

Working in the Psychological Science Accelerator

The **Psychological Science Accelerator (PSA)** is a globally distributed network of psychological science laboratories. Currently, it encompasses approximately 350 separate laboratories over 45 countries, although some global regions are underrepresented.



The PSA started-up in October 2017, building on the example of the **Many Labs Replication Project** (see box). The PSA coordinates data collection for democratically selected projects, with the aim of speeding up the accumulation of reliable, globally generalizable evidence on human behaviour and mental processes. The scope of the PSA is not restricted to replication studies.

The major benefit to the PSA? It's an efficient way to collect psychological data. It makes it possible to conduct a very large scale study over a variety of populations, generating a more accurate estimate of the size of the effect being detected and an indication of its generalizability. Traditional psychology studies tend to measure big effects in relatively small samples of participants in western countries. These don't always hold up when examined on a larger scale or in other types of samples.

Many Labs Replication Project

The Many Labs project was an initiative set up to assess the replicability and generalizability of psychological science.

36 research groups repeated 13 psychological studies with 6344 participants from 12 countries.

The project successfully reproduced the results from 10 of the studies and found that the results from 2 studies could not be reproduced. One effect was only weakly supported by the data.

Research Process

Study Selection

All researchers can submit study ideas to the PSA for consideration and the Study Selection committee, with input from the full network, will select which studies will be included in the PSA's data collection project.

If a study is selected, the proposed methodology and protocols are then subject to evaluation and revision to prepare the protocols for implementation.

Labs in the PSA can then 'opt in' to accepted proposals. Some labs get more involved than others. No funding is currently available through the PSA, so labs have to be able to support their own commitment.

Open working

Every stage of the work done in the PSA has to be open. Participants can choose the appropriate platform for making different stages of the studies open.

Pre-registration of the analysis plans, methods and hypotheses is a minimum requirement of the PSA. Proposing authors are encouraged to submit a Stage 1 Registered Report to an appropriate journal or preprint server prior to data collection.

Prior to data collection, process and resources are also checked to ensure procedural fidelity and ensure separate data collection sites are working to the same standards. To gather the evidence for this checking step, authors are required to test their analysis script on simulated data, with the results made available in an appropriate repository. Lead authors are required to rehearse their data-collection procedures and record a demo video with mock participants.

Following data collection, each participating lab's outputs (data, analysis and final materials) are anonymised and released through a repository such as the [Open Science Framework](#). These data are then available to other researchers for use in exploratory and planned secondary analyses.

Publishing

When it comes to publishing data collected through the PSA, a minimum requirement is that all articles will be 'green' open access. The criteria for authorship of any given study are established by the proposing author before other labs opt in to participating in the study. The criteria are based on general guidelines specified by the PSA Authorship Criteria Committee.

Author order is determined in a semi-hierarchical way: the proposing researchers go first, then other authors are listed alphabetically in tiers according to their contribution. The [CRediT taxonomy](#) is used to describe author contribution to the work.

CRediT Taxonomy

CRediT is a high-level taxonomy that can be used to describe the specific contributions individuals have made to scholarly publications.

Use of the taxonomy can help reduce the potential for author disputes and enable the recognition of different types of contribution.

Glasgow's involvement - The Face Research Lab

At the University of Glasgow, [The Face Research Lab](#), run jointly by Lisa DeBruine and Ben Jones, participates in the Psychological Science Accelerator. In addition to participating in data collection for selected studies, Lisa is involved with the PSA's steering group and Ben is involved in their logistics committee.

The Face Lab proposed the first study to be selected by the PSA. The project is also led by Jessica Flake from McGill University. Over 160 researchers have signed up to participate in this project so far and a Stage 1 Registered Report has been approved for data collection by Nature Human Behaviour. A preprint of the approved protocol and analysis plan has been deposited in PsyArXiv [1].

Alongside the more obvious benefits of working in the PSA (involvement in large-scale collaborative studies with high statistical power), Ben also notes that being involved with the PSA has raised the profile of The Face Lab:

...prospective students and post-docs have mentioned that familiarity with the pre-prints and data coming out of the lab, together with our involvement with the PSA, have driven their interest in joining The Face Research Lab...

Ben also emphasized that one of the real advantages of being involved in initiatives like the PSA is the exposure it gives you to methods and approaches outside of your own immediate area.

Critical Issues

There are worries in the psychological community about how involvement in a large initiative like the Psychological Science Accelerator will be reflected in institutional promotion and appointment processes. As Ben notes, one potential solution to this potential difficulty is for these processes to place greater emphasis on individual researchers' stated contributions to the project, rather than indirect measures of contribution, such as authorship position. The CRediT taxonomy, as recommended by the PSA, can be used to give recognition to individual researcher's contributions to projects.

Additionally, Ben emphasizes that while researchers at all career stages can learn a lot from involvement in large-scale collaborations, it's important to have a balance in the scale and scope of the projects researchers engage with, particularly early in their career when it is important to establish your own research identity.

References and Links

[1] Social perception of faces around the world: How well does the valence-dominance model generalize across world regions? (Registered Report Stage 1) <https://psyarxiv.com/n26dy/>

Psychological Science Accelerator <https://psysciacc.org/>

The Face Research Lab <http://facelab.org/>

Lisa DeBruine <https://www.gla.ac.uk/researchinstitutes/neurosciencepsychology/staff/lisadebruine/>

Ben Jones <https://www.gla.ac.uk/researchinstitutes/neurosciencepsychology/staff/benjones/>

The Many Labs Reproducibility Project <https://osf.io/WX7Ck/>

CRedit Taxonomy <https://casrai.org/credit/>

Open Science Framework <https://osf.io/>

Please note that this case study gives only the briefest outline of the processes of the PSA in terms of study selection, optimisation, data collection and dissemination of results. For a fuller description of how the PSA works, I would urge you to read the following article:

‘The Psychological Science Accelerator: Advancing Psychology through a Distributed Collaborative Network’ (2018) <https://psyarxiv.com/785qu/>

This case study was written by Mary Donaldson for the University of Glasgow Research Data Management service.

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