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Use of Publication Procedures to Improve Research Integrity by Alcohol and Other Drug Journals

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Replication Crisis

- Vast majority of published results are positive
- Many cannot be replicated
- Many produced through flexible data analysis
 - HARKing
 - P-hacking

Scope of the Problem

- Such problems found in clinical & preclinical research, psychology, epidemiology, political science & biology
- Journals in applied research areas & “soft” sciences are especially inclined to publish positive results
- Thus, relevant to addiction research

Proposed Solutions

- Conflict of Interest (Col) Declarations
- Study Guidelines
- Preregistration of Randomized Controlled Trials (RCTs)
- Preregistration of Other Study Designs
- Data & Methods Sharing
- Registered Reports

Current Study

- How many of these 6 publication procedures have been adopted by alcohol & other drug (AOD) journals?
- 34 high-impact AOD journals identified using Clarivate Analytics' 2018 *Journal Citation Report* (JCR)
 - 1 review, 2 tobacco & 2 gambling journals excluded from the 39 JCR addiction journals

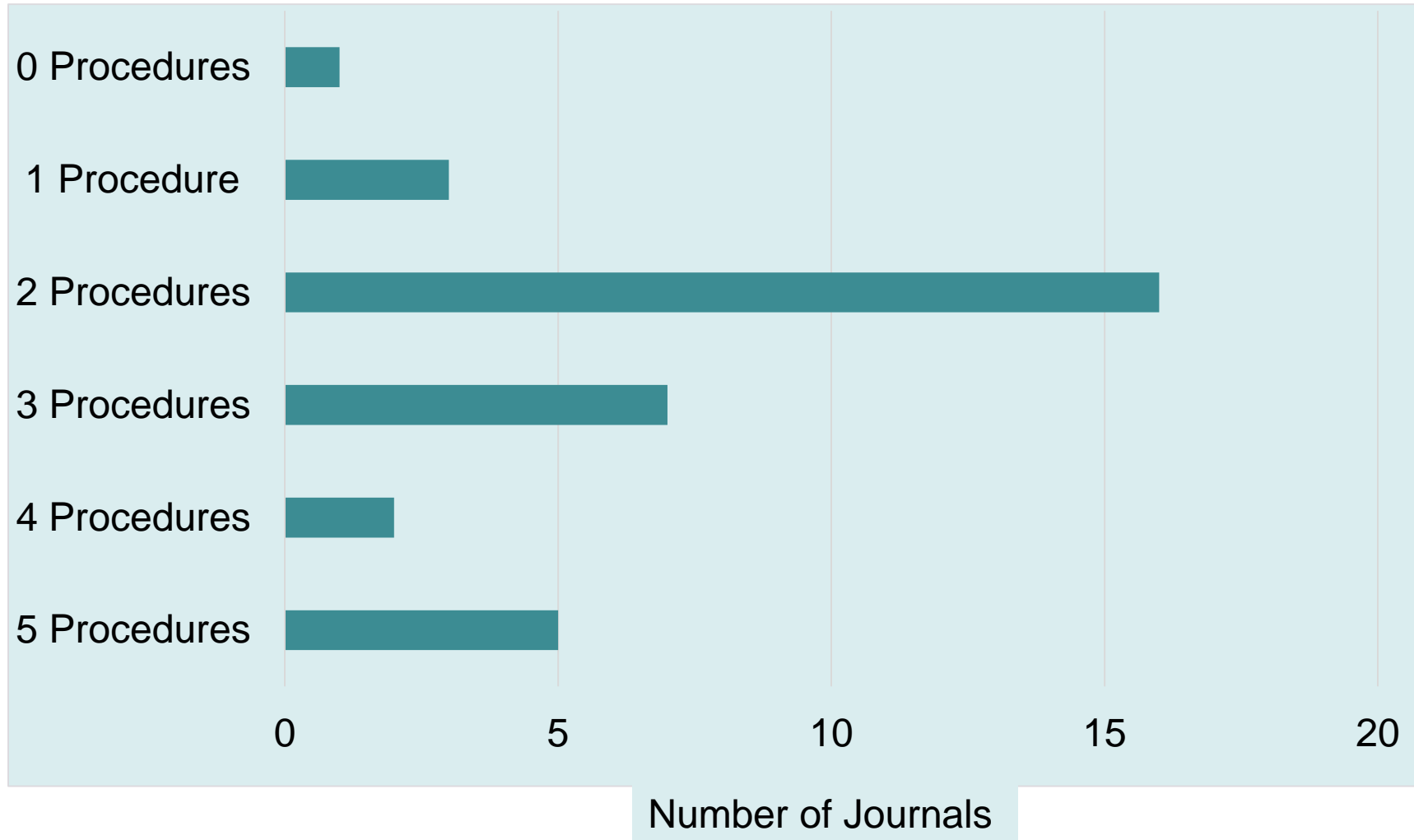
Data

- Journals
 - Publisher
 - 2017 JCR impact factor
 - Scimago h-index
- Publication Procedures
 - Online Journal Instructions for Authors
 - CONSORT webpage
 - Center for Open Science webpage for registered reports

Results (34 Journals)

- Mean Scimago h-index: 58.6 (range 12-167)
- Mean JCR impact factor: 2.23 (range 0.68-5.95)
- Correlation between the two metrics: 0.67
- Average number of publication procedures used: 2.62 (range 0-5)

Number of Procedures by Number Journals (n=34)



Results: Use of Procedures

Publication Procedure	Number of Journals (of 34)
CoI Declaration	33
Recommend Guidelines	11 (range 1-13 guidelines)
RCT Preregistration	15
Other Preregistration	4 (3 systematic reviews; 1 hypotheses)
Data Sharing	25 (0 mandatory)
Registered Report	1

Discussion: Limitations of Most Used Procedures

- Guidelines (n=11)
 - Reviewers must check for adherence
 - Adherence can be difficult to check
- Registration (n=15 & 4)
 - Application typically limited to RCTs
 - Registration entries can be vague
 - Reviewers must compare papers to entries

Discussion: Limitations of Most Used Procedures

- Col Declarations (n=33)
 - Limited Application to some financial Cols
- Data Sharing (n=25)
 - Minimal adherence (especially when voluntary)
 - Can lead to a data-dump
 - Depends on readers having the time & skills to re-analyze data
 - Useless without a pre-specified analysis plan

Discussion: Recommendations

- AOD journals should distinguish papers reporting *a priori* hypothesis testing from all other types of papers
- Registered reports & pre-registration of specific hypotheses allow this distinction
- Only *Addiction* and *Drug & Alcohol Dependence* have such procedures

Discussion: Study Limitations

- Just 1 reviewer – possible human error
- Some publication procedures (e.g., registering RCTs) may not be relevant to all 34 AOD journals
- Journals sometimes reference other guidelines that they may expect authors to consult in manuscript preparation