

## Registered Proof of Concept at Social Influence

### Guidelines for reviewers

*Registered Proof of Concepts* are a form of empirical article at Social Influence in which the methods and proposed analyses are pre-registered and reviewed prior to research being conducted. This format of article seeks to stimulate researchers to embark on studies that are novel and labor intensive. They are a form of registered report with the difference that it does not require a sample that is sufficient to assess the veracity of the hypothesis, yet does require a sample large enough to assess the viability of the method. We view this article as a call to arms. The aim is to convince the field that the hypothesis is interesting and that the method to assess the question is possible. In addition, we hope that it will generate interest from the field to collaborate on resource intensive studies on social influence.

The review process for *Proof of Concept* is divided into two stages. In Stage 1, reviewers assess study proposals **before** data is collected. In Stage 2, reviewers consider the full study, including results and interpretation.

**Stage 1 manuscripts will include only an Introduction, Methods (including proposed analyses).** In considering papers at Stage 1, reviewers will be asked to assess:

1. The importance of the research question(s)
2. The logic, rationale, and plausibility of the proposed hypotheses.
3. Whether the clarity and degree of methodological detail is sufficient to exactly replicate the proposed experimental procedures and analysis pipeline.
4. Whether a proof of concept is appropriate or whether it would already be possible to go for registered report

Following Stage 1 peer review, manuscripts will be accepted, offered the opportunity to revise, or rejected outright. Manuscripts that pass peer review will be issued an *in principle acceptance* (IPA), indicating that the article will be published pending successful completion of the study according to the exact methods and analytic procedures outlined.

Following completion of the study, authors will complete the manuscript, including Results and Discussion sections. These Stage 2 manuscripts will more closely resemble a regular article format. The manuscript will then be returned to the reviewers, who will be asked to appraise:

1. Whether the Introduction, rationale and stated hypotheses are the same as the approved Stage 1 submission (required)
2. Whether the authors adhered precisely to the registered experimental procedures
3. Whether the authors' conclusions are justified given the data
4. How the data and stimulus materials will be made available to the field

### Guidelines for authors

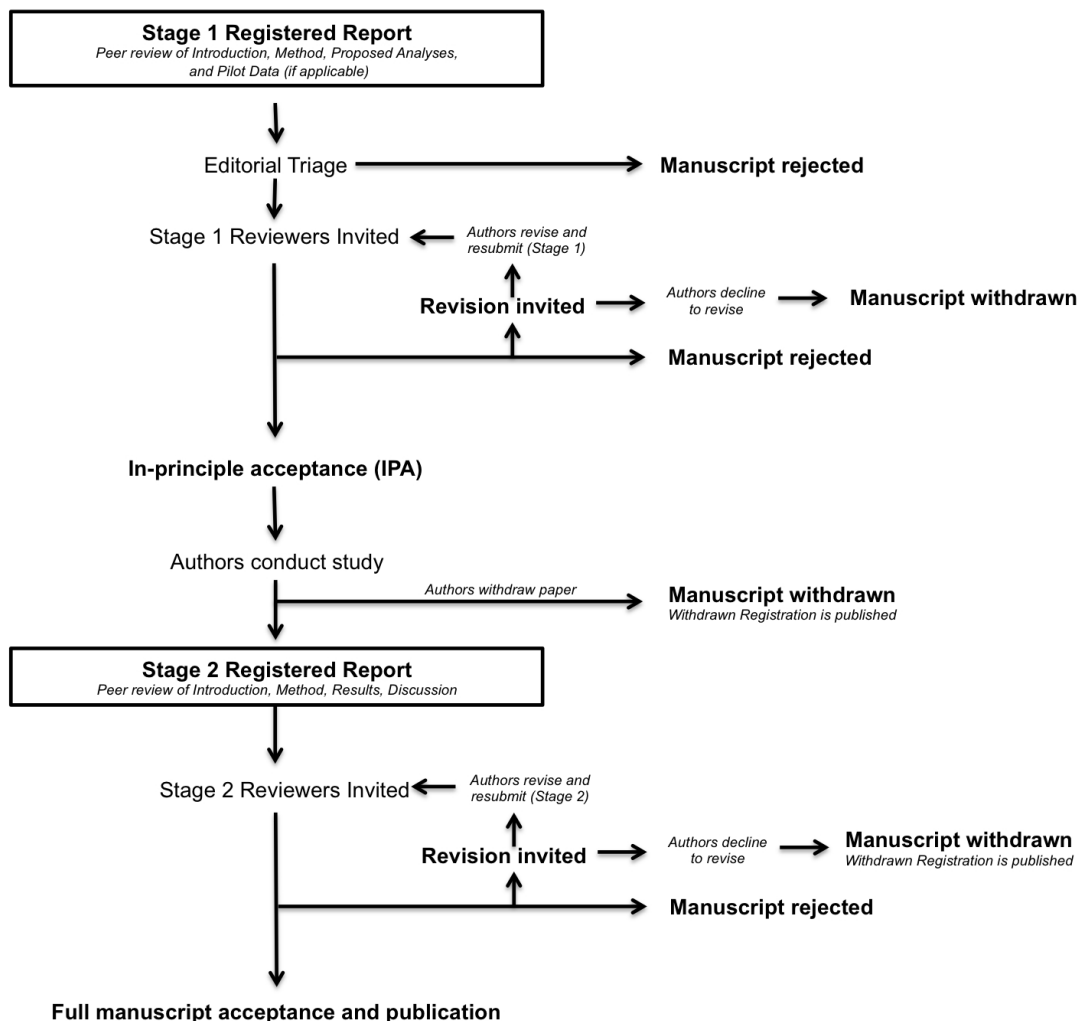
Registered Proof of concepts are a form of empirical article in which the methods and proposed analyses are pre-registered and reviewed prior to research being conducted. This format of article seeks to stimulate researchers to embark on studies that are novel and labor intensive. They are a form of registered report with the difference that it does not require a sample that is sufficient to assess the veracity of the hypothesis, yet does require a sample large enough to assess the viability of the method. We view this article as a call to arms. The aim is to convince the field that the hypothesis is interesting and that the method to assess the question is possible. In addition, we hope

that it will generate interest from the field to collaborate on resource intensive studies on social influence.

The cornerstone of the Registered Proof of concept format is that a significant part of the manuscript will be assessed prior to data collection, with the highest quality submissions accepted in advance. Initial submissions will include a description of the key research question and background literature, hypotheses, experimental procedures, analysis pipeline. We would also require a power analysis on what would be an appropriate sample to test the key hypotheses. However, it is not a requirement that the researcher has to collect this sample within the context of the registered proof of concept article. The power analysis is provided as a guideline for researchers who want to collaborate or have the resources to run a fully powered sample.

Initial submissions will be triaged by an editorial team for suitability. Those that pass triage will then be sent for in-depth peer review (Stage 1). Following review, the article will then be either rejected or accepted in principle for publication. Following in principle acceptance (IPA), the authors will then proceed to conduct the study, adhering exactly to the peer-reviewed procedures. When the study is complete the authors will submit their finalised manuscript for re-review (Stage 2) and will upload their raw data, digital study materials, and laboratory log to a publicly accessible file-sharing service. Pending quality checks and a sensible interpretation of the findings, the manuscript will be published regardless of the results.

### **The review process for Registered Proof of Concept**



## **Stage 1: Initial manuscript submission and review**

Stage 1 submissions should include the manuscript (details below) and a brief cover letter. Please note that the editorial board will not agree to send manuscripts for in-depth review until a complete Stage 1 submission has been considered.

The Stage 1 cover letter should include:

- A brief scientific case for consideration. Authors are expected to explain why the hypothesis and proposed method are relevant for research on social influence and what makes the question/method so resource intensive to mandate a proof of concept and not - for example – a registered report.
- A statement confirming that all necessary support (e.g. funding, facilities) and approvals (e.g. ethics) are in place for the proposed research. Note that manuscripts will be generally considered only for studies that are able to commence immediately.
- An anticipated timeline for completing the study if the initial submission is accepted.
- A statement confirming that the authors agree to share their raw data, any digital study materials, and analysis code as appropriate.
- A statement confirming that, following Stage 1 *in principle acceptance*, the authors agree to register their approved protocol on the Open Science Framework (<https://osf.io/>) or other recognised repository, either publicly or under private embargo until submission of the Stage 2 manuscript. Accepted protocols can be quickly and easily registered using a tailored mechanism for Registered Reports on the Open Science Framework: <https://osf.io/rr/>
- A statement confirming that if the authors later withdraw their paper, they agree to [JOURNAL NAME] publishing a short summary of the pre-registered study under a section *Withdrawn Registrations*.

## **Manuscript preparation guidelines – Stage 1**

Initial Stage 1 submissions should include the following sections:

### **Introduction**

- A review of the relevant literature that motivates the research question and a full description of the experimental aims and hypotheses. Please note that following IPA, the Introduction section cannot be altered apart from correction of factual errors, typographic errors and altering of tense from future to past (see below).

### **Methods**

- Full description of proposed sample characteristics, including criteria for data inclusion and exclusion (e.g. outlier extraction). Procedures for objectively defining exclusion criteria due to technical errors or for any other reasons must be specified, including details of how and under what conditions data would be replaced.
- A description of experimental procedures in sufficient detail to allow another researcher to repeat the methodology exactly, without requiring further information. These procedures must be adhered to exactly in the subsequent experiments or any Stage 2 manuscript can be rejected.
- Timeline for completion of the study and proposed resubmission date if Stage 1 review is successful. Extensions to this deadline can be negotiated with the Registered Reports editor.
- Any description of prospective methods or analysis plans should be written in future tense.
- A power analysis that would help future researchers to estimate what would be the best sample size to test the hypotheses. Note that we do not require that this sample size is met within the context of the proof of concept. In addition, we want a statement on why the authors believe the available sample size is enough to warrant the conclusion that the method is viable.

Stage 1 submissions that are judged by the editorial board to be of sufficient quality and within journal scope will be sent for in-depth peer review. In considering papers at the registration stage, reviewers will be asked to assess:

1. The importance of the research question(s).
2. The logic, rationale, and plausibility of the proposed hypotheses.
3. The soundness and feasibility of the methodology and analysis pipeline (including statistical power analysis on what would be an ideal sample size, but also whether the actual obtained sample size is enough to assess the viability of the method).
4. Whether the clarity and degree of methodological detail is sufficient to exactly replicate the proposed experimental procedures and analysis pipeline.
5. Whether the authors have pre-specified sufficient outcome-neutral tests for ensuring that the results obtained can test the stated hypotheses, including positive controls and quality checks.

Following Stage 1 peer review, manuscripts will be rejected outright, offered the opportunity to revise, or accepted. Proposals that exceed the highest standards of importance and scientific rigour will be issued an *in principle acceptance* (IPA), indicating that the article will be published pending completion of the approved methods and analytic procedures, passing of all pre-specified quality checks, and a defensible interpretation of the results. Stage 1 protocols are not published by the journal following IPA. Instead they are registered by the authors in a recognised repository (either publicly or under embargo until Stage 2) and then integrated into a single completed article following approval of the final Stage 2 manuscript.

**Authors are reminded that any deviation from the stated experimental procedures, regardless of how minor it may seem to the authors, could lead to rejection of the manuscript at Stage 2.** In cases where the pre-registered protocol is altered after IPA due to unforeseen circumstances (e.g. change of equipment or unanticipated technical error), the authors must consult the editorial board immediately for advice. Minor changes to the protocol may be permitted per editorial discretion. In such cases, IPA would be preserved and the deviation reported in the Stage 2 submission.

### **Stage 2: Full manuscript review**

Once the study is complete, authors prepare and resubmit their manuscript for full review, with the following additions:

Cover letter. The Stage 2 cover letter must confirm:

- That the manuscript includes a link to the public archive containing anonymized study data, digital materials/code and the laboratory log. The cover letter should state the page number in the manuscript that lists the URL.
- That the manuscript contains a link to the approved Stage 1 protocol on the Open Science Framework or other recognised repository. The cover letter should state the page number in the manuscript that lists the URL.
- That, for primary Registered Reports, no data for any pre-registered study (other than pilot data included at Stage 1) was collected prior to the date of IPA.

Submission of anonymised raw data, digital study materials, and laboratory log

- Anonymised raw data and digital study materials must be made freely available in a public repository/archive with a link provided within the Stage 2 manuscript. Authors are free to use any repository that renders data and materials freely and publicly accessible and provides a digital object identifier (DOI) to ensure that the data remain persistent, unique and citable. Potential repositories include (but are not limited to), Figshare, Harvard Dataverse, and Dryad. For a comprehensive list of available data repositories, see <https://www.re3data.org>
- Data files should be appropriately time stamped to show that data was collected *after* IPA

and not before. Other than pre-registered and approved pilot data, no data acquired *prior* to the date of IPA is admissible in the Stage 2 submission. Raw data must be accompanied by guidance notes, where required, to assist other scientists in replicating the analysis pipeline. Authors are required to upload any relevant analysis scripts and other digital experimental materials that would assist in replication.

- Any supplementary figures, tables, or other text (such as supplementary methods) can either be included as standard supplementary information that accompanies the paper, or they can be archived together with the data. Please note that the raw data itself should be archived (see above) rather than submitted to the journal as supplementary material.
- A basic laboratory log must also be provided outlining the range of dates during which data collection took place. This log should be uploaded to the same public archive as the data and materials.
- The Stage 2 manuscript must also contain a link to the registered protocol (deposited following IPA) on the Open Science Framework or other recognised repository.

### Background, Rationale and Methods

- Apart from minor stylistic revisions, **the Introduction cannot be altered from the approved Stage 1 submission, and the stated hypotheses cannot be amended or appended.** At Stage 2, any description of the rationale or proposed methodology that was written in future tense within the Stage 1 manuscript should be changed to past tense. Any textual changes to the Introduction or Methods (e.g. correction of typographic errors) must be clearly marked in the Stage 2 submission. Any relevant literature that appeared following the date of IPA should be covered in the Discussion.

### Results & Discussion

- The outcome of all registered analyses must be reported in the manuscript, except in rare instances where a registered and approved analysis is subsequently shown to be logically flawed or unfounded. In such cases, the authors, reviewers, and editor must agree that a collective error of judgment was made and that the analysis is inappropriate. In such cases the analysis would still be mentioned in the Methods but omitted with justification from the Results.
- It is reasonable that authors may wish to include additional analyses that were not included in the registered submission. For instance, a new analytic approach might become available between IPA and Stage 2 review, or a particularly interesting and unexpected finding may emerge. Such analyses are admissible but must be clearly justified in the text, appropriately caveated, and reported in a separate section of the Results titled “*Exploratory analyses*”. Authors should be careful not to base their conclusions entirely on the outcome of statistically significant *post hoc* analyses.
- Authors reporting null hypothesis significance tests are required to report exact *p* values and effect sizes for all inferential analyses.

**Reviewers are informed that editorial decisions will not be based on the perceived importance, novelty or conclusiveness of the results.** Thus, while reviewers are free to enter such comments on the record, they will not influence editorial decisions. Reviewers at Stage 2 may suggest that authors report additional *post hoc* tests on their data; however, authors are not obliged to do so unless such tests are necessary to satisfy one or more of the Stage 2 review criteria.

### Manuscript withdrawal and Withdrawn Registrations

It is possible that authors with IPA may wish to withdraw their manuscript following or during data collection. Possible reasons could include major technical error, an inability to complete the study due to other unforeseen circumstances, or the desire to submit the results to a different journal. In all such cases, manuscripts can of course be withdrawn at the authors’ discretion. However, the journal will publicly record each case in a section called *Withdrawn Registrations*. This section will

include the authors, proposed title, the abstract from the approved Stage 1 submission, and brief reason(s) for the failure to complete the study. Partial withdrawals are not possible; i.e. authors cannot publish part of a registered study by selectively withdrawing one of the planned experiments. Such cases must lead to withdrawal of the entire paper. Studies that are not completed by the agreed Stage 2 submission deadline (which can be extended in negotiation with the editorial office) will be considered withdrawn and will be subject to a Withdrawn Registration.

### **Tips for Avoiding Desk Rejection at Stage 1**

Many Proof of Concept submissions are desk rejected at Stage 1, prior to in-depth review, for failing to sufficiently meet the Stage 1 editorial criteria. In many such cases, authors are invited to resubmit once specific shortcomings are addressed, although major problems can lead to outright rejection. To help minimize the chances of authors' submissions being desk rejected, we list below the top ten reasons why Stage 1 submissions are rejected prior to review.

1. Cover letter doesn't make necessary statements concerning why the proposed research is resource intensive, but also ethics, data archiving, and so forth (see above).
2. The protocol contains insufficient methodological detail to enable replication and prevent researcher degrees of freedom.
3. Lack of correspondence between the scientific hypotheses and the pre-registered statistical tests. This is a common problem and severe cases are likely to be desk rejected outright. To maximize clarity of correspondence between predictions and analyses, authors are encouraged to number their hypotheses in the Introduction and then number the proposed analyses in the Methods to make clear *which analysis tests which prediction*. Ensure also that power analysis, where applicable, is based on the actual test procedures that will be employed to test those hypotheses; e.g. don't propose a power analysis based on an ANOVA but then suggest a linear mixed effects model to test the hypothesis. Note that the power analyses are intended to help future research that is able to generate resources to assess the hypotheses in full. The goal of the registered proof of concept is to assess the viability of the proposed method and whether the tested sample is large enough to draw an inference on the viability of the proposed method.
4. Lack of pre-specified positive controls or other quality checks, or an appropriate justification for their absence (See Stage 1 criterion 5). We recognise that positive controls are not possible with all study designs, in which case authors should discuss why they are not included.