

The Emerging Relationship Between Clinical Psychology and the Credibility Movement

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The Emerging Relationship Between Clinical Psychology and the Credibility Movement

There has been a growing conversation about how best to ensure the replicability and credibility of published research in psychology in recent years. However, clinical psychologists have only recently entered this discussion (Leichsenring et al., 2017; Tackett et al., 2017). The pace of reform in psychological science has been surprisingly rapid, and it can be challenging to keep abreast of the latest developments. However, it is critical that clinical psychologists continue to expand their involvement in this movement. To facilitate this involvement, we review the history of the Society for the Improvement of Psychological Science (SIPS) and its intersection with clinical psychology, as well as some meta-science initiatives deserving of further time and attention. We hope that this article will be useful to clinical psychology researchers and practitioners as (1) an introduction to some of the meta-science projects already underway that may be of use to you in your current work, and (2) an invitation for your contributions to ensure that clinical psychology is as rigorous and trustworthy as we can make it.

The Society for the Improvement of Psychological Science (SIPS)

History of SIPS. The Society for the Improvement of Psychological Science (SIPS) began from a series of email exchanges in late 2015 between founders Professor Simine Vazire (University of California, Davis) and Brian Nosek (University of Virginia, also co-founder of the Center for Open Science, a non-profit dedicated to improving transparency and openness in scientific research). Both had been actively involved in the science reform movement for several years, but given mounting evidence that reproducibility problems are pervasive (e.g., Bakker, van Dijk, & Wicherts, 2012; Ioannidis, 2005; Pashler & Harris, 2012), they wanted to shift the collective focus from discussions of *whether* there was a need to improve methods and practices in psychology to *how* to begin active work to improve (Srivastava, Tullett, & Vazire, 2017). They also sought to gather

people interested in improving psychological research practices to allow professional connections and collaboration.

After the first SIPS meeting, which took place in June 2016 at the Center for Open Science (<https://cos.io>) in Charlottesville, Virginia, the roughly 100 individuals in attendance voted to install an interim executive committee who began the process of formally launching SIPS as a scientific society. The interim executive committee drafted the society's mission statement (<https://improvingpsych.org/mission>), which emphasizes the five core values - (1) self-improvement, (2) transparency and openness, (3) critical evaluation, (4) civil dialogue, and (5) inclusivity - that SIPS uses to guide its work.

In the two years since that first meeting, SIPS has formally incorporated as a 501.3(c) non-profit, held elections for executive committee members, hosted two additional meetings, and more. It just became possible to formally join SIPS (<https://improvingpsych.org/join>) in November 2017, but already SIPS has over 400 members, many of whom are early in their careers. Because Vazire and Nosek primarily identify as social and personality psychologists, and perhaps because a lot of focus in the open science movement in psychology has been on social and personality findings, many early SIPS attendees were also from these sub-disciplines. However, many projects conceptualized by SIPS members have been aimed at reaching psychology more broadly.

Past SIPS initiatives. In its short tenure, the society has helped to spawn a number of influential initiatives to improve the field. PsyArXiv (<https://psyarxiv.com>), a pre-print repository for psychology that allows researchers to post drafts of in progress papers or their own manuscript copies of published papers, was born out of the 2016 meeting, as was StudySwap (<https://osf.io/view/StudySwap/>), a virtual meeting space for researchers to form collaborations and share research resources. The 2017 meeting saw the launch of Psychological Science Accelerator (PSA; <https://psysciacc.org/>), “a globally distributed network of psychological science laboratories

(currently over 300), representing over 45 countries on all six populated continents, that coordinates data collection for democratically selected studies.” The first paper detailing the vision for this project has been accepted for publication and brings together more than 100 authors from around the world (Moshontz et al., 2018). Other accomplishments include a focal paper and a series of replies concerning the central role of replication for psychological science (Zwaan, Etz, Lucas, & Donnellan, 2017). Another team has published an initiative known as “Constraints on Generality,” which implores researchers to clearly state the known or theorized boundary conditions for their published effects in their manuscripts (Simons, Shoda, & Lindsay, 2017).

Current SIPS initiatives. Member generated initiatives are beginning to emerge from the most recent (June 2018) SIPS meeting, which we expect will develop into more finished products and proposals in the coming months. SIPS Members are continuing to develop teaching and training materials, as well as outreach plans to help spread open science practices even more broadly. As a society, SIPS has partnered with the open access journal *Collabra: Psychology*, which invites manuscripts describing rigorously conducted, high quality research without regard for potential impact of the research. Clinical psychologists are welcomed and encouraged to submit papers and to volunteer as peer reviewers (<https://www.collabra.org/author/register/reviewer/>).

Another initiative to serve the field is “Statements from Candidates for Election.” When contacted by a SIPS member who is also a member of another professional society, SIPS will reach out to candidates for election in that society and ask them to answer this question: “If elected to [OFFICE] of [ORGANIZATION], what (if any) policies would you promote to improve research in psychology, and how would you support open science practices and research transparency at [ORGANIZATION] and in the field of psychology more broadly?” Unedited responses are then posted to the SIPS website, giving voters in various society elections additional information about candidates’ stances on open science and replicability on which to base their voting decisions.

Upcoming SIPS meeting. The next annual SIPS meeting is already scheduled for July 7-9, 2019, and it will take place in Rotterdam, the Netherlands. Updates and a call for programming will be published to the SIPS mailing list (join here: <https://improvingpsych.org/>) and announced via Twitter (@improvingpsych). Importantly, new executive committee members will soon be elected, and volunteers for various committees are being sought. Readers are invited to subscribe to the list or follow SIPS on Twitter to stay abreast of the latest initiatives. In the spirit of our society mission, we invite your feedback on how SIPS itself can improve, as well as your ideas for how psychologists can work together to improve methods and practices.

Clinical Psychology and Open Science

Clinical psychologists have been largely removed from ongoing efforts to reform methods and practices in psychological science, although this integration is slowly emerging. For those clinical psychologists new to these ongoing conversations, one useful resource might be a recent paper on how and why clinical psychology has been less involved in issues of replicability and open science (Tackett et al., 2017). It is not entirely clear why some sub-disciplines in psychology have been more removed from these efforts than areas like social, cognitive, and personality psychology, which have been leading the way. Some sub-field differences may shed some light on this discrepancy—for example, a reliance on difficult-to-collect data, an emphasis on descriptive and correlational analyses over dichotomous experimental hypothesis-testing, and a sense that proposed field-wide reforms may not be suitable for different types of psychological research (Tackett et al., 2017). Nonetheless, clinical psychologists have been stepping into these conversations in a number of ways, and much more engagement and discussion is needed in order to move toward reforms and revised practices that will improve the credibility of clinical psychological research.

The available resources on openness, transparency, replicability, and methodological reform are vast and rapidly growing, particularly with the accelerated pace of content accessible on social

media, blog posts, and podcasts. The amount of information may serve as a deterrent to some, so we offer some initial resources here for (primarily clinical) psychologists who are looking for a way to begin getting involved--we would love to have you.

The Open Science Framework. In addition to some initial reading, there are many other resources and ways to get involved. We recently documented some of our early experiences using the Open Science Framework (OSF, <https://osf.io>; Tackett, Brandes, & Reardon, 2018), which is an extensive resource (maintained by the Center for Open Science) serving many different functions to facilitate openness, transparency, and reproducibility in our scientific research. In the paper, we document some of our early attempts at (and challenges with) engaging with proposed reforms, including (pre-)registration of research (particularly research using archival data and preregistration of assessment and scale development studies) and ways to maximize OSF resources to increase research transparency. The paper is meant to serve as a combination of hands-on suggestions, documentation of struggles that clinical researchers may encounter when implementing proposed reforms, and current thinking on solutions and the path forward.

Probably unsurprisingly, our primary recommendation moving forward was for clinical psychologists to become more involved in considering these problems and generating solutions and reforms. We need more voices in the conversation bringing perspectives from diverse clinical research areas to more fully delineate the types and extent of problems in our research and develop appropriate reforms to address them.

Ongoing Conversations. In addition to these readings, there are other examples of clinical psychology entering the conversation. The *Journal of Abnormal Psychology* has two special issues forthcoming – one on promoting openness, transparency, and replicability in clinical psychology (Tackett & Miller, 2018) and another on improving methods and practices in clinical research (Gruber & Joorman, 2018). The recent annual convention of the *Association for Psychological Science*

(May, 2018) featured a discussion panel (Fried, 2018; Lucas et al., 2018) on the replication crisis from a clinical psychological perspective. We see an increase in empirical efforts to explicitly examine questions of replicability and open science practices from clinical psychological researchers (Forbes, Wright, Markon, & Krueger, 2017; Fried et al., 2018; Hengartner, 2018; Walsh, Xia, Denny, Harris, & Malin, 2018). Importantly, all NIH-funded clinical trials now have to register with clinicaltrials.gov, and many journals ask for the registration number when a manuscript is submitted, increasing the breadth of clinical researchers gaining familiarity with registration and submission of data. In addition, open science badges have been formally adopted in a clinical psychology journal for the first time (Lilienfeld, 2017). Indeed, there are an increasing number of such examples across the field.

Clinical Representation in SIPS. We have seen an increase in representation of clinical psychologists within SIPS, as well. Among current SIPS members (as of early July 2018), about 10% had indicated some expertise or research interest in clinical psychology, and we would like to continue to grow this number.

At the most recent SIPS meeting, those who identified as clinical psychologists joined with colleagues from developmental psychology, education, and some other areas to discuss challenges for our sub-disciplines (<https://osf.io/cgafy/>; Kouros et al., 2018). Namely, we often work with data that is expensive and difficult to collect. Relatedly, it is often the case that researchers publish more than one empirical paper from a dataset, making issues of data sharing more complex. Relatedly, large longitudinal datasets, which seem to be more common in clinical and developmental psychology than cognitive or social psychology, create challenges around measures that are added along the way and not available at each wave, and how to share data and resources for the greatest scientific benefit. The frequent use of proprietary materials (e.g., psychopathology ratings scales, cognitive testing materials, diagnostic assessments) and sensitive information (e.g., psychopathology

diagnoses, trauma histories) mean that completely open data and materials are not always possible. Determining what is permissible to share and in what form is a further challenge. Finally, open sharing of data and materials in research with vulnerable populations may meet with more resistance from regulatory stakeholders, such as human subjects review boards. Indeed, through discussion, challenges that seem to be unique to our subfield at first sometimes turn out to be a version of a problem that has been tackled by another area upon further examination. By acknowledging this, clinical psychologists have an opportunity to fine-tune solutions that meet our specific needs while maintaining rigorous and open scientific practices.

Clinical SIPS initiatives. One major area of focus at the recent SIPS meeting was around outreach and how to bring more clinical psychologists into the conversation about open science and reform practices. One concrete initiative with the goal of increasing outreach was to build a database of clinical psychologists interested in transparency, openness, and credibility to coordinate efforts across a broader swath of clinical psychology. Identifying clinical psychologists interested in these initiatives opens opportunities for creating a mailing list, social media outreach, a blog, or collaborating on more traditional scientific products such as papers, grants, or conference presentations. If you'd like to be involved, you can fill out an interest form here:

<https://tinyurl.com/y8kdvo38>.

Another initiative is being developed in response to the specific challenges of complex longitudinal and multivariate datasets, considering the flexibility in reporting that they may allow. That is, many projects collect more than one measure of a construct, and authors may have the opportunity to make data-dependent decisions about which variable to use. Authors do not always report that other variables were collected. The creation of reporting guidelines aimed at multivariate and longitudinal studies such as those common in clinical and developmental research would increase transparency and allow researchers to be able to assess the evidentiary value of published

results in the appropriate context. Relatedly, although strict pre-registration is not always feasible for long-term longitudinal projects, another SIPS product is a registration template for secondary data analysis (<https://osf.io/bpuw3/>; Weston & Bakker, 2018), which helps to tackle the statistical and reporting challenges associated with publishing several papers from the same dataset.

One of the most pressing needs we identified during this first clinical and developmental SIPS workshop was a way to more effectively share and pool existing data (<https://osf.io/qjnar/>). Many clinical researchers have rich existing datasets that are potentially going to waste because they may not be powerful enough to answer research questions on their own. Creating a platform that matches researchers and their data to other potential collaborators would have several benefits for clinical psychological science. First, it would allow for greater power and more robust inferences by increasing the available sample size for certain variables of interest (McShane, Tackett, Bockenholt, & Gelman, 2018), and it would eliminate wasted resources by making use of that data. Such a platform would create a more systematic way of knowing what data have been collected and what types of constructs and measures are commonly used in the field. This process of collaboration often happens informally at conferences and other events, but making it publicly available would allow for an even greater level of cross-field integration. Sharing what data is available without making the data itself publicly available represents a beginning step to open data for those researchers who may be unable to make all data open access immediately. Finally, such a platform that indexes available datasets and measures would mean that those researchers undertaking meta-analytic projects could more easily and systematically identify unpublished data that may be relevant to their research question. Similar databases exist in other fields, such as epidemiology, and we think it could provide an essential next step forward in improving the robustness of clinical psychological science to introduce a valuable resource like this one to our field.

Conclusion

We hope that clinical psychologists will continue to be more involved in this conversation as we move forward. How? The resources offered here present a starting point. Set up an OSF account, if you don't have one already. Try registering a study, even if it's an ongoing study that is not a clinical trial or suitable for strict pre-registration (see Tackett, Brandes, & Reardon, 2018). Consider contributing to a special issue on open science, transparency, or replication. Consider guest editing a special issue on these topics, or urge an editor you know to consider one, particularly at clinically focused journals. Relatedly, you might approach an editor you know about adopting Registered Reports, a format of publication where peer review happens prior to data collection (for more information and frequently asked questions: <https://cos.io/rr/>). Post a dataset online. Post the full syntax and results from a recent paper online. Submit a symposium to a conference on the topics of open science and replication. Share a pre-print or a post-print on PsyArXiv. Take a look at recent tools developed to advance the methods and practices in our field: examine what works for your type of research, what doesn't, and how we can make them more applicable to the work we do. Start a course or reading group in your area on openness and replication (e.g., <https://osf.io/maq7/>; Brandes, Reardon, Hall & Cowan, 2017) or invite a relevant speaker to give a brown bag talk on these topics. Conduct a replication study, either of one of your own findings or of another finding in your area. Likely one of the most valuable steps you can take: ask your graduate and undergraduate students what they think about all of this. In many respects, they are the ones leading the way. Ultimately, it is much better to get involved than not. Take one step forward. We could use the company.

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