

# Assessment of transparent and reproducible research practices in the psychiatry literature



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## INTRODUCTION

Reproducibility is a cornerstone of scientific advancement (1); however, many published works lack the core components needed for reproducibility and transparency. These barriers present serious immediate and long-term consequences for psychiatry, including poor credibility, reliability, and accessibility (2). Fortunately, methods to improve reproducibility are practical and applicable to many research designs. Reproducibility also promotes independent verification of results (2) and successful replication (2, 3), and it hedges against outcome switching (4). While transparent research practices in the field of psychology are being increasingly promoted and endorsed in healthcare, further measures are needed to improve what has been deemed a “reproducibility crisis” by over 1,000 scientists in a recent Nature survey (10).

## OBJECTIVES

To address this reproducibility crisis,” (10) we devised a top-down approach to evaluating the state of transparency and reproducibility in current psychiatry literature. In our study, we examined a random sample of publications from psychiatric literature for evaluating specific indicators of reproducibility and transparency within the field. Our results may be used both to evaluate for current strengths and limitations and to serve as baseline data for subsequent investigations.

## METHODS

- Investigating Indicators of Reproducibility and Transparency
- Observational, cross-sectional study based upon research by Hardwicke et al. (2)
- Final sample: 300 publications in PubMed-indexed psychiatry journals (5 years, randomized)
- Data extraction: double-blinded with a piloted Google Form
- Examining the Availability of: materials, data, protocol, analysis script, open-access, conflict of interest, funding, and online pre-registration

Our study is reported in accordance with guidelines for meta-epidemiological methodology research. Comprehensive methods are accessible on Open Science Framework (<https://osf.io/n4yh5/>).

## RESULTS

Figure 1. Prisma Diagram: Selection Process from PubMed-indexed psychiatry journals

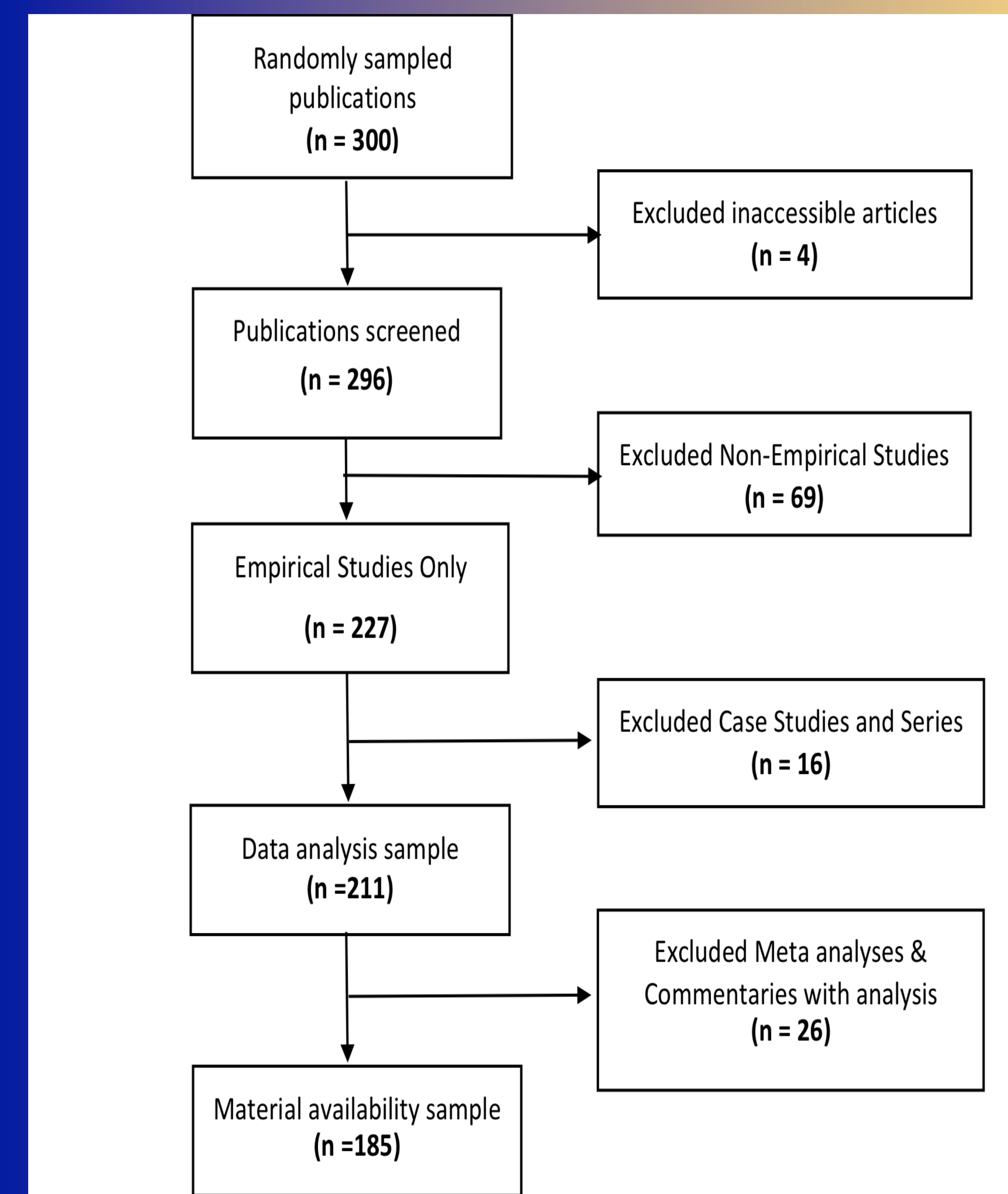


Figure 2. Degree of Accessibility

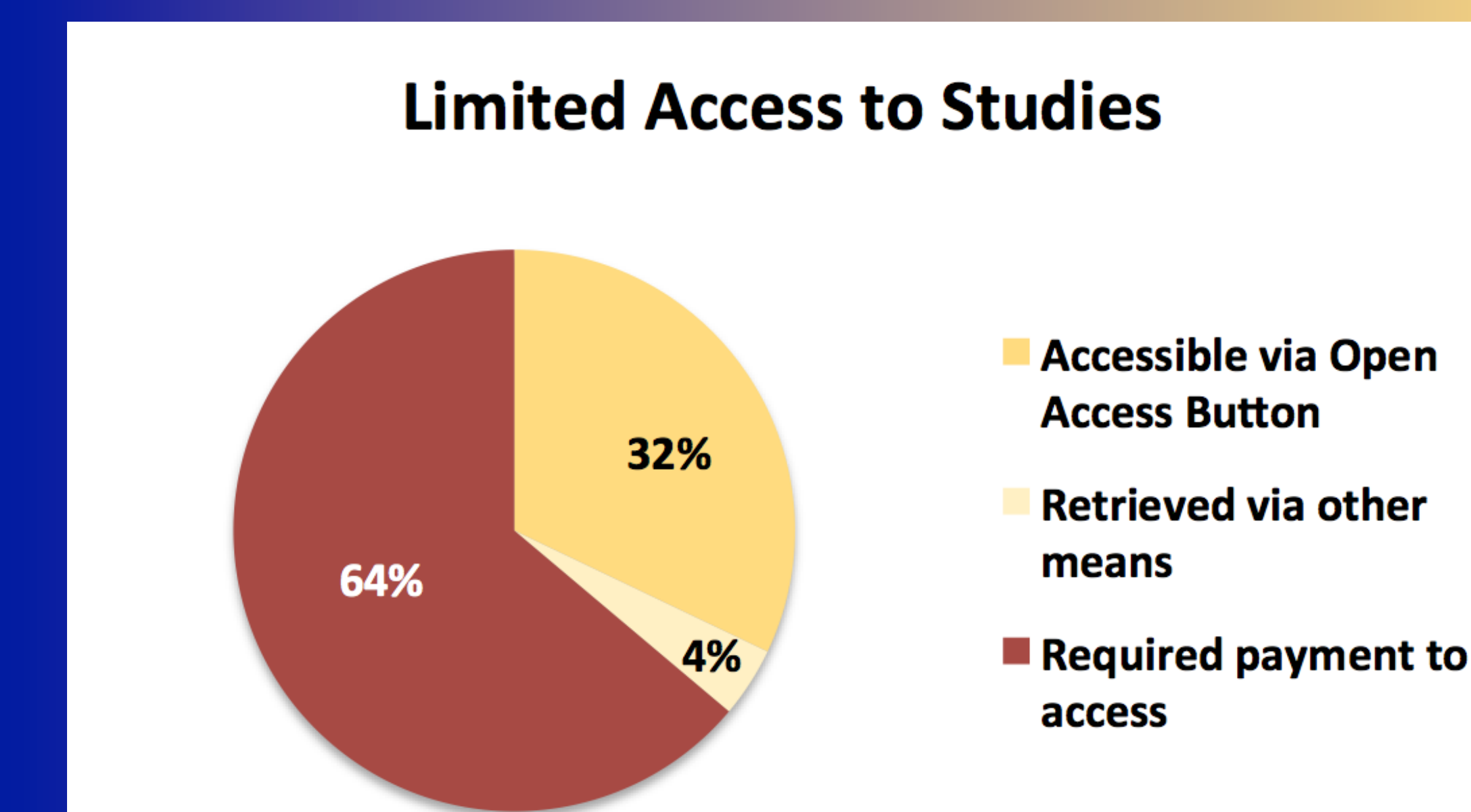


Figure 3. Transparency of Study Preregistration

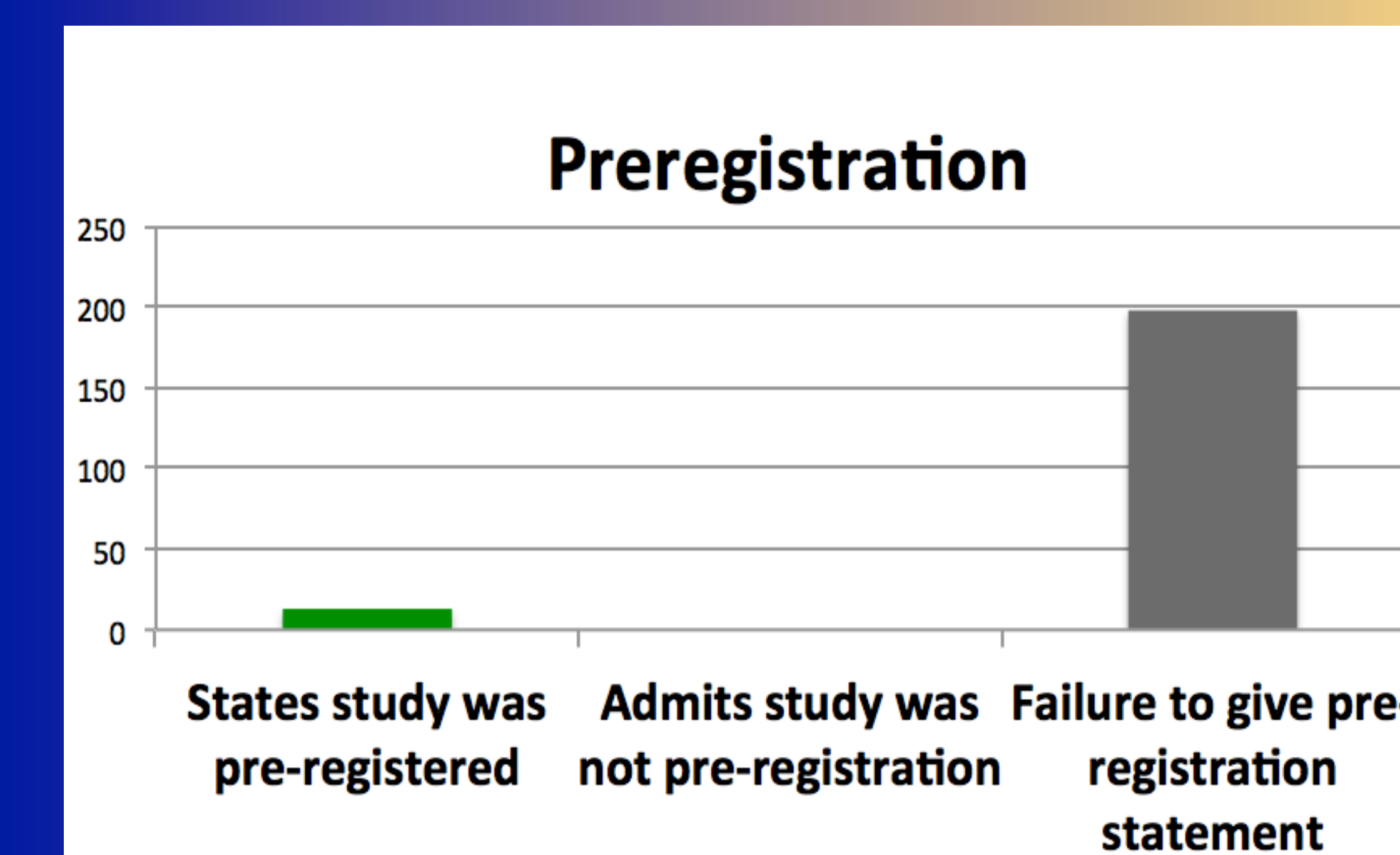
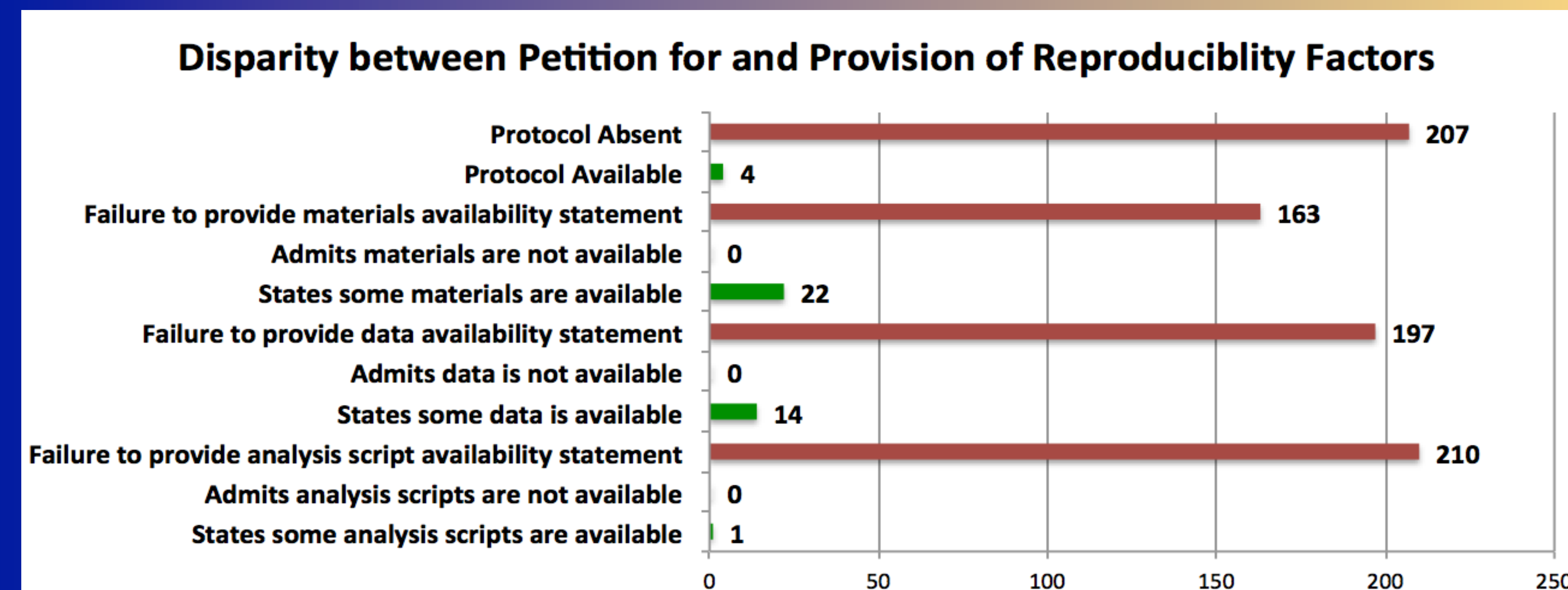


Figure 4. Vast Neglect of Indicators of Reproducibility: Protocol, Materials, Data, Analysis Scripts



## CONCLUSION

Our results demonstrate that the majority of publications within psychiatry literature lack the necessary materials, raw data, analysis scripts, detailed protocols, and accessibility to be easily reproducible. These findings are concerning, given the critical need for reproducible and transparent scientific research. Thus, this study presents a reference point for the state of reproducibility and transparency in Psychiatry literature. Future assessments are recommended to evaluate progress and encourage greater adherence to reproducibility and transparency practices.

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## Contact Information

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