

Research Reproducibility 2020
Educating for Reproducibility: Pathways to Research Integrity

**Transparent manuscript reporting practices in behavioral medicine research:
An audit of publications in 2018**

Kellie Cooper⁽¹⁾, Laura Scherer⁽²⁾, Marissa Donahue⁽³⁾, Montserrat Carrera Seoane⁽¹⁾, Megan McVay⁽¹⁾

⁽¹⁾ *University of Florida, k.cooper@ufl.edu, @KellieCooper0; carreraseoane.m@ufl.edu, @CarreraSeoane; m.mcvay@ufl.edu, @MeganMcVay1*

⁽²⁾ *University of Colorado, laura.scherer@cuanschutz.edu, @ldscherer*

⁽³⁾ *Utah State University, ms.marissadonahue@gmail.com, @MarissaDonahue1*

Introduction: Concerns about replicability in behavioral research have led to reforms in increasing transparency and rigor. The purpose of this study is to document the extent to which the field of behavioral medicine has adopted manuscript reporting practices that facilitate readers' ability to distinguish confirmatory versus exploratory research.

Methods: We identified journals with a behavioral medicine/health psychology focus and selected four with the highest impact factor. We randomly selected among articles published in 2018. For each manuscript, we coded if authors reported: 1a) if the study was registered and 1b) whether there was clarity with regard to which specific hypotheses/analyses were registered; 2) if a power analysis was provided; 3) if the study clearly identified if it presented primary or secondary results of data collection; and 4) if the terms "exploratory" or a related term was used as modifiers of study aims/analyses. Each manuscript was independently coded by two trained coders, with discrepancies reconciled by a third coder.

Results: We identified and coded 162 manuscripts. Study designs included observational (n=141; 87%), scale development/validation (n=1; 0.6%) and experimental (n=20; 12.3%), with 12 (60.0%) of the experimental studies described as randomized trials. The majority of studies were not registered (n=140; 86.4%). Of the 22 registered studies, 17 (77.3%) were not explicit about registration prior to study recruitment, and 20 (90.9%) were not clear regarding which specific hypotheses/analyses were registered. No power analysis was present in 149 (92%) of the studies. Five (3.1%) presented a clear *a priori* analysis, and 7 (4.3%) were likely *a priori* power analyses but vague language made determination uncertain. Four studies (2.5%) were explicitly described as reporting the primary study outcome, 23 (14.2%) were clearly described as secondary, 82 (50.6%) had indication that they were secondary but were not clearly labeled as such, and 53 (32.7%) were determined to be unclear if they were primary or secondary. Fifty (30.9%) studies used "exploratory" or a related term to describe an aim/analysis.

Conclusions: These results suggest that reporting of behavioral medicine research in top journals often provides insufficient information to evaluate if study aims are confirmatory or exploratory.