Reproducibility Project: Psychology

Design

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Two Major Design Challenges

1. Generalizability of Results

2. Ensuring High-Quality Replications

1. Generalizability of Results

Maximally Representative

Fully Random Sampling

Maximize Participation

Feasibility & Expertise

Selection of Replication Studies

Studies for Replication

File Edit View Insert Format Data Tools Help View only

BC Storm, EL Bjork, RA Bjork

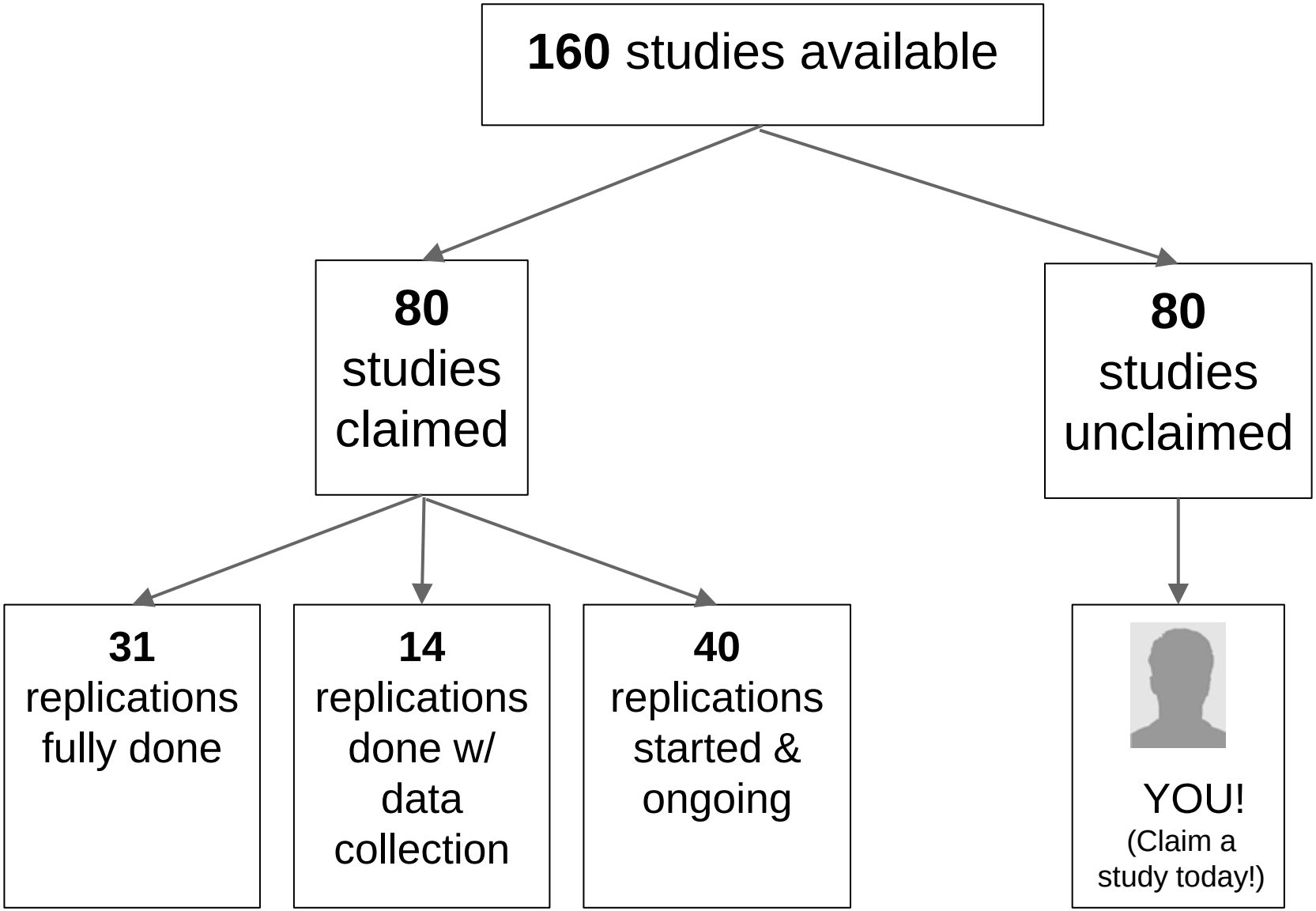
	D	E	F
1	To Be Vetted		
2	Author	Title	Status
3	ST Wolf, CA Insko, JL Kirchner,	Interindividual-intergroup discontinuity in the domain of correspondent outcomes: The ro	claimed
4	J Förster, N Liberman, S Kusch	The effect of global versus local processing styles on assimilation versus contrast in so	
5	V Purdie-Vaughns, CM Steele,	Social identity contingencies: How diversity cues signal threat or safety for African Ame	
6	K Fiedler	The ultimate sampling dilemma in experience-based decision making.	one attempt made, a
7	CP Beaman, I Neath, AM Surpr	Modeling distributions of immediate memory effects: No strategies needed?	claimed
8	T Meiser, C Sattler, K Weisser	Binding of multidimensional context information as a distinctive characteristic of< em>	
9	CJ Berry, DR Shanks, RN Hens	A single-system account of the relationship between priming, recognition, and fluency.	
10	CT Weidemann, DE Huber, RM	Prime diagnosticity in short-term repetition priming: Is primed evidence discounted, ever	
11	K Dent, RA Johnston, GW Hum	Age of acquisition and word frequency effects in picture naming: A dual-task investigatic	

Replicators chose study from list of feasible studies from articles from 2008 issues of:

PSCI

JEPLMC

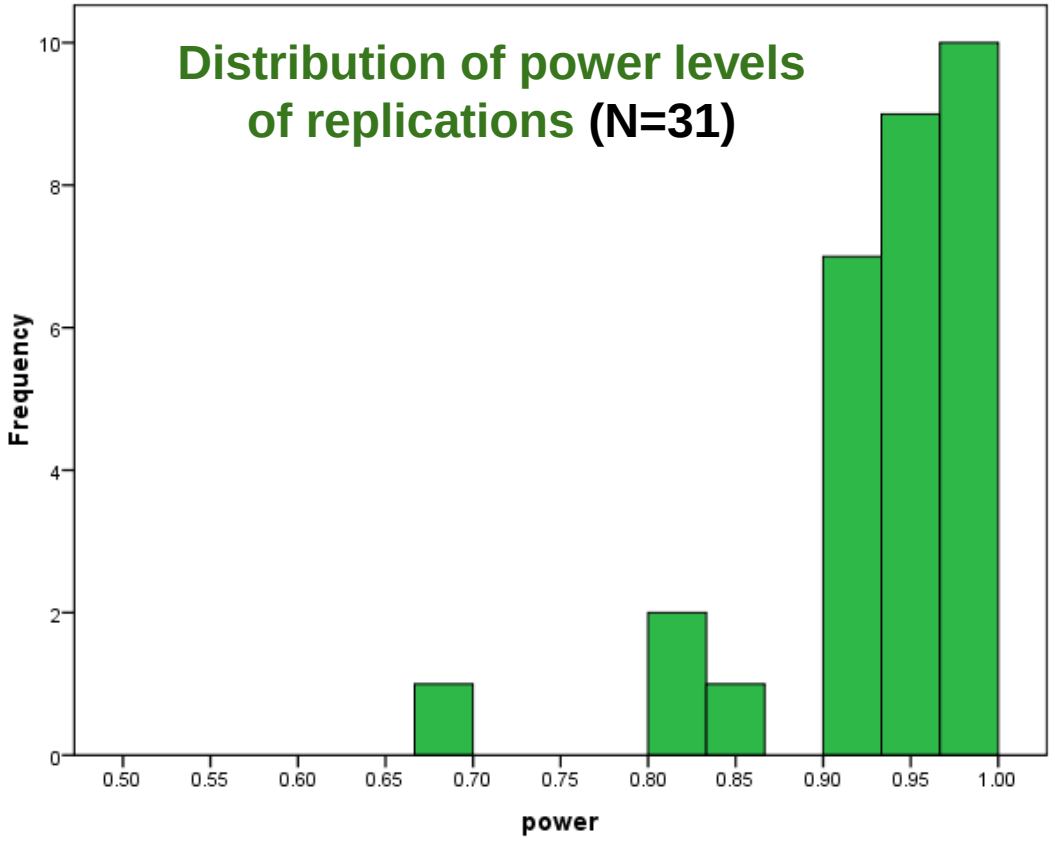
JPSP


160 studies available
80 studies claimed
80 studies unclaimed
31 replications fully done
14 replications done w/ data collection
40 replications started & ongoing
YOU!
(Claim a study today!)

2. Ensuring High-Quality Replications

2.1 High Statistical Power

Large sample sizes that achieved minimum statistical power of 80%



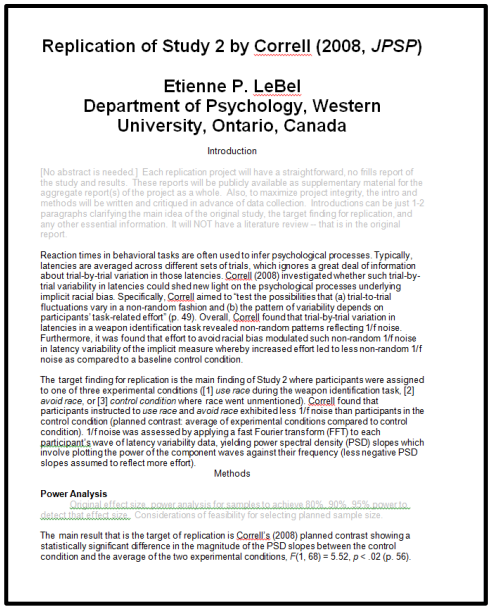
87% of replications achieved >90% power
Median power level = 95%!

2.2 Original Materials

>95% of replications successfully acquired original materials

2.3 Standardized Replication Protocol

- Target sample size and sampling procedures
- Exact procedures & task instructions
- Exact materials & measures
- Exact data preparation & analyses



Replication of Study 2 by Correll (2008, *JPSP*)

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Introduction

[No abstract is needed.] Each replication project will have a straightforward, no frills report of the study and results. These reports will be publicly available as supplementary material for the aggregate report(s) of the project as a whole. Also, to maximize project integrity, the intro and methods will be written and critiqued in advance of data collection. Introductions can be just 1-2 paragraphs clarifying the main idea of the original study, the target finding for replication, and any other essential information. It will NOT have a literature review -- that is in the original report.

Reaction times in behavioral tasks are often used to infer psychological processes. Typically, latencies are averaged across different sets of trials, which ignores a great deal of information about trial-by-trial variation in those latencies. Correll (2008) investigated whether such trial-by-trial variability in latencies could shed new light on the psychological processes underlying implicit racial bias. Specifically, Correll aimed to "test the possibilities that (a) trial-to-trial fluctuations vary in a non-random fashion and (b) the pattern of variability depends on participants' task-related effort" (p. 49). Overall, Correll found that trial-by-trial variation in latencies in a weapon identification task revealed non-random patterns reflecting 1/f noise. Furthermore, it was found that effort to avoid racial bias modulated such non-random 1/f noise in latency variability of the implicit measure whereby increased effort led to less non-random 1/f noise as compared to a baseline control condition.

The target finding for replication is the main finding of Study 2 where participants were assigned to one of three experimental conditions ([1] *use race* during the weapon identification task, [2] *avoid race*, or [3] *control condition* where race went unmentioned). Correll found that participants instructed to *use race* and *avoid race* exhibited less 1/f noise than participants in the control condition (planned contrast: average of experimental conditions compared to control condition). 1/f noise was assessed by applying a fast Fourier transform (FFT) to each participant's wave of latency variability data, yielding power spectral density (PSD) slopes which involve plotting the power of the component waves against their frequency (less negative PSD slopes assumed to reflect more effort).

Methods

Power Analysis

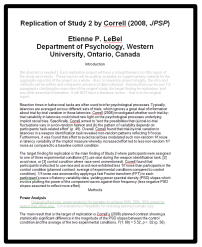
Original effect size, power analysis for samples to achieve 80%, 90%, 95% power to detect that effect size. Considerations of feasibility for selecting planned sample size.

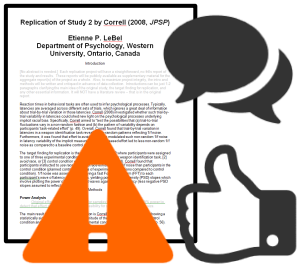
The main result that is the target of replication is Correll's (2008) planned contrast showing a statistically significant difference in the magnitude of the PSD slopes between the control condition and the average of the two experimental conditions, $F(1, 68) = 5.52$, $p < .02$ (p. 56).

100% of replications produced protocol prior to data collection

2.4 Vetting of Replication Protocols

Replicator(s)



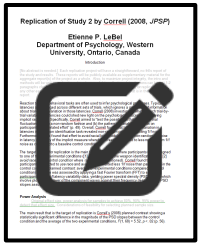


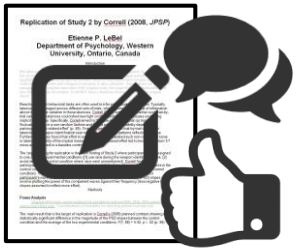
Original author(s)

Vetted by:

>90%

Replicator(s)



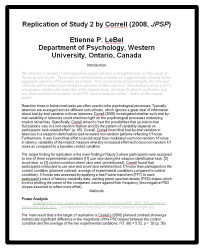


RP:P Project Member(s)

>90%

2.5 Protocols Publicly Posted

To maximize transparency & accountability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Introduction

Replicator(s)

100% of replications publicly posted protocols prior to data collection