

Some meta-stuff, and getting applied researchers to stop doing (M)ANOVAs

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Reproducibility individual effect sizes in psych MA

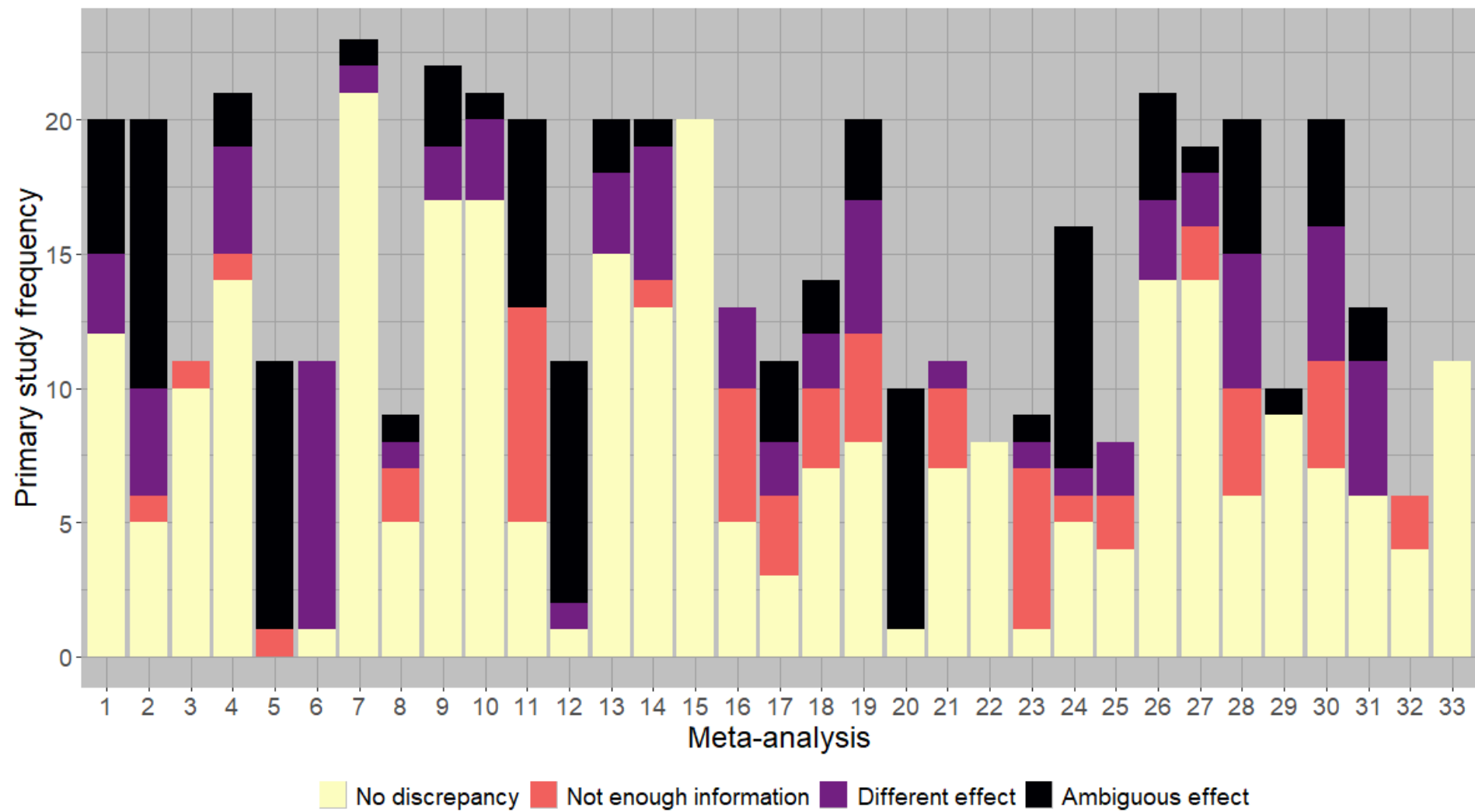
33 meta-analyses in psychology, \pm 2000 individual effect sizes

500 individual effect sizes reproduced

Reproducible: 55%

Irreproducible: 45%

- Not enough information: 11%
- Incorrect: 15%
- Ambiguous: 19%



Reporting in meta-analyses

Model selection (FE / RE / Mixed)	78%
Subgroup analysis	91%
Outliers	30%
Outliers seperately analyzed	21%
Publication bias	67%
Publication bias method median	1
Publication bias method	Fail-safe <i>N</i>
Publication bias detected	12%
Dependency effect sizes	93%
Reporting guidelines	3%
Contacted authors	48%

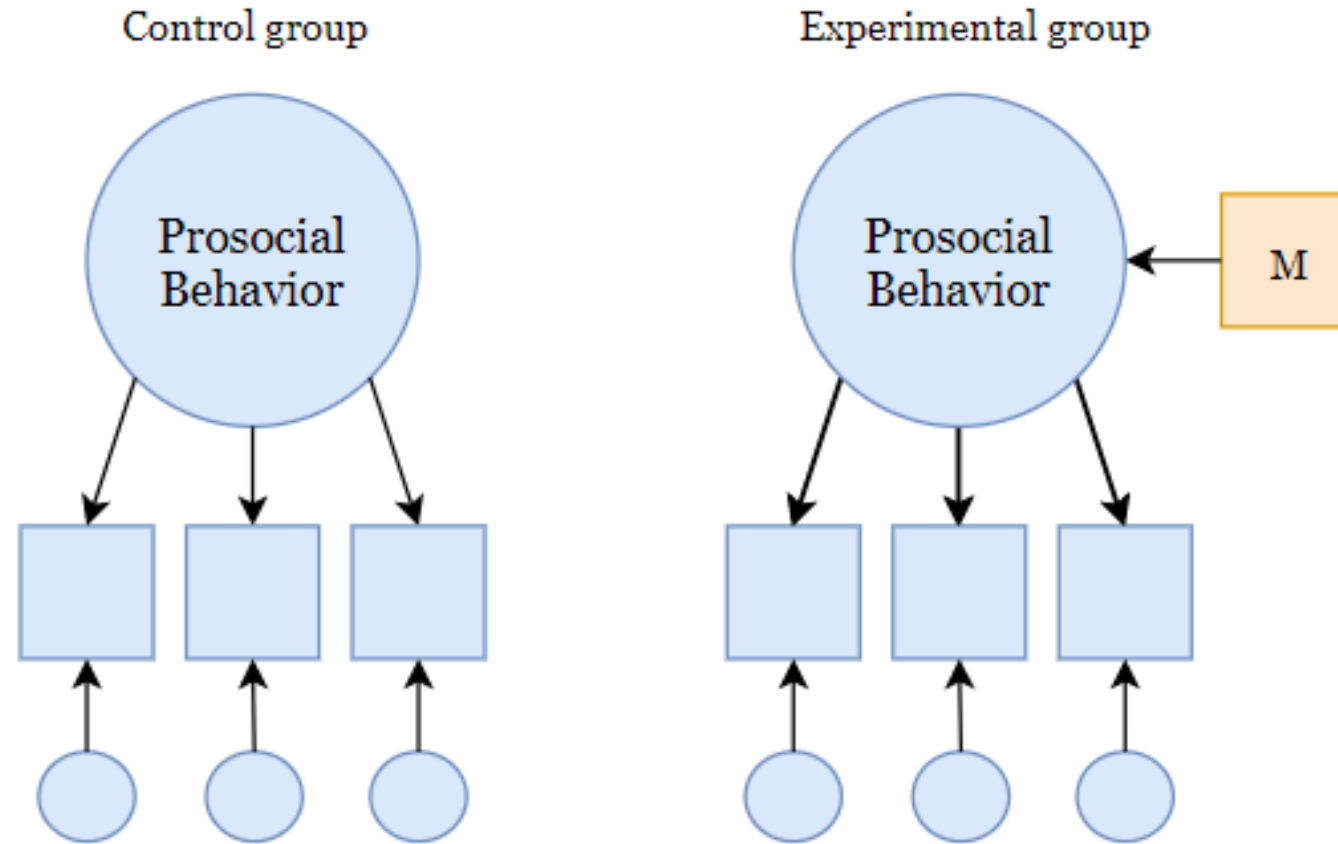
SEM > (M)ANOVA

Researchers use (M)ANOVAs to investigate mean differences between groups

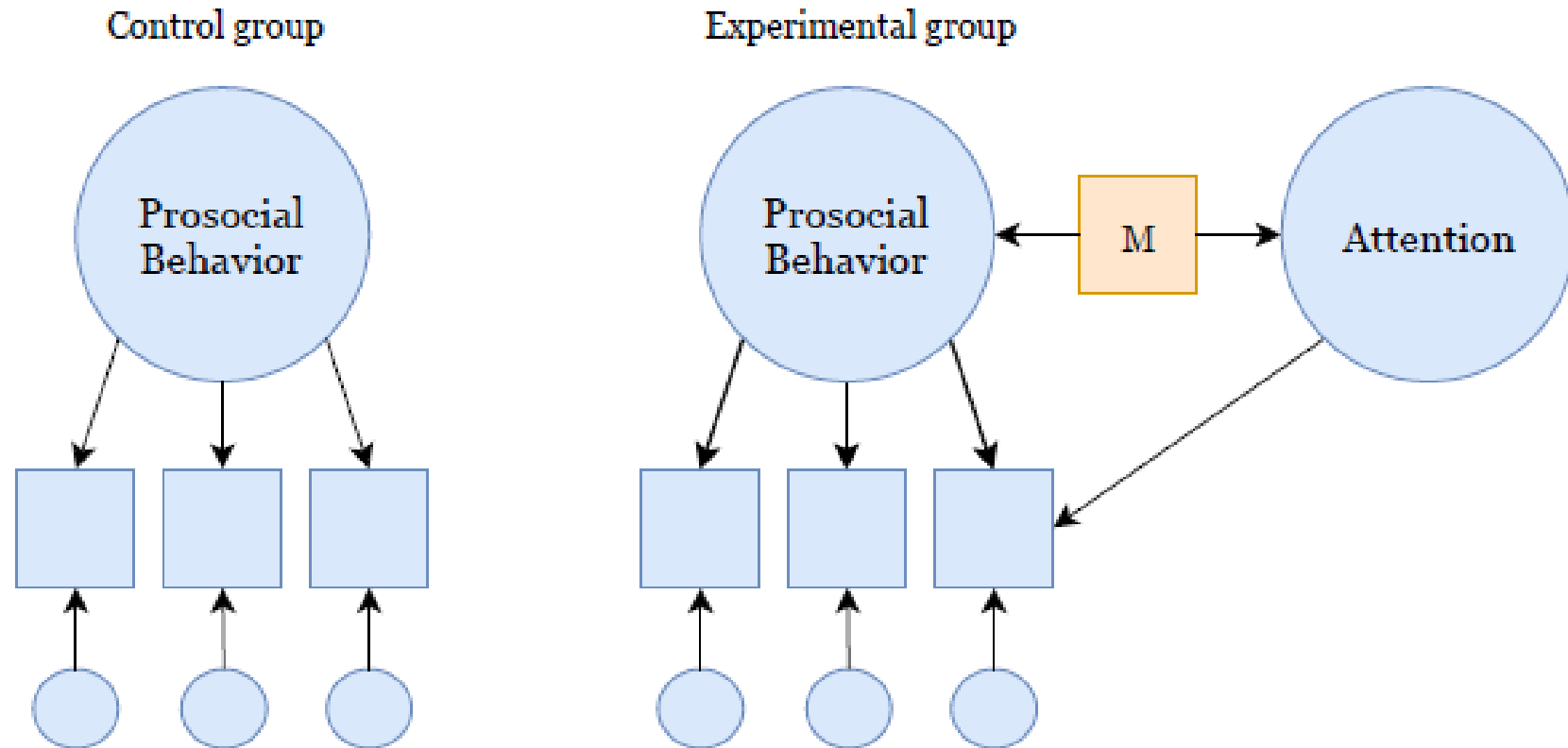
Which is suboptimal

Assumes scales / constructs are measured the same across groups

MEASUREMENT INVARIANCE



MEASUREMENT **NON**-INVARIANCE



SEM > (M)ANOVA

What are the minimal requirements for running a factor model?

When does SEM outperform (M)ANOVA methods?

Acceptable amount of measurement non-invariance? [uniform]

What happens with SEM and (M)ANOVA when assumptions break?

Can SEM counter selective outcome reporting?

Online Measurement Invariance Tester

Thank you!

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