Survey Report

Registered Reports: Experiences and Lessons Learned

December, 2017 - January, 2018

Methodology

Between December 15, 2017 and January 31, 2018, the Berkeley Initiative for Transparency in the Social Sciences (BITSS) administered a brief standardized questionnaire to the editors of academic journals that accept submissions in the Registered Report (RR) format.

The survey consisted of 18 questions divided into four blocks, including: *(i)* journal metadata; *(ii)* general challenges in the practice of Registered Reports; *(iii)* volume and quality of submissions; and *(iv)* review process and reviewer feedback. All but three questions were closed-ended, including multiple choice questions, Likert scale questions, and ordinal scale questions. The questionnaire was constructed and administered using the Qualtrics platform.

The population for this survey consisted of 76 different journals across psychology, behavioral science, cognitive science, neuroscience, medicine, political science and other disciplines. Journals were selected from the database of participating journals maintained by the Center for Open Science, and the contact information for each editor was obtained from the official website of each journal. Individual invitations were sent out to each editor via email send Prof. Edward Miguel on behalf of BITSS. Respondents who had not yet completed their survey were sent three reminders across the surveying period.

The survey received responses from the editors of 36 different journals, and editors from 2 journals submitted their responses via email, given that their journals had not yet received any RR submissions. Respondents were prompted to answer every question, but none were required to complete and submit the questionnaire. The completion rate for the overall survey was 74%.

In the following, we provide a summary of all of the responses.

Results

A. Journal metadata

1. What is the academic discipline of the journal you edit that features Registered Reports (RRs)? Select all that apply.

Discipline	% of total	Count
Behavioral science	13.41%	11
Biology	7.32%	6
Cognitive science	9.76%	8
Computer science	2.44%	2

Economics	4.88%	4
Education	3.66%	3
Engineering	0.00%	0
Management	4.88%	4
Medicine	4.88%	4
Neuroscience	8.54%	7
Other (write in):	4.88%	4
Philosophy of Science	0.00%	0
Political science	7.32%	6
Psychology	24.39%	20
Public Policy	3.66%	3
Total	100%	82
N	**35**	

2. In what year did you or another editor of your journal first consider implementing Registered Reports?

Year when first considered	Count
2001	1
2012	2
2013	2
2014	3
2015	12
2016	7
2017	6
N	33

3. In what year did your journal first implement Registered Reports?

Year when first implemented	Count
2001	1
2013	2
2015	7
2016	8
2017	14
NA	1
Not yet	1
N	34

B. General challenges in the practice of Registered Reports

4. What have been the main challenges in implementing Registered Reports at your journal? Select all that apply.

Answer	% reported	Count
No challenges	16.67%	8
Low submission rates	43.75%	21
Lengthy review process at Stage 1	8.33%	4
Low reviewer buy-in	4.17%	2
Hypothesis 'trolling' (researchers propose a list of hypotheses, assuring there will be some significant results)	0.00%	0
Stage 2 submissions deviate from pre-specified research designs	2.08%	1
Difficulties in interpreting null results	4.17%	2
Authors had difficulties using the web-based submissions system through the two-stage review process	2.08%	1
Other (write in):	18.75%	9
Total	100%	48
N	34	

Other challenges:

- Two journals report they are yet to receive a single submission as a RR; eight have received ten submissions or less.
- The majority of reviewers lack experience with the format.
- The few submissions received are of low quality.
- Lack of resources to fully verify whether paper meets pre-analysis plan.

C. Volume and quality of submissions

5. How would you compare the volume of total submissions to your journal after the introduction of Registered Report to before?

Field	Minimum	Maximum	Mean	Std Dev	Variance	N
% change in total submissions after introduction of RRs	-10	29	2	7.09	50.2	20

6. What percentage of the total submissions at your journal are Registered Reports?

Field	Minimum	Maximum	Mean	Std Dev	Variance	N
RRs as percentage of total number of submissions	0	100	10.18	23.06	531.79	28

7. How has the average number of citations per article at your journal changed after the introduction of Registered Reports?

Field	Minimum	Maximum	Mean	Std Dev	Variance	N
% change in citations since RRs introduced	0	5	0.78	1.62	2.62	9

8. To what extent do you agree with the following statement? "Registered Reports have motivated authors to explore theoretically meaningful research questions."

Minimum	Maximum	Mean	Std Dev	Variance	N
0	5	2.73	1.91	3.66	26

Additional comments about the volume and quality of submissions as RRs:

- In ten instances, respondents say that it is still too early to pass a definitive judgement on the volume and quality of RR submissions, or they simply have had too few submissions;
- Four journals reported that they are currently testing the format and are looking to develop it further;
- One respondent reported that the journal will discontinue RRs.

9. Which of the following items are required for Stage 1 RR submissions at your journal? Select all that apply.

Answer	% reported	Count
Abstract	81.82%	27
Analysis plan	87.88%	29
Analysis code on fake/dummy data	3.03%	1
Confirmation of ethics approval / Institutional Review Board (IRB) approval	45.45%	15
Confirmation of funding	27.27%	9
Confirmation of data availability	30.30%	10
Definitions of predictor/independent variable(s)	72.73%	24
Definitions of outcome/dependent variable(s)	72.73%	24
Disclosure of interest	39.39%	13
Pilot data	0.00%	0
Statistical power calculations	60.61%	20
Pre-registration of hypotheses	81.82%	27
Provisional interpretation of null-results	15.15%	5
Rules for terminating data collection	48.48%	16
Subgroups that will be analyzed	39.39%	13

Rules for treatment of outliers and missing data	60.61%	20
Other (write in):	18.18%	6
N		33

Other items required for Stage 1 submission:

- Timeline for completing data collection;
- Power analysis only in cases of null hypothesis testing;

10. Approximately what percentage of Stage 1 RR submissions are granted in-principle acceptance (IPA) at your journal?

Field	Minimum	Maximum	Mean	Std Dev	Variance	N
% of Stage 1 RR submissions granted IPA	0	100	46.68	40.09	1607.37	19

11. Approximately what percentage of Registered Report submissions with IPA are ultimately published in your journal?

Field	Minimum	Maximum	Mean	Std Dev	Variance	N
% of RRs with IPA that are published	0	100	60.75	42.97	1846.31	16

D. Review process and reviewer feedback

12. How would you compare the length of the Stage 1 review process at your journal using Registered Reports in comparison to conventional peer review?

Field	Minimum	Maximum	Mean	Std Dev	Variance	N
% Change in duration of peer-review under RRs compared to conventional review	-78	53	-5.95	29.27	856.9	21

13. Has your journal communicated explicit criteria for assessment of submissions to authors and reviewers? Select all that apply.

Answer	% reported	Count
Yes, criteria published on the journal website	60.61%	20
Yes, criteria communicated to reviewers in a letter from the editor	33.33%	11
Yes, criteria published in the Author Guidelines	33.33%	11
No	15.15%	5
Other (write in):	9.09%	3

N	33

Other:

- Criteria will be posted in the future.
- Criteria were explained in a public blog.

14. What criteria are reviewers supposed to consider in their assessment of Stage 1 submissions? Select all that apply.

Answer	% reported	Count
Theoretical significance of the research question(s)	75.00%	24
The logic, rationale, and plausibility of the proposed hypotheses	87.50%	28
Soundness and feasibility of the methodology and analysis pipeline (including statistical power analysis)	96.88%	31
Ability of the proposed methodology to yield relevant data to test the proposed hypotheses	84.38%	27
Whether the methodology and analysis section address potential sources of bias (selection bias, performance bias, detection bias, attrition bias, reporting bias and other)	62.50%	20
Whether the methodology and proposed analysis pipeline enables replication	71.88%	23
Clarity and specificity of methodological and analysis pipeline to prevent undisclosed flexibility	71.88%	23
Other (write in):	12.50%	4
N		32

Write-in responses:

- No special instructions for evaluation
- Completeness of submission package
- Feasibility for completion within a finite journal time period specified by the journal
- Relevance for a broad, multidisciplinary audience

15. To what extent do you agree with the following statement? "Stage 1 reviewers have been willing to provide constructive feedback on manuscripts without data and results."

Minimum	Maximum	Mean	Std Dev	Variance	N
3	5	4.55	0.66	0.43	22

Other comments on the Stage 1 review process:

- Five journals have had only a few or no RR submissions to date;

- One journal editor reported high satisfaction with reviewers' feedback, after personally selecting a roster of reviewers who were likely to buy into the RR format;
- One editor reported that including a statistician has had a positive impact on the review process;

16. To what extent do you agree with the following statement? "Stage 2 reviewers have found that manuscripts that reported null results added value to the scientific literature."

Minimum	Maximum	Mean	Std Dev	Variance	N
1	5	3.73	1.29	1.65	11

Other comments on the Stage 2 review process:

- Eight editors responded that it is still early to comment on Stage 2 of the review process, given that the journal has had only a few or no submissions that reached Stage 2.

17. To what extent do you agree with the following statement? "The Registered Reports format has reduced or will reduce publication bias at my journal."

Minimum	Maximum	Mean	Std Dev	Variance	N
0	5	3.88	1.37	1.87	25

18. To what extent do you agree with the following statement? "The Registered Reports format has reduced or will reduce publication bias in my discipline."

Minimum	Maximum	Mean	Std Dev	Variance	N
1	5	4.08	1.13	1.27	25