savings” either as

1. two original abstracts,
2. two fictional abstracts,
3. a fictional and then an original abstract or
4. an original and then a fictional abstract.

Furthermore, the order of the two topics will be varied.
In the web-based questionnaire participants are asked to read the first abstract, evaluate its authenticity and state whether they know the study. They are then asked to repeat the procedure with the second abstract. We make sure that the participants evaluate both topics and not one topic as original and fictional abstract.

Randomization

- Randomization 1: Assignment to one of the four conditions.
- Randomization 2: Order of the topics.

Sampling Plan

Existing data

Wording taken from OSF preregistration forms, since they are closed questions:
Registration prior to analysis of the data. As of the date of submission, the data collection has just begun.

Explanation of existing data

Preregistration parallel to the start of the survey.

Data collection procedures

Data collection procedure involves directly contacting colleagues working in social sciences with professional experience of at least three years. As participation in the survey takes a limited amount of time (approx. 5 minutes) no compensation will be offered.

Sample size rationale

We will use sequential Bayes factor design, starting $N = 15$ participants and then updating after every participant.

Stopping rule Out stopping rule will be a Bayes Factor with $\frac{1}{3} < BF_{10} < 3$.

Variables

Manipulated variables

Conditions

Participants will be presented two abstracts addressing the topics "mobility of college graduates" and "factors of parental college savings" either as

1. two original abstracts,
2. two fictional abstracts,
3. a fictional and then an original abstract or
4. an original and then a fictional abstract.

Order of topic

Randomly varied.

Abstract: Condition "original", topic "savings"

Race, Gender, and Parental College Savings: Assessing Economic and Academic Factors

This article assesses the relationships between race, gender, and parental college savings. Some prior studies have investigated race differences in parental college savings, yet none have taken an intersectional approach, and most of these studies were conducted with cohorts of students who predate key demographic changes among U.S. college goers (e.g., the reversal of the gender gap in college completion). Drawing on theories of parental investment and data from the High School Longitudinal Study of 2009 (HSLS:09), we show that both race and gender are associated with whether parents save for college, as well as how much they save. Both black boys and black girls experience savings disadvantages relative to their white peers. However, black girls experience particularly striking disparities: Black girls with the strongest academic credentials receive savings equivalent to black girls with the weakest academic credentials. Results suggest this is due, at least in part,

to the fact that high-achieving black girls tend to come from families that are much less well-off than high achievers in other race-gender groups. As a result, parents of black girls frequently rely on funding sources other than their own earnings or savings to pay for their children's college. These funding sources include private loans that may pose financial challenges for black girls and their families across generations, thus deepening inequalities along the lines of gender, race, and class. These findings demonstrate the power of taking an intersectional approach to the study of higher education in general and college funding in particular.

Abstract: Condition "original", topic "mobility"

Examining the Interstate Mobility of Recent College Graduates

An increasingly important goal of state policymakers is to keep young, well-educated adults to remain in that state instead of moving elsewhere after college, as evidenced by New York's recent move to tie state grant aid to staying in state after graduation. We used American Community Survey data from 2005–2015 to examine the prevalence of interstate mobility over the past decade as well as provide state-level rates of "brain drain." We found substantial variations in interstate mobility across states, which has important policy implications.

Abstract: Condition "fictional", topic "savings"

An intersectional approach to investigate parental college savings: Effects of race, gender, and English as second language

The current work examines relationships between parental college savings, race, gender, and English as a second language. Although previous studies have investigated differences in parental college savings regarding race, gender, and mother tongue, none have taken an intersectional approach by looking at the effects of the combinations of such variables. We conducted a telephone survey using random digit dialing (N = 2413) to minimize selection bias for our sample. The resulting data indicate that all three variables (race, gender, and mother tongue) are associated with whether parents save for college as well as how much they save. This finding is in coherence with theories of parental investment. However, students in each intersection of these three categories experience particularly striking disparities.

For example, girls of color with English as a second language are exposed to a particularly high amount of financial challenges. In these groups, parents thus rely on funding sources other than their own savings to pay for their childrens' college. These funding sources include private loans which may pose financial challenges for students and their families across generations, hence deepening inequalities along the lines of race, gender, and mother tongue.

Abstract: Condition "fictional", topic "mobility"

Who contributes to "Brain Drain"? An analysis of inter-state mobility after college graduation across different groups

Avoiding that college graduates move out of state after graduation has become a focus of state policymakers. To avoid this "brain drain", some states have implemented countermeasures that are targeted at different parts of society. Examples to tie graduates to stay in state after graduation include state college grants for low-income students or the admission to tuition-free state colleges. However, it is still unclear whether these countermeasures are efficient in that they actually target the parts of society that display the greatest interstate mobility. In our study, we examine the extent to which different groups show a higher tendency to move out of state after graduation. In a representative sample of 3,582 Bachelor graduates, we found that female graduates and graduates with a high household income display higher interstate mobility. In contrast, academic achievement and race were not related with interstate mobility. Overall, mobility varied strongly between states. We conclude that state college grants targeting low-income and male students may not be as impactful to prevent "brain drain". Further research comparing the effectiveness of different countermeasures, particularly targeting female high-income students, is needed.

Measured variables

After each abstract participants respond to two items:

- Question: "This abstract appears to me as..."; answer format: 7-point Likert scale from "not authentic at all" to "very authentic"
- Question: "I already know this publication."; answer format: single-choice with "yes", "no"

Indices No indices.

Analysis Plan

We will compute Approximate Adjusted Fractional Bayes Factors for informative Hypotheses (Gu, Hoijtink, Mulder, & Lissa, 2019).

Statistical models We will estimate

- cluster robust linear models
- with the measured variable »perceived authenticity« as dependent variable and
- the manipulated variable »de facto authenticity« as a dummy coded independent variable.

With `{bain}` we will estimate a Bayes factor for the hypotheses that the slope of the dummy-variable is

- between $SD(\textit{perceived authenticity}) \cdot -0.45$ and $SD(\textit{perceived authenticity}) \cdot 0.45$ (-.45 < Cohen's d < .45) vs.
- greater than $SD(\textit{perceived authenticity}) \cdot 0.45$ (Cohen's d > .45) or smaller than $SD(\textit{perceived authenticity}) \cdot -0.45$ (Cohen's d < -.45)

Transformations None planned.

Inference criteria $\frac{1}{3} < BF_{10} < 3$

Data exclusion Participants taking less than 2 minutes for the survey may be eliminated for the analyses.
Participants that are already familiar with at least one of the studies (see item) may be excluded in a second, exploratory analysis.

Missing data	Answers are mandatory in the questionnaire.
Exploratory analyses (optional)	None.

Other

Other (Optional)	

References

Gu, X., Hoijtink, H., Mulder, J., & Lissa, C. J. van. (2019). *Bain: Bayes Factors for Informative Hypotheses.*

Schneider, J., Rosman, T., Kelava, A., & Merk, S. (2020). *(Re)Building Trust? Journals' Open Science Badges Influence Trust in Scientists.* (Preprint). PsyArXiv. doi:10.31234/osf.io/43ec2