INSTITUTE FOR SOCIAL RESEARCH
MICHIGAN PROGRAM IN SURVEY METHODOLOGY
UNIVERSITY OF MICHIGAN

Threats to Examining Subjective Well-Being Disparities:

Measurement Comparability in the face of Acquiescence Response Style

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ARS in Well-Being Measurement

Purpose in Life (PL)

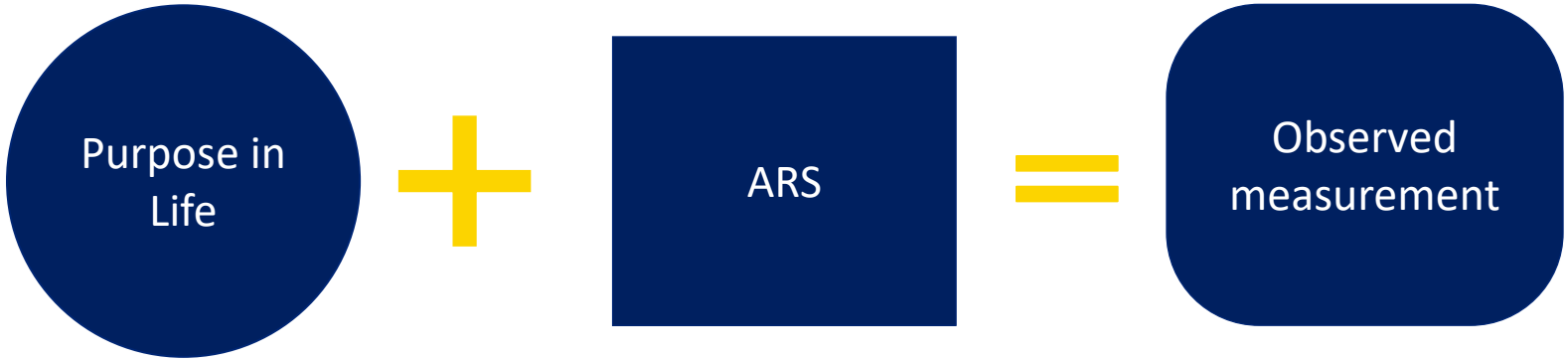
Q33 **Please say how much you agree or disagree with each of the following statements. (Mark (X) one box for each line.)**

	Strongly disagree	Some what disagree	Slightly disagree	Slightly agree	Some what agree	Strongly agree
I enjoy making plans for the future and working to make them a reality.	☐	☐	☐	☐	☐	☐
My daily activities often seem trivial and unimportant to me.	☐	☐	☐	☐	☐	☐
I am an active person in carrying out the plans I set for myself.	☐	☐	☐	☐	☐	☐
I don't have a good sense of what it is I'm trying to accomplish in life.	☐	☐	☐	☐	☐	☐
I sometimes feel as if I've done all there is to do in life.	☐	☐	☐	☐	☐	☐
I live life one day at a time and don't really think about the future.	☐	☐	☐	☐	☐	☐
I have a sense of direction and purpose in my life.	☐	☐	☐	☐	☐	☐

ARS in Well-Being Measurement

"The tendency to agree with questionnaire items regardless of the content (yea-saying)"

-Lechner et al., 2019



ARS as a measurement problem

Numerous reports about the consequences of ARS:

- Loss of construct validity (e.g., Cronbach, 1946)
- Incoherence in associations (e.g., Danner, Aichholzer, & Rammstedt, 2015)
- Incoherence in factor structure (e.g., Rammstedt & Farmer, 2013)
- Subpopulation comparison inadequacy (Reynolds & Smith, 2010)
- Inadequacy of statistical inference tests (Roberts, 2016)

ARS and balanced scales

A commonly proposed solution to this problem is using ‘balanced scales’

Q33 **Please say how much you agree or disagree with each of the following statements. (Mark (X) one box for each line.)**

	Strongly disagree	Some what disagree	Slightly disagree	Slightly agree	Some what agree	Strongly agree
I enjoy making plans for the future and working to make them a reality.	☐	☐	☐	■	■	■
My daily activities often seem trivial and unimportant to me.	☐	☐	☐	■	■	■

ARS and balanced scales

Debate around balanced scales:

Against:

- Loss of reliability
- Reversed item can have a different meaning

Pro:

- Increased criterion validity
- Better factor structure

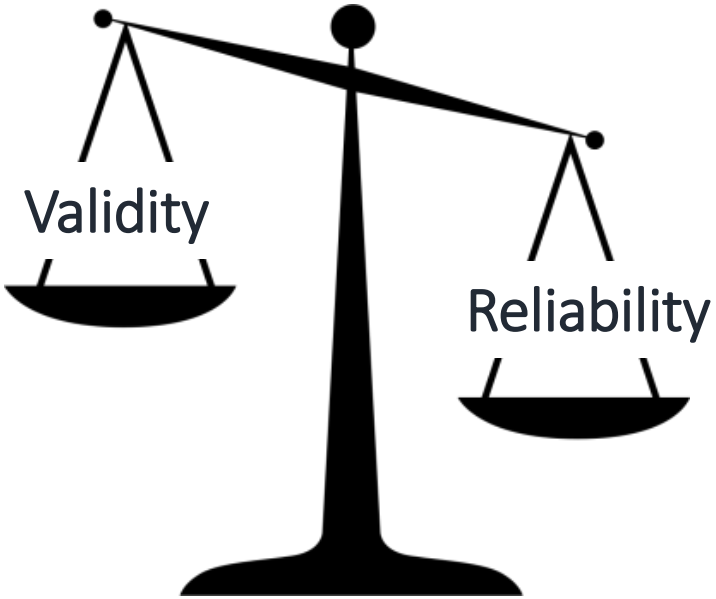
To balance or not to balance?

There is no clear consensus!

To balance or not to balance?

There is no clear consensus!

Our approach: **Trade-off**



Our study

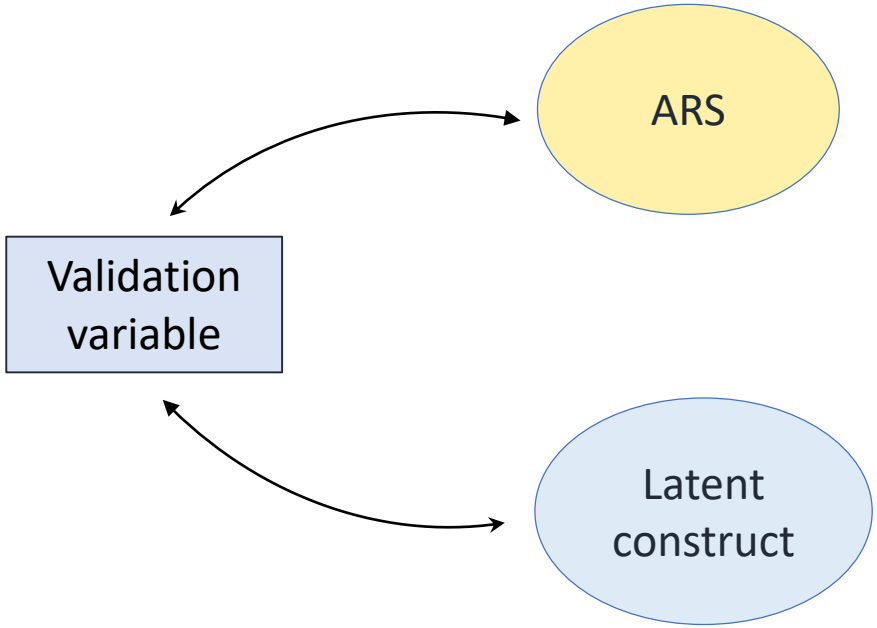
Simulation study

Main experimental factor: **balancing of the scale**

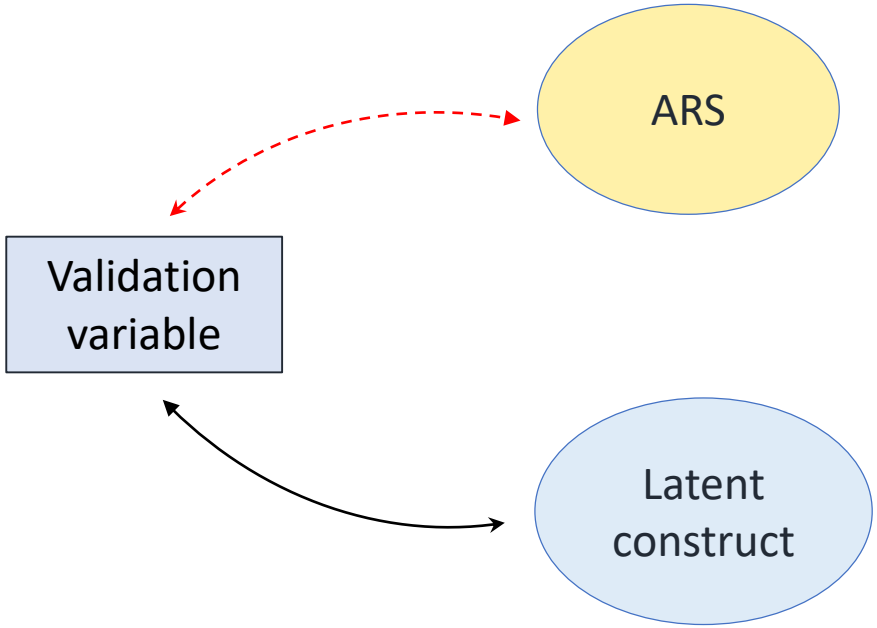
Main outcome of interest: Criterion and construct validity
(prior ARS modeling)

Sample size: 5,000

Data generating process



Data generating process



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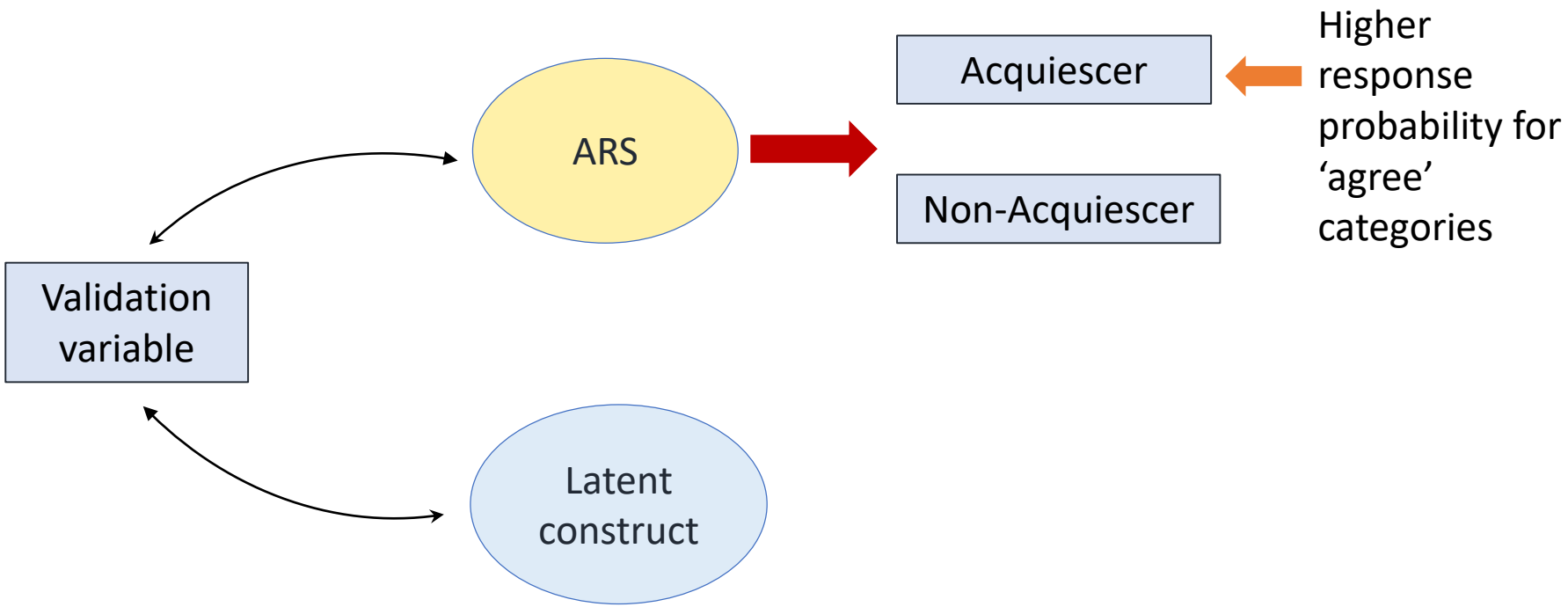

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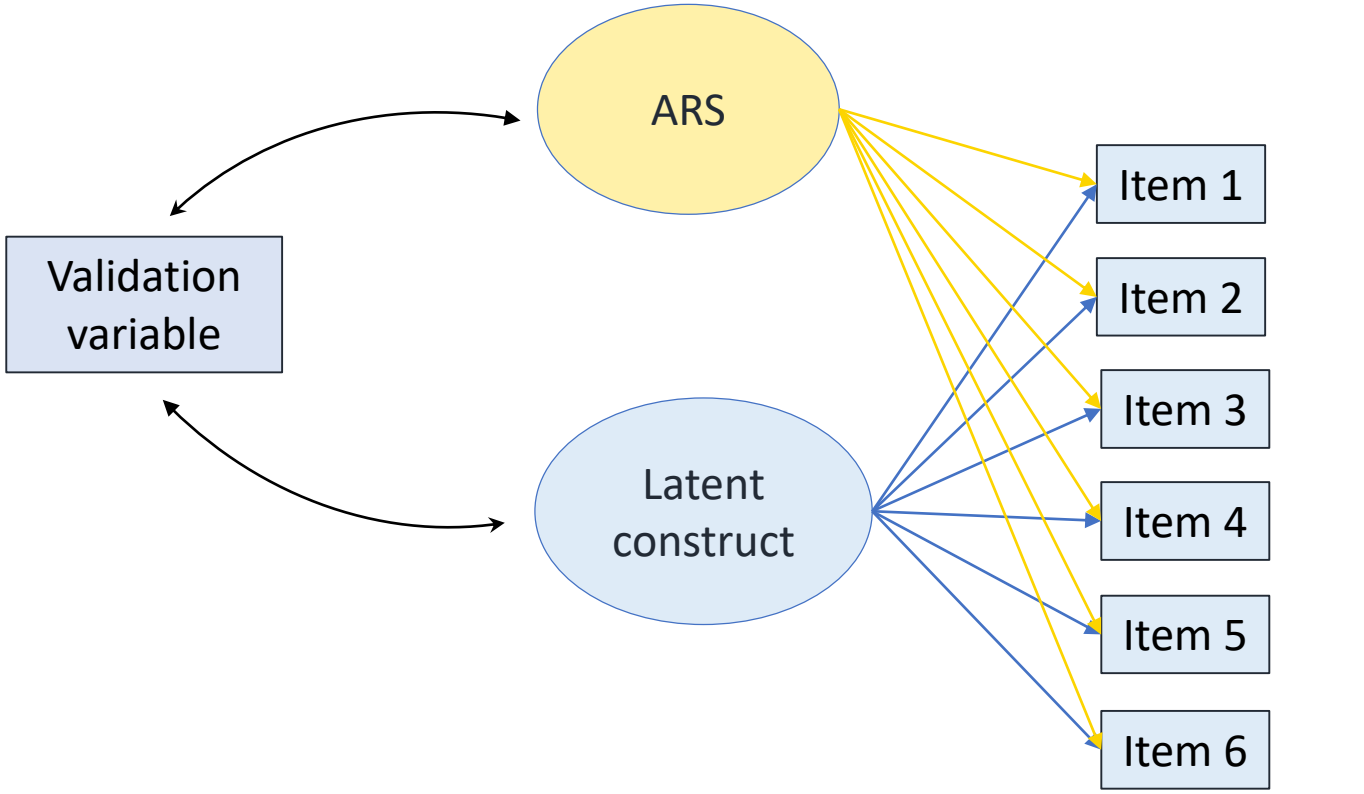
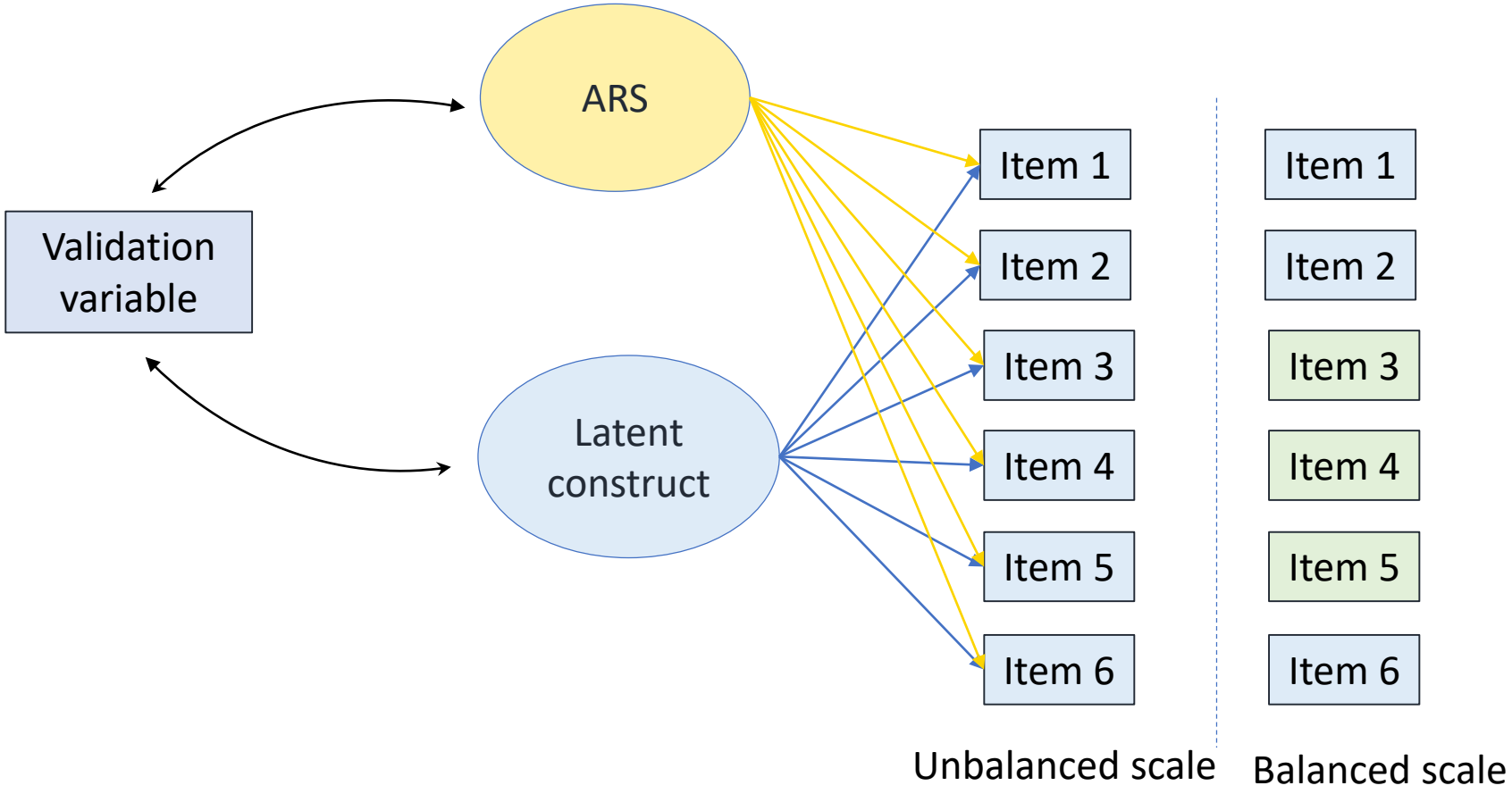


Unbalanced scale

Data generating process

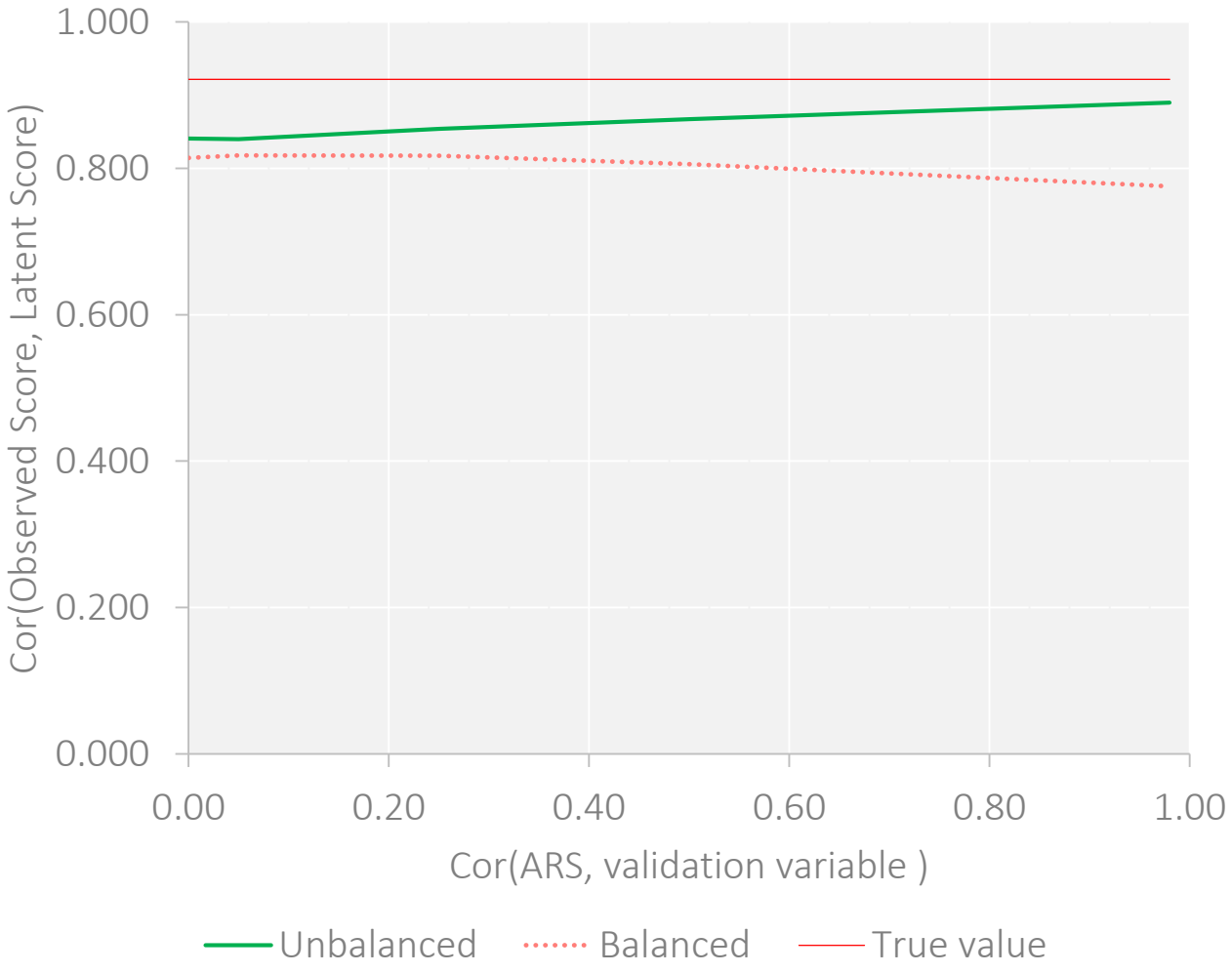


Evaluation criteria

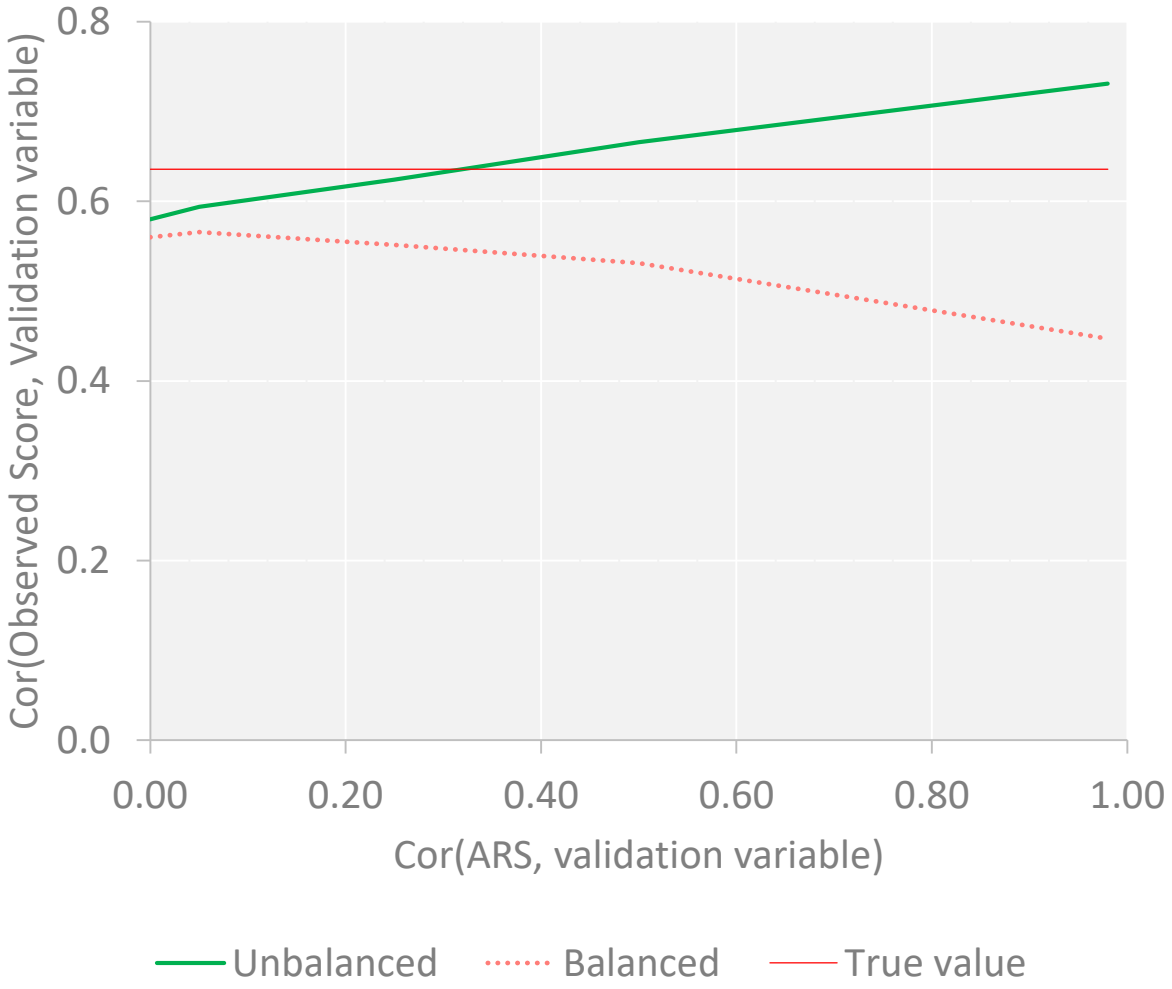
- Reliability (Cronbach's alpha of trait scores)

- Construct validity (Correlation between latent score and observed scores)
- Criterion validity (Correlation between validation variable and observed scores)
- Other consequences (Observed score means, CFA fit measures)

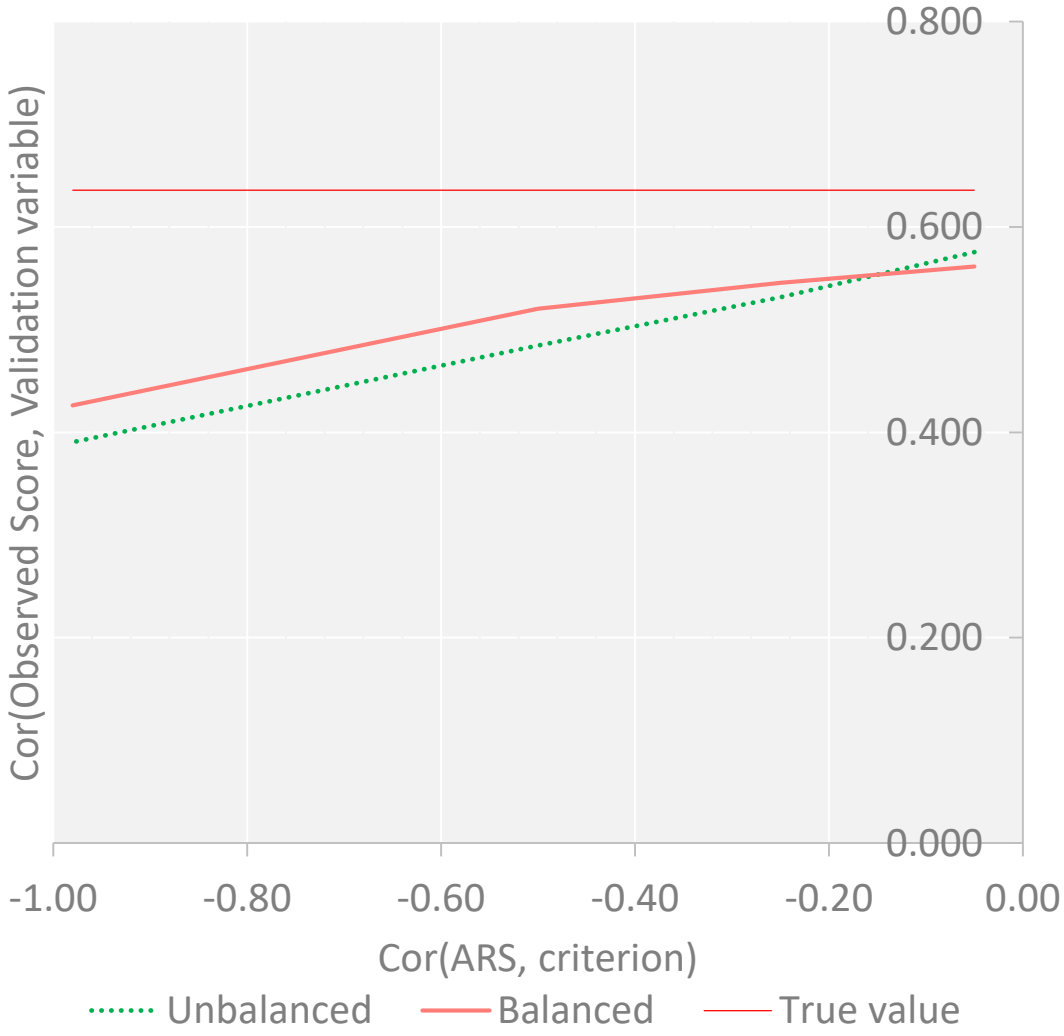
Results – Construct validity (Observed vs. latent scores)



Results – Criterion validity (Observed scores vs. Validation variable)



Results – Criterion validity (Observed scores vs. Validation variable)



Results – Other consequences

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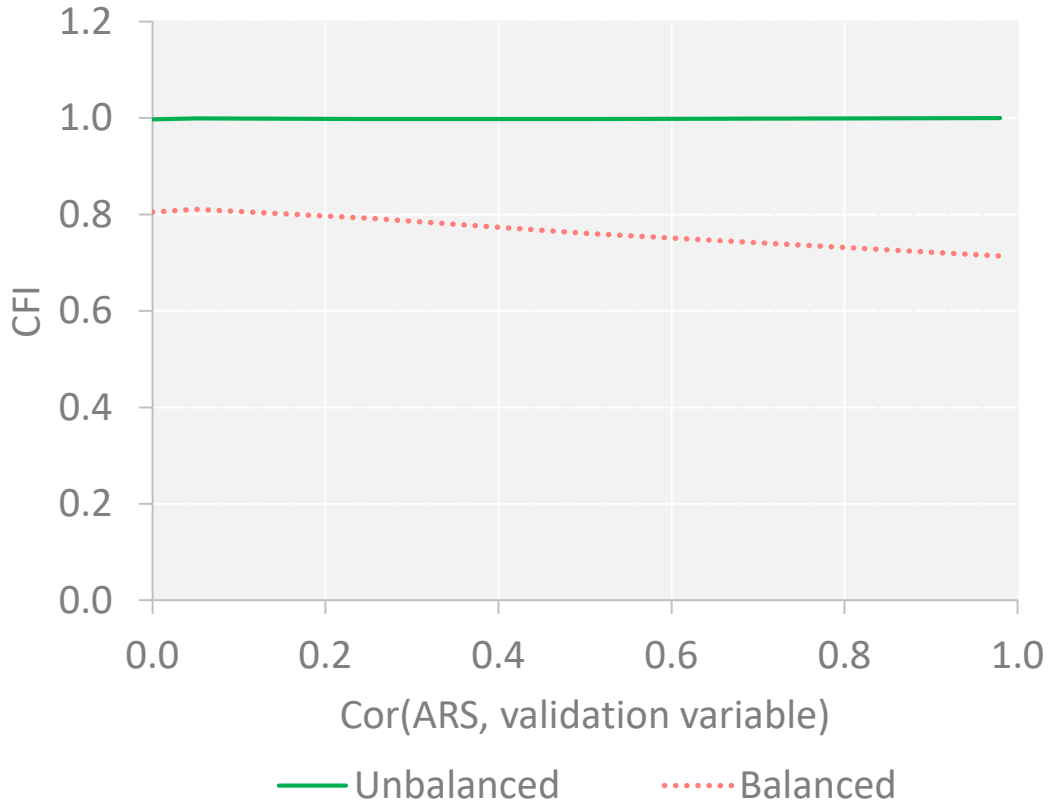
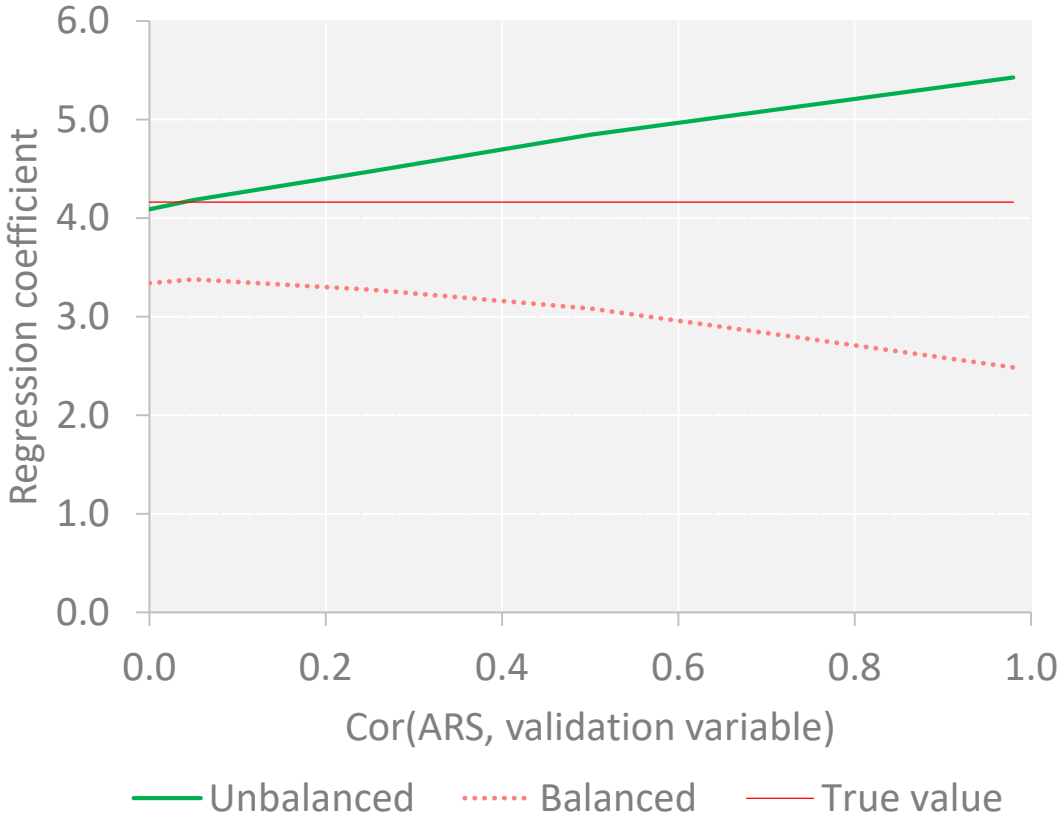
Confirmatory Factor Analysis Fit measures - CFI



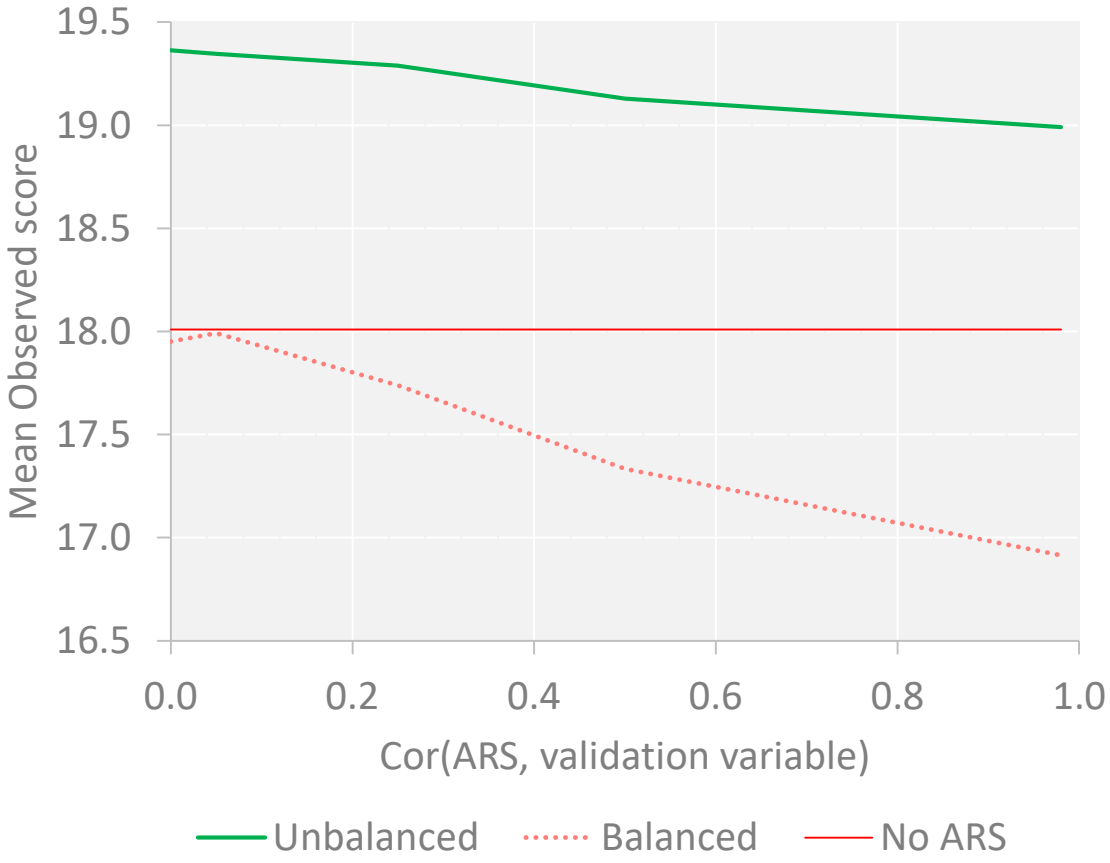
Results – Other consequences

Linear regression coefficient



Results – Other consequences

Mean of Observed scores



Conclusions

To balance or not to balance?

Conclusions

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Depends on the analysis plan!

Conclusions

To balance or not to balance?

Depends on the analysis plan!

- If interested in means of scores: YES!
  - It helps reduce error but not eliminate it completely
- If interested in correlational analysis: Maybe?
  - Depends how ARS is correlated to the variables of interested (e.g, no correlation, negative correlation)

Future work

- Can we utilize the information coming from balanced scales (e.g., incongruent responses to oppositely worded items) to correct scores?

- Empirically, what is the 'optimal' way to reverse verbal stems?

Thank you!

Comments and/or questions

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