

Single-item measures validity evidence based on correlation network analysis: motives for physical activity in the elderly

Ariadna Angulo-Brunet, Carme Viladrich,
Yago Ramis and Susana Pallarès



1. Motivation

What do we need?



Measuring motives for doing physical activity in the elderly

Which limitations do we have?

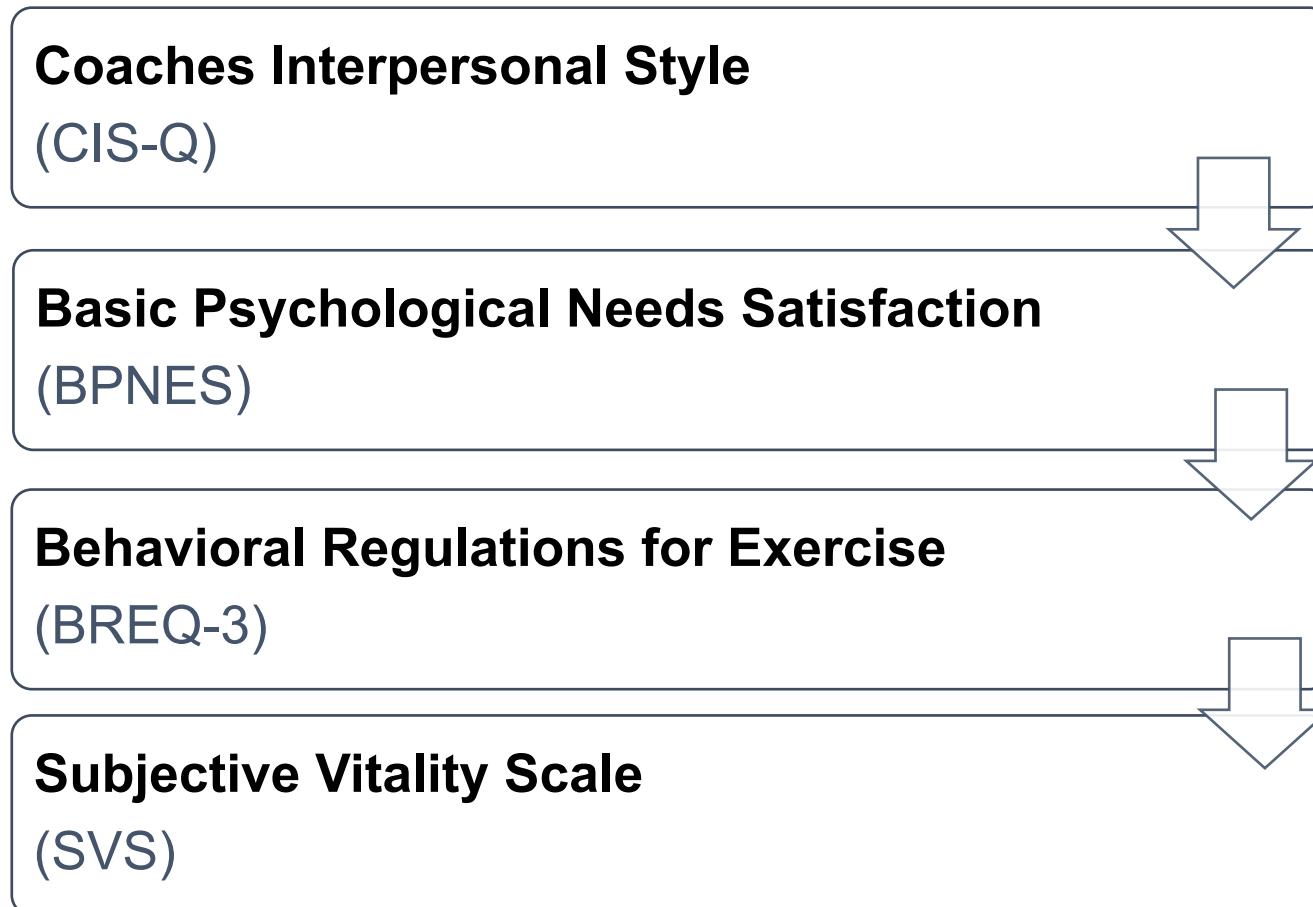
Data collection feasibility



Potential solution

Create single-item measures (**SIM**) for each long measure (**LM**) subscale

2. The nomological network



	SIM single-item measures	LM long measures
	6	24
	3	12
	6	24
	1	5
ITEMS	16	65

3. The aim

To gather evidence of validity for SIM through comparing SIM and LM correlation network to their shared expected nomological network

4. Method

Participants

N = 71

Age
 $M = 69.49$
 $SD = 3.7$
Min = 65.5, Max = 84.5



77%



23%



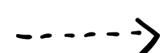
56%



44%

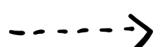
Procedure

LM form



hetero-administered

SIM form



self-administered

(when possible)

Data analysis

Correlation network analysis
(Epskamp, 2017)

- Polychoric correlations



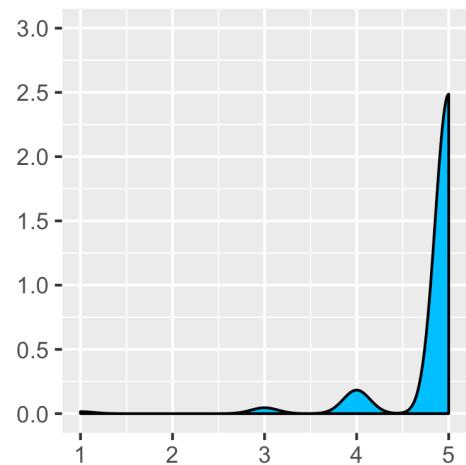
5. Results



Similar item distribution
some examples

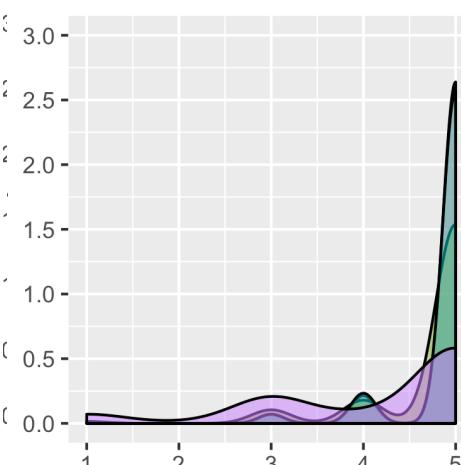
SIM

*single-item
measures*



LM

long measures



Relatedness
Relatingness
thSwing

5. Results



Similar item distribution
some examples

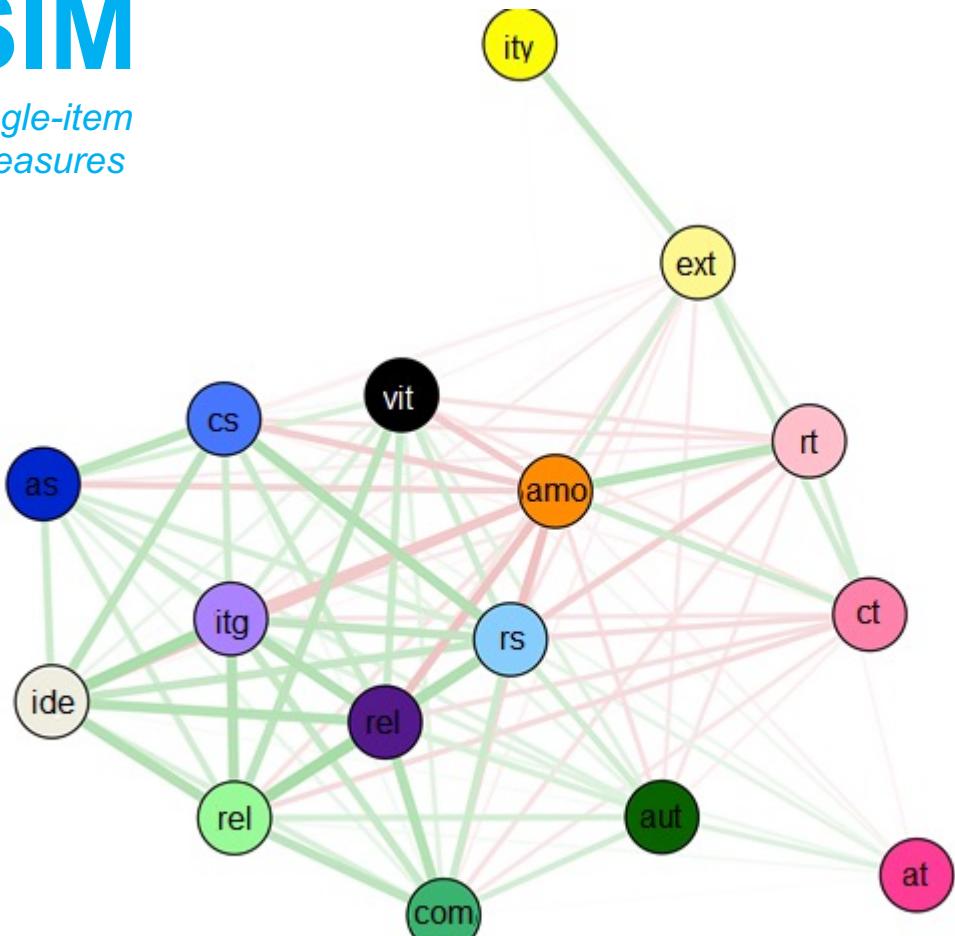


Non variance in one long-form item

5. Results

SIM

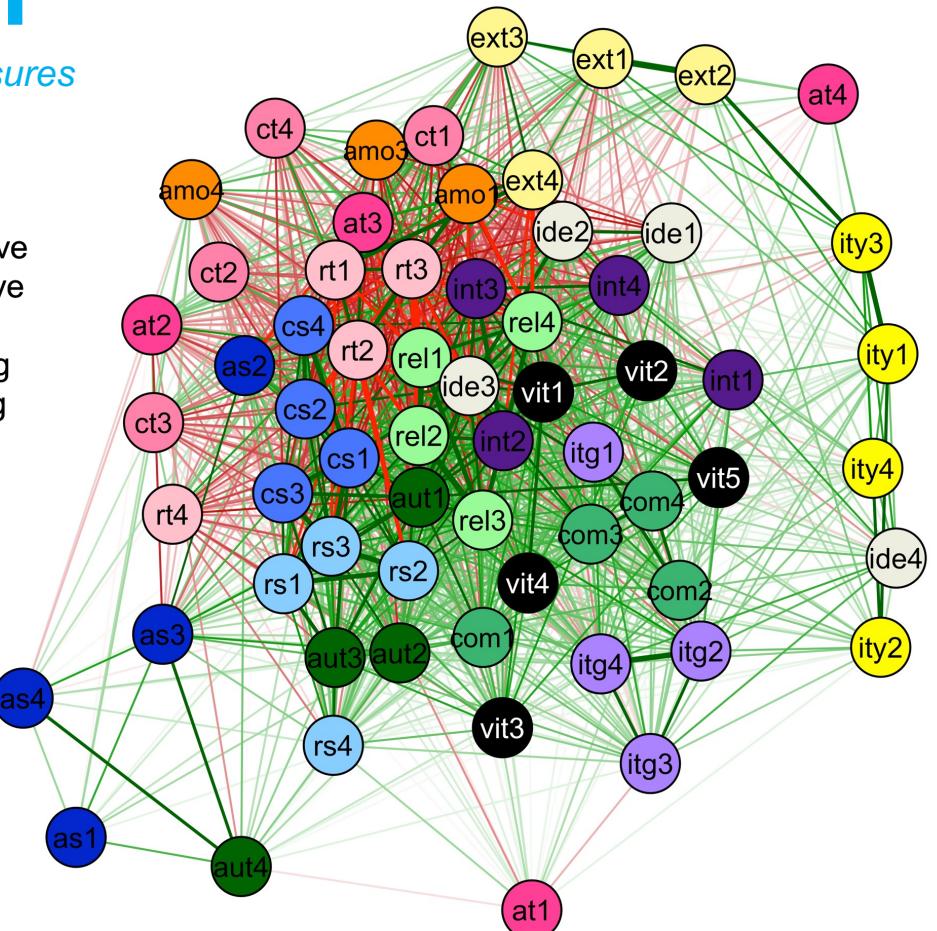
*single-item
measures*



LM

long measures

- Autonomy supportive
- Competence supportive
- Relatedness supportive
- Autonomy thwarting
- Competence thwarting
- Relatedness thwarting
- Autonomy
- Competence
- Relatedness
- Intrinsic motivation
- Integrated regulation
- Identified regulation
- Introjected regulation
- External regulation
- Amotivation
- Vitality



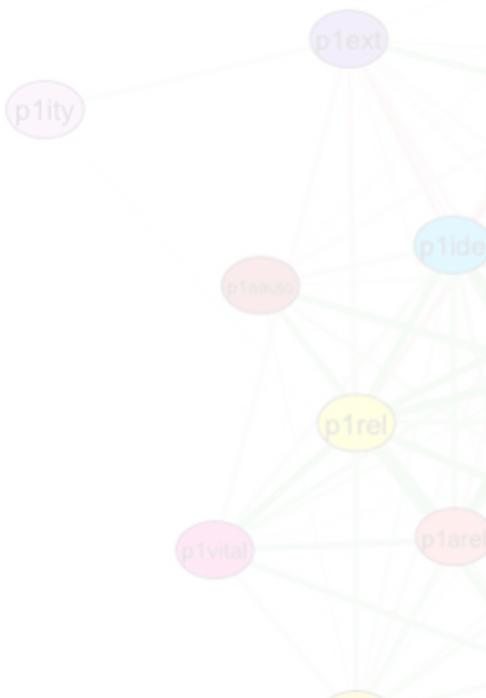
6. Conclusions



- Positive and negative constructs are distinguishable in both graphs
- Lack of subscale discriminant validity is clearly visible in both graphs
- SIM results are more interpretable



- It is necessary to provide further evidence of psychometric quality.
- Increase sample size



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