

Registered Reports – Sport, Exercise, and Performance Psychology

A 'Registered Report' is one form of empirical article offered at *Sport, Exercise, and Performance Psychology (SEPP)* in which the methods and proposed analyses are pre-registered and peer reviewed prior to research being conducted. Unlike conventional research articles (which will continue to be published at SEPP), Registered Reports are reviewed over two stages. Editors and reviewers initially consider a detailed study protocol before the research is undertaken, which is assessed based on the specificity and importance of the research question for current theory or applications, the strength of the scientific rationale, and the rigour of the proposed methodology and analyses.

High quality protocols are provisionally accepted for publication before data collection commences (*awarded in-principle acceptance (IPA)*). There are a number of reasons for offering Registered Reports for hypothesis-driven research. These include minimizing publication bias and ensuring studies are published regardless of the study findings (null or negative results are as valued as positive results). Such an approach also helps to optimize protocols (including design characteristics, such as ensuring studies are sufficiently powered) before studies are conducted, while also avoiding inappropriate research practices (e.g., selective reporting, etc). Pre-registration does not preclude exploratory analyses; such analyses, and the corresponding findings, need to simply be reported as exploratory alongside the primary (pre-registered) hypotheses and analyses.

Registered Reports are now offered by many journals in psychology (including several APA journals) and now SEPP is pleased to offer such a publishing option. Below are guidelines for authors (and in a complementary document on the [SEPP website](#) we provide parallel guidance for reviewers).

Guidelines for Authors

Initial submissions will be evaluated by the SEPP editorial team and either be triaged or sent out for peer review (Stage 1). As a result of Stage 1 review, submissions will either be designated as IPA, rejected, or subjected to a request for revision before a final decision is made (i.e., rejected or IPA). Please note that the editorial team at SEPP will not agree to send manuscripts for in-depth review until a complete Stage 1 submission has been considered.

For those manuscripts designated as IPA, authors will proceed to complete their study (as specified in their own Stage 1 procedures/protocols), and report their findings in a finalized manuscript that will be subject to Stage 2 review. Alongside their manuscript, authors will upload their deidentified raw data, all study materials (including code/syntax), and a link to the registered protocol. On the assumption that the findings have been suitably interpreted and reported, the manuscript will be accepted regardless of the significance (or absence thereof), novelty, or direction (positive v negative) of the findings. The submission and review process (including review criteria) is described in detail below.

Stage 1: Initial manuscript submission and review

Authors interested in submitting a Registered Report to SEPP are asked to include a brief cover letter as well as the main manuscript (details related to both documents are provided below). Authors are asked to use this document to prepare their stage 1 submissions.

The Stage 1 cover letter should include:

- A brief scientific case for consideration. SEPP aims to publish research that represents a significant advance for *sport, exercise, and performance psychology*. Authors are encouraged to refer to the likely [replication value](#) of the research. High value replication studies are welcome in addition to novel studies.

- 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; however, authors with alternative plans are encouraged to contact the journal's editor-in-chief for advice. If protocols have been amended as a result of the Stage 1 peer-review process, ethics approval must be provided/reported before an IPA decision is rendered. Authors are asked declare/specify all funding sources as well as any competing interests.
- A statement that confirms data collection will not commence until IPA is granted. Authors should note that SEPP is not able to consider any Registered Report submission where data collection has already commenced.
- An anticipated timeline for completing the study if the initial submission is accepted.
- A statement confirming that the authors agree to share their deidentified raw data, any digital study materials, and analysis code/syntax 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 (OSF; <https://osf.io/registries/osf/new>) or other another recognized registry (e.g., [ClinicalTrials.gov](https://clinicaltrials.gov)), either publicly or under private embargo until submission of the Stage 2 manuscript.
- A statement confirming that if the authors later withdraw their paper, they agree to SEPP 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:

- Title
 - o The title should reflect the main research question (the title may change at Stage 2, if it better encapsulates the overall findings and contribution).
- Abstract
 - o The abstract should be ≤150 words and should articulate the value of the proposed study to the field of *sport, exercise, and performance psychology*, as well as the specific research question(s) or hypothesis (or hypotheses) that the study will address. Authors should briefly describe their proposed methods and design, as well as a statement about what results/findings/criteria would indicate support for their hypotheses.
- Introduction
 - o A review of the relevant literature should be provided that motivates the research question and a full description of the study/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).
 - o Authors are asked to specify their independent and dependent variables, along with any pre-specified mediators and moderators, and also to be specific with directionality of predictions. Authors are also asked to specify, and differentiate between, confirmatory and exploratory hypotheses.
- Methods
 - o 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.
 - o A description of study/experimental procedures in sufficient detail to allow other researchers to repeat the methodology exactly, without requiring further information. These procedures must be adhered to exactly in the subsequent studies/experiments or any Stage 2 manuscript can be rejected.

- o Proposed analysis pipeline, including all pre-processing steps, and a precise description of all planned analyses, including appropriate correction for multiple comparisons. Any covariates or regressors must be stated. Where analysis decisions are contingent on the outcome of prior analyses, these contingencies must be specified and adhered to. Only pre-planned analyses can be reported in the main Results section of Stage 2 submissions. However, unplanned exploratory analyses will be admissible in a separate section of the Results (see below).
- o Studies involving Neyman-Pearson inference must include a statistical power analysis. Estimated effect sizes should be justified with reference to the existing literature or theory. Since publication bias overinflates published estimates of effect size, power analysis must be based on the *lowest* available or meaningful estimate of the effect size. For frequentist analysis plans, the *a priori* power must be 0.90 or higher for all proposed hypothesis tests. In the case of highly uncertain effect sizes, a variable sample size and interim data analysis is permissible but with inspection points stated in advance, [appropriate Type I error correction for 'peeking' employed](#), and a final stopping rule for data collection outlined.
- o Methods involving Bayesian hypothesis testing are encouraged. For studies involving analyses with Bayes factors, the predictions of the theory must be specified so that a Bayes factor can be calculated. Authors should indicate what distribution will be used to represent the predictions of the theory and how its parameters will be specified. For example, will you use a uniform up to some specified maximum, or a [normal/half-normal to represent a likely effect size](#), or a [JZS/Cauchy with a specified scaling constant](#)? For inference by Bayes factors, authors must be able to guarantee data collection until the Bayes factor is at least 6 times in favour of the study/experimental hypothesis over the null hypothesis (or *vice versa*). Authors with resource limitations are permitted to specify a maximum feasible sample size at which data collection must cease regardless of the Bayes factor; however to be eligible for advance acceptance this number must be sufficiently large that inconclusive results at this sample size would nevertheless be an important message for the field. For further advice on Bayes factors or Bayesian sampling methods, prospective authors are encouraged to [read this key article by Schönbrodt and Wagenmakers](#).
- o Full descriptions must be provided of any outcome-neutral criteria that must be met for successful testing of the stated hypotheses. Such quality checks might include the absence of floor or ceiling effects in data distributions, positive controls, or other quality checks (such as experimental manipulation checks) that are orthogonal to the experimental hypotheses.
- o 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 journal editor.
- o A statement confirming that the appropriate ethics approvals are in place. If protocols are subsequently amended as a result of the peer-review process in Stage 1, an updated indication of ethics approval must be provided/reported before an IPA decision is rendered at the end of Stage 1.
- o In describing the proposed study's analytic plan, a code availability and data availability statement should be included. The availability of code and data is a requirement of Stage 2 manuscript acceptance.
- o For experimental studies, a statement on how randomization will be performed should be provided, as well as a statement on whether blinding will be implemented or not.
- o For randomized trials, a [CONSORT checklist](#) should be submitted and completed with respect to the relevant sections of the Stage 1 submission (sections related to Results and Discussion should NOT be completed with the stage 1 submission)
- Pilot Data
 - o Optional. Can be included to establish proof of concept, effect size estimations, or feasibility of proposed methods. Where authors are planning to use/implement a novel framework or set of methods, reporting pilot data can provide an important foundation for

the feasibility and appropriateness of the planned approach. Any pilot studies/experiments will be published with the final version of the manuscript and will be clearly distinguished from data obtained for the pre-registered study/experiment(s).

- Secondary Registrations

- o The journal welcomes submissions proposing secondary analyses of existing data sets, provided authors can supply sufficient evidence (e.g., self-certification; letter from independent gatekeeper) to confirm that they have had no prior access to the data in question. For quantitative data syntheses (e.g., meta-analyses) authors are required to demonstrate suitable levels of bias control; specifically, that authors can demonstrate that they have not accessed *any* part of the data/evidence prior to study commencement
- o For advice on the eligibility of specific scenarios, authors are welcome to contact the journal's editor-in-chief.

- Page Limits

- o Stage 1 manuscripts should be as concise as possible but sufficiently detailed to ensure that the introduction provides a sound rationale for the proposed study, and that the Methods (including power analysis) and proposed data analytic pipeline are clear and comprehensive. It is anticipated that (most) Registered Report submissions (at Stage 2) will be no longer than 34 pages. Authors (in Stage 2 Reports) are encouraged to make use of the journal's online supplementary materials option to report information, that while important, might be considered secondary in nature (e.g., secondary/exploratory data analyses). Authors should note that once Stage 1 protocols have received an IPA decision, the introduction cannot be altered and the stated hypotheses cannot be amended (see below).

Stage 1 Adjudication Criteria

Stage 1 submissions that are judged by the editorial team to be of sufficient quality and value to the field of *sport, exercise, and performance psychology* will be sent for in-depth peer review. In considering papers at the registration stage, reviewers will be asked to assess:

1. The specificity and 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 where appropriate).
4. Whether the clarity and degree of methodological detail is sufficient to exactly replicate the proposed study/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 designated as IPA, rejected outright, or rendered a 'revised and resubmit' decision whereby authors will be invited to address reviewers' concerns/observations before a final decision is made on the suitability of their Stage 1 protocol. Specifically, proposals that meet the highest standards of importance and scientific rigour will be issued an IPA decision, 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 registry such as the OSF (<https://osf.io/registries/osf/new>), or [ClinicalTrials.gov](https://clinicaltrials.gov), 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 study/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 team immediately for advice, and prior to the completion of data collection. 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. If the authors wish to alter the study/experimental procedures more substantially following IPA but still wish to publish their article as a Registered Report then the manuscript must be withdrawn and resubmitted as a new Stage 1 submission. Note that registered analyses must be undertaken, but additional unregistered analyses can also be included in a final manuscript (see below).

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:
 - o That following Stage 1 IPA, the authors registered their approved protocol on the Open Science Framework (<https://osf.io/>) or another recognized registry (e.g., [ClinicalTrials.gov](https://clinicaltrials.gov/)), *before any data were collected* for the study. Authors must provide links to the study registration document and, for clinical trials, the trial registration number must be provided. The cover letter should state the page number in the manuscript that lists the URL(s).
 - o That the manuscript includes a link to the public archive containing anonymized study data, digital materials/code, and the study/trial/laboratory log. APA has a repository located on the on the OSF website in partnership with the Center for Open Science, whereby authors can upload data, digital materials/code and the study/trial laboratory log - <https://osf.io/meetings/apa>). The cover letter should state the page number in the manuscript that lists the URL.
 - o That, for primary Registered Reports, no data for any pre-registered study (other than pilot data included at Stage 1) were collected prior to the date of IPA. For secondary Registered Reports, authors should confirm that no data (other than pilot data included at Stage 1) were subjected to the pre-registered analyses prior to IPA.
- Submission of anonymised deidentified raw data, digital study materials, and laboratory log
 - o Deidentified 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.
 - o Data files should be appropriately time stamped to show that data were 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. Deidentified 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 study/experimental materials that would assist in replication.
 - o 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 deidentified raw data itself should be archived (see above) rather than submitted to the journal as supplementary material.
 - o A basic study/trial/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.
 - o The Stage 2 manuscript must also contain a link to the registered protocol (deposited following IPA) in a section in the Methods titled 'Protocol Registration'. For clinical trials

- o authors must provide the trial registration number.
- o (For randomized trials) A completed [CONSORT checklist](#) must be submitted with the main manuscript.
- Background, Rationale and Methods
 - o 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
 - o 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.
 - o 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.
 - o Authors reporting null hypothesis significance tests are required to report exact *p* values, confidence intervals, and effect sizes for all inferential analyses.

The Stage 2 submission will most likely be considered by the same reviewers as in Stage 1, but could also be assessed by new reviewers. In considering papers at Stage 2, reviewers will be asked to decide:

1. Whether the data are able to test the authors’ proposed hypotheses by satisfying the approved outcome-neutral conditions (such as quality checks, positive controls).
2. Whether the Introduction, rationale and stated hypotheses are the same as the approved Stage 1 submission (required). The Introduction section (in Stage 2 manuscripts) cannot deviate from the Stage 1 submission, except for correcting factual errors, typographic errors, and altering of tense from future to past; as such, reviewers are asked to refrain from making suggestions to revise the Introduction in Stage 2 manuscripts.
3. Whether the authors adhered precisely to the registered study/experimental procedures.
4. Whether any unregistered *post hoc* analyses added by the authors are justified, methodologically sound, and informative.
5. Whether the authors’ conclusions are justified given the data.

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 five Stage 2 review criteria specified above.

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 studies/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.

Incremental Registrations

Authors may add studies/experiments to approved submissions. In such cases the approved Stage 2 manuscript will be accepted for publication, and authors can propose additional studies/experiments for Stage 1 consideration. Where these studies/experiments extend the approved submission (as opposed to being part of new submissions), the editorial team will seek to fast-track the review process. This option may be particularly appropriate where an initial study/experiment reveals a major serendipitous finding that warrants follow-up within the same paper. In cases where an incremented submission is rejected (at either Stage 1 or 2), authors will retain the option of publishing the most recently approved version of the manuscript. For further advice on specific scenarios for incremental registration, authors are invited to contact the editor-in-chief (mark.beauchamp@ubc.ca).