GENDER INEQUALITY IN ARAB COUNTRIES: TESTING MEASUREMENT INVARIANCE AND LOOKING FOR THE SOURCES OF NONINVARIANCE

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MEASUREMENT INVARINCE

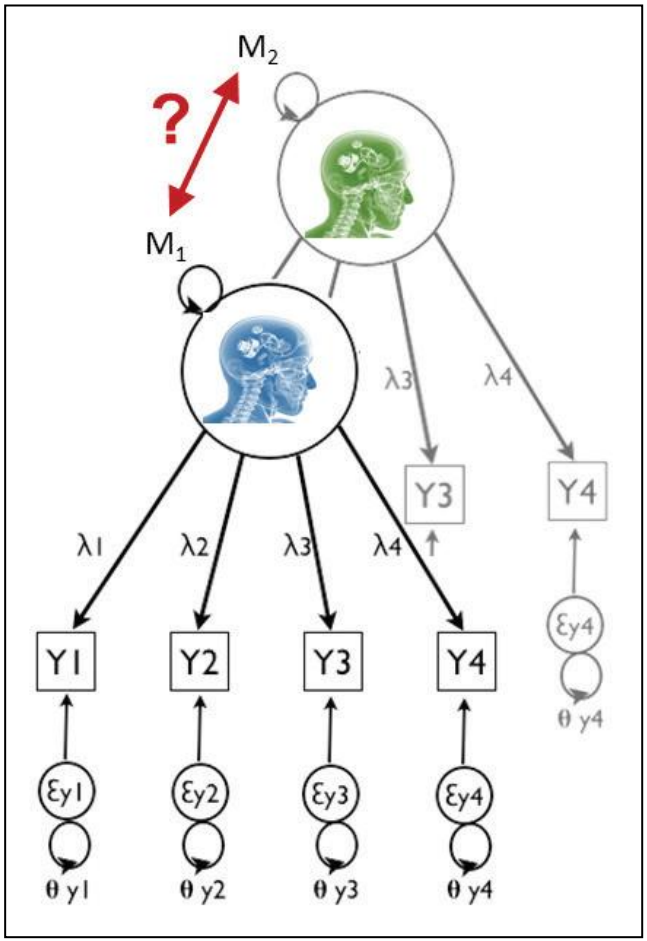
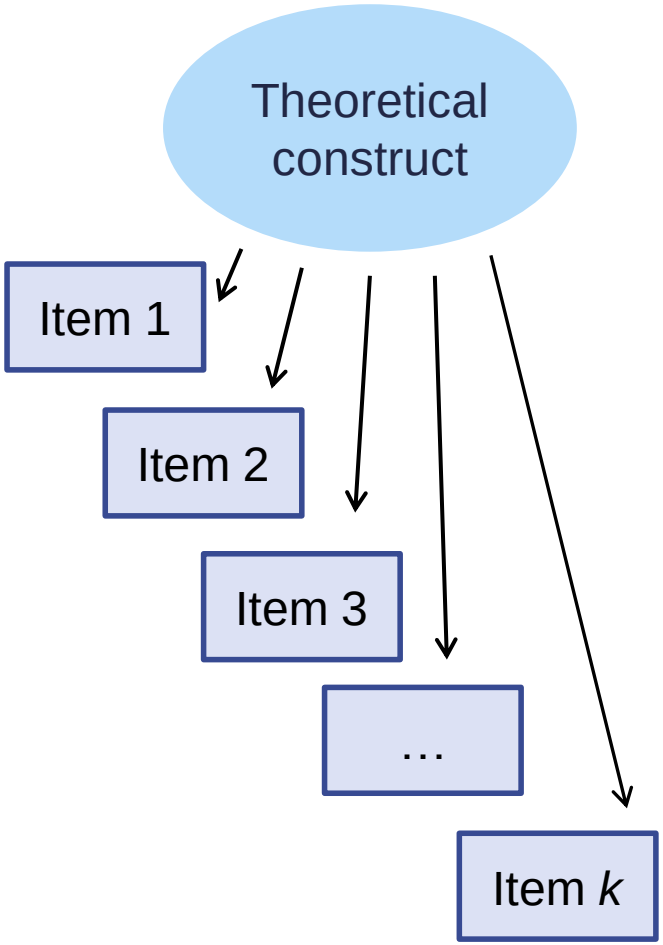


Image by Rens Van De Schoot (van de Schoot, R., Schmidt, P., De Beuckelaer, A., eds. (2015). Measurement Invariance. Lausanne: Frontiers Media. doi: 10.3389/978-2-88919-650-0)

Measurement invariance is a property of a measurement instrument (in the case of survey research, a questionnaire), implying that the instrument measures the same concept in the same way across various subgroups of respondents*

* (Chen 2008, Meredith 1993, Millsap 2011, Steenkamp & Baumgartner 1998, Van de Vijver & Poortinga 1997, Vandenberg 2002, Vandenberg & Lance 2000)

BARRIERS TO CROSS-NATIONAL COMPARISONS



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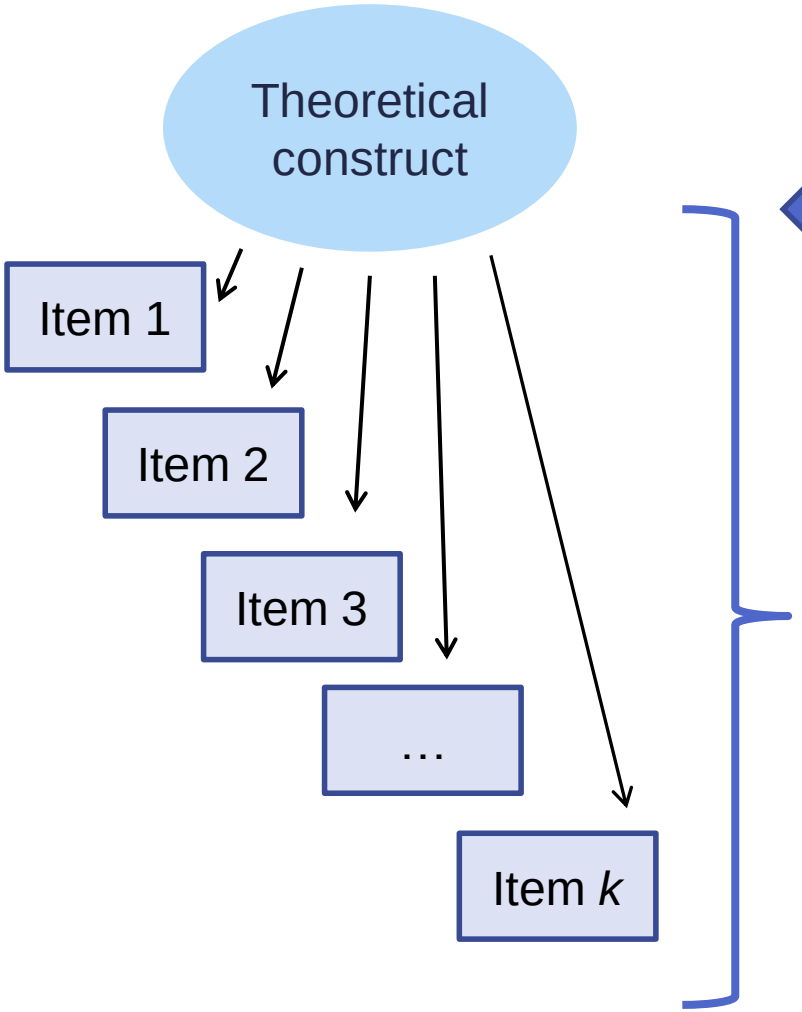

Human beings:
- refuse to answer
- may say one thing but do another
- social desirability, etc.

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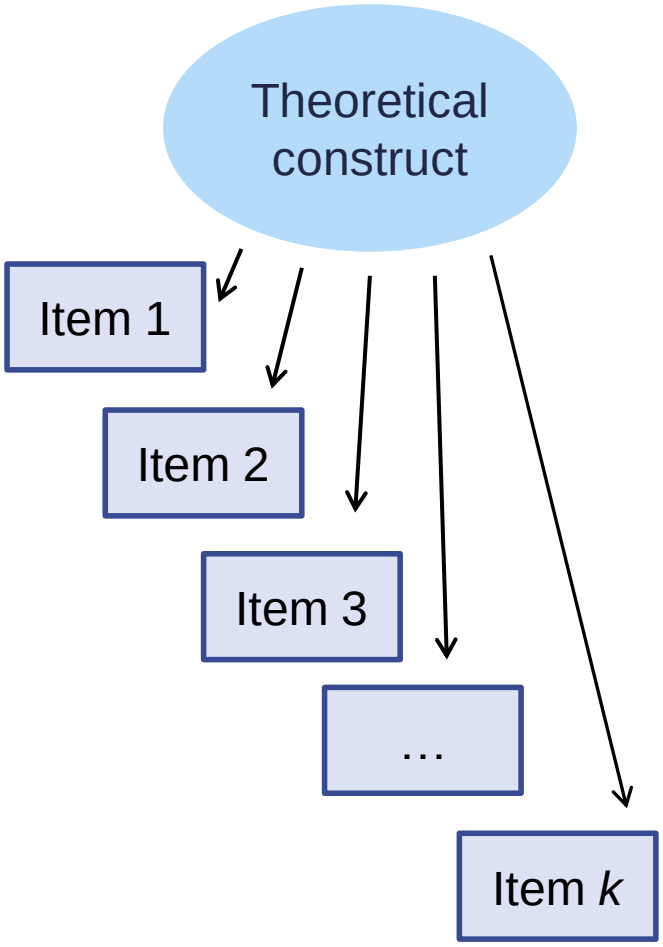

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National context:
- different economic and cultural background
- language
- understand certain ideas by different way
- scale measuring the item may be used differently across populations, etc.

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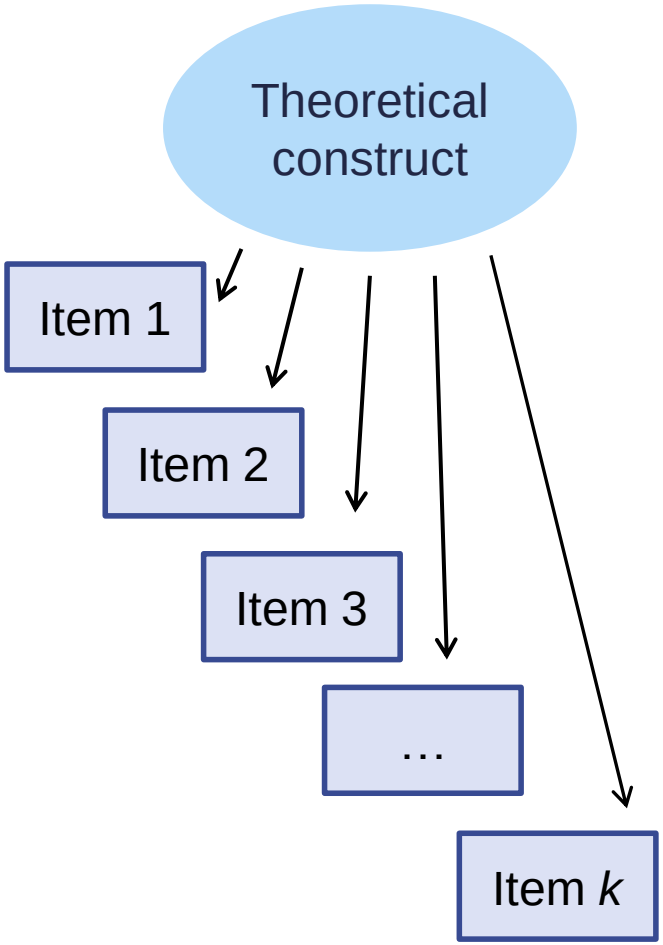

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National context:
- different economic and cultural background
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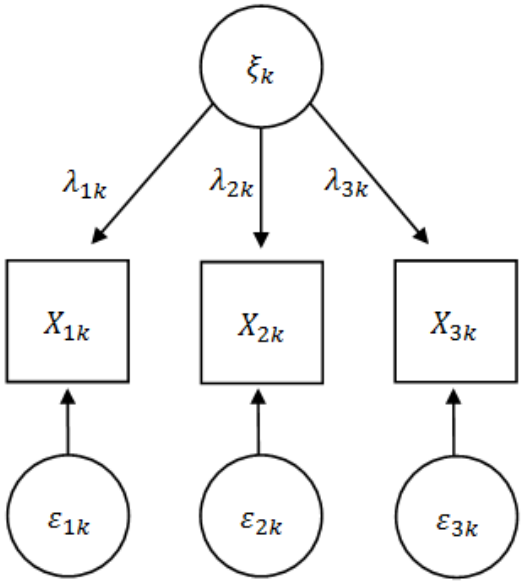
Survey tools and techniques:
- accurately translated questions
- comparable probability sampling designs
- the same mode of interviewing, etc.

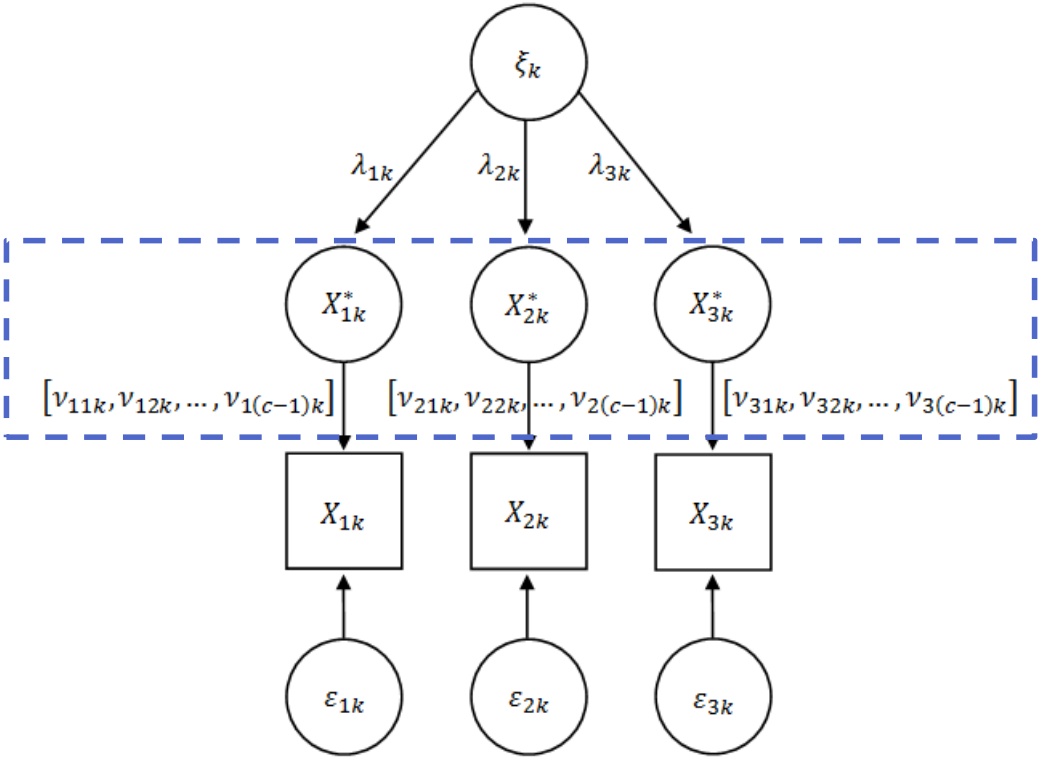
CONTINUOUS VS. ORDERED VARIABLES

LATENT VARIABLE IN CFA MODEL

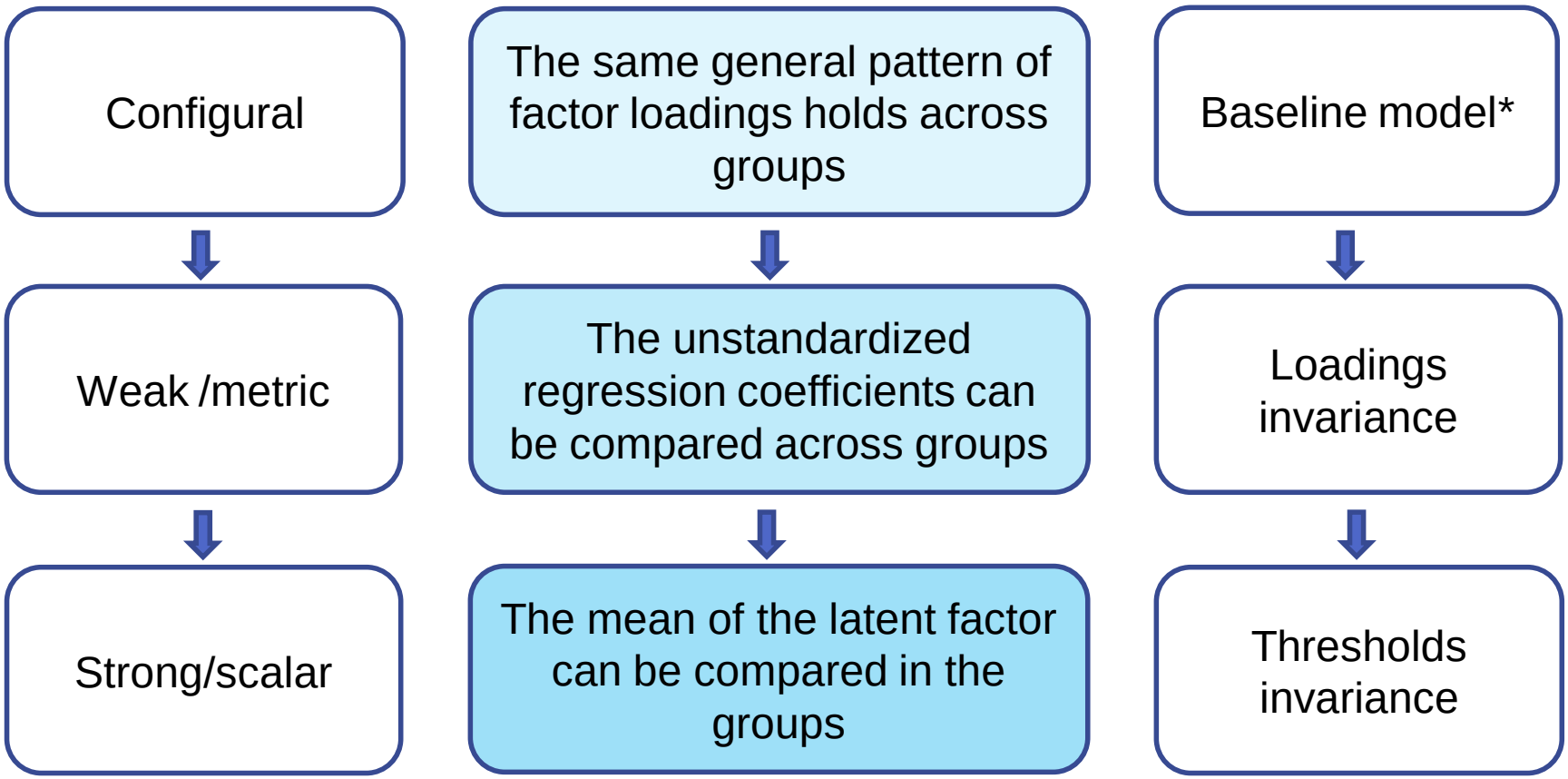
Continuous indicators



Ordinal indicators



TESTING MEASUREMENT INVARIANCE



*Millsap, R. E., & Yun-Tein, J. (2004). Assessing factorial invariance in ordered-categorical measures. Multivariate Behavioral Research, 39(3), 479-515.

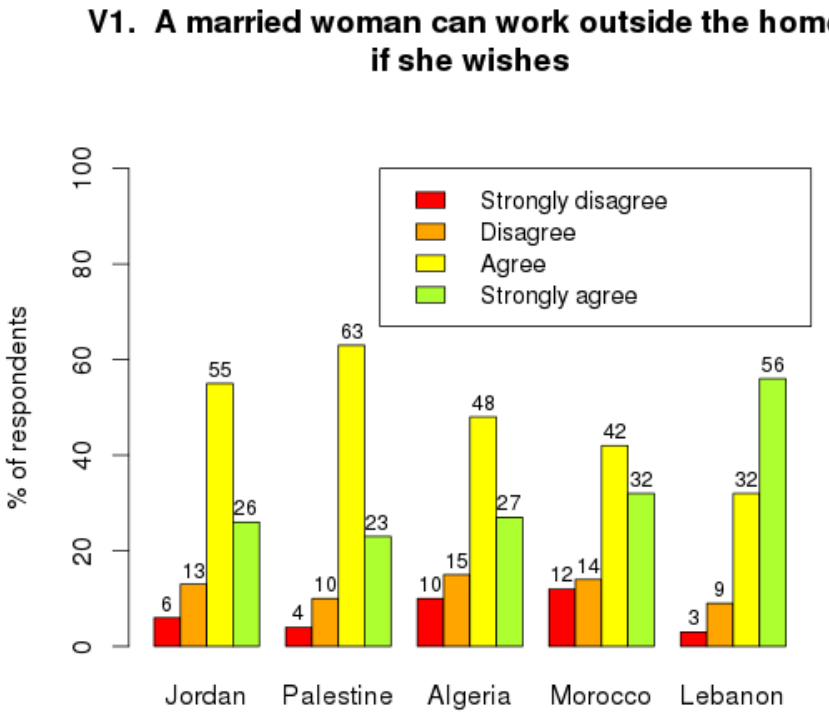
DATA

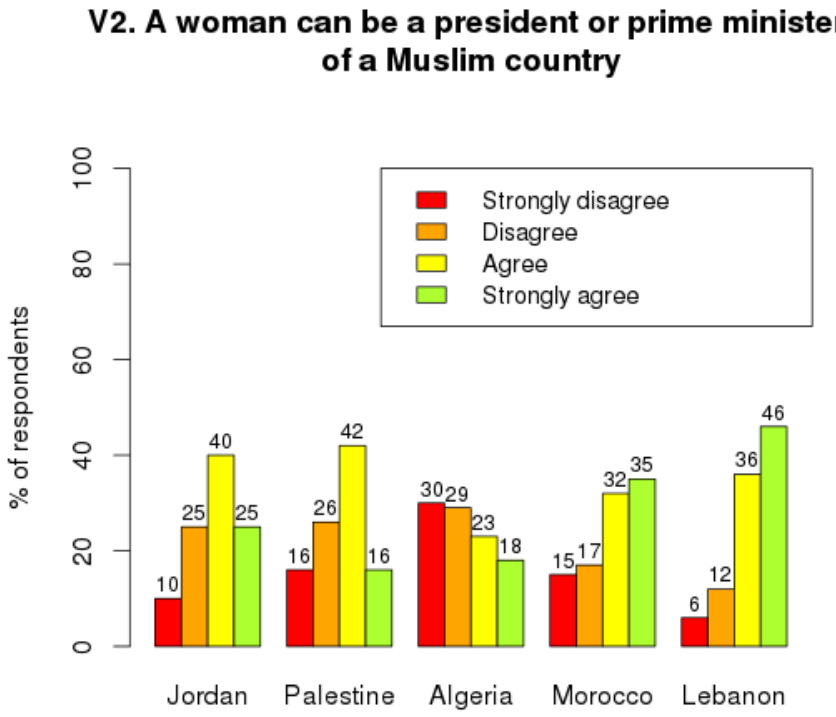
Arab Barometer, the 1st wave (2006-2008). The sample includes 5 countries (Lebanon, Algeria, Morocco, Palestine, and Jordan) with N > 1100.

The further four statements are employed as indicators for latent factor “gender egalitarianism”:

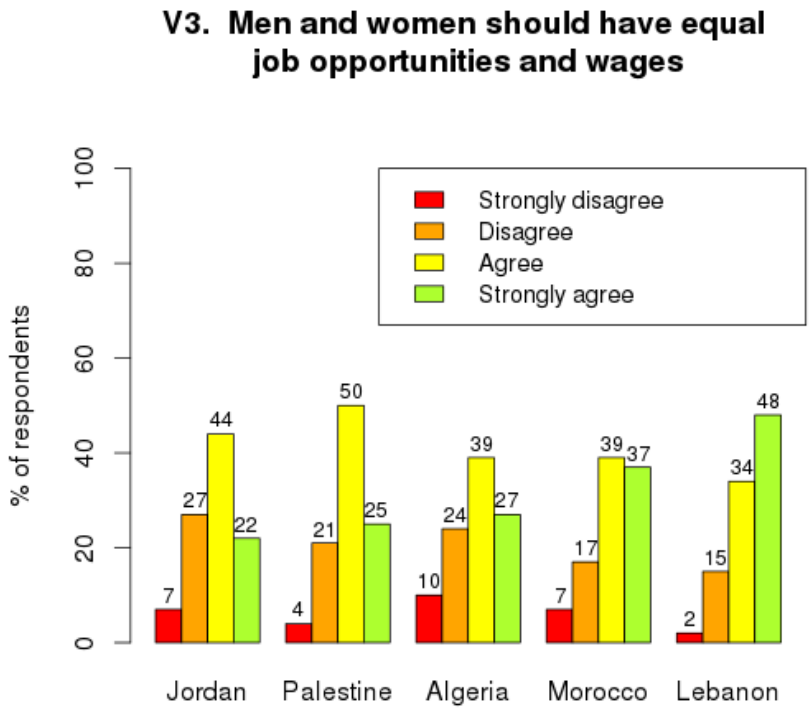
- A married woman can work outside the home if she wishes. (V1)
- A woman can be a president or prime minister of a Muslim country. (V2)
- Men and women should have equal job opportunities and wages. (V3)
- A woman can travel abroad by herself if she wishes. (V4)

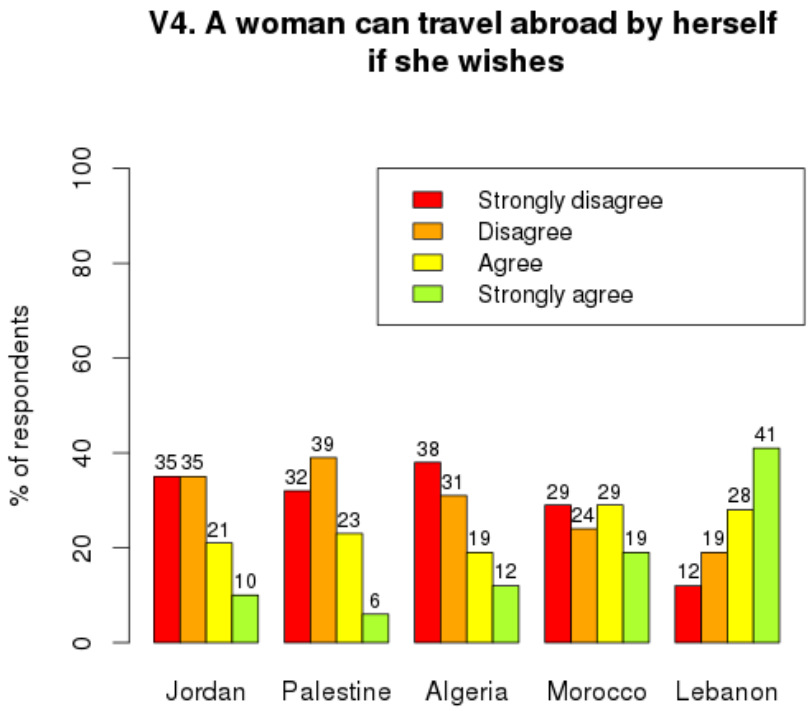
THE INDICATORS FOR THE LATENT FACTOR





THE INDICATORS FOR THE LATENT FACTOR (2)





ANALYSIS

model 1a (5 countries) vs. model 1b (4 countries)

	χ^2	DF	p-value	CFI	RMSEA	SRMR
Model 1a	47.583	10	0.000	0.998	0.057	0.020
Model 1b	31.239	8	0.000	0.999	0.050	0.017

model 1b (Lebanon, Algeria, Morocco, Jordan)

	χ^2	DF	p-value	CFI	RMSEA	SRMR
Configural	31.239	8	0.000	0.999	0.050	0.017
Weak	89.311	17	0.000	0.996	0.061	0.024
Strong	463.247	38	0.000	0.974	0.099	0.034
Partial srong	322.604	29	0.000	0.982	0.094	0.028

ANALYSIS

model 2 (Lebanon & Morocco)

	χ^2	DF	p-value	CFI	RMSEA	SRMR
Configural	2.767	4	0.597	1	0.000	0.008
Weak	22.258	7	0.002	0.998	0.043	0.012
Strong	101.236	14	0.000	0.991	0.073	0.020

CONCLUSIONS

- Only for two countries – Lebanon and Morocco – strong measurement invariance is hold. So we can compare both the means of the latent factor “gender egalitarianism” and regression coefficients
- Measurement invariance holds for two Arab countries, and these countries are the closest countries to Europe in the whole region (in terms of values)
- Arab countries are not a monolithic region. The sample including at least 3 countries (!) is too heterogeneous to achieve measurement invariance
- The available questions about woman’s role do not reflect the latent factor “gender egalitarianism” in Algeria, Jordan, and Palestine (poor model fit). Perhaps, these questions are too “Western” and capture western perceptions about meaningful indicators of gender inequality

FURTHER STEPS

1. As shown in tables with modeling results, CFI and SRMR values always have good values, even in case of strong invariance in a model for 5 countries, and only RMSEA violates cutoffs. Thus, we should explore the problem of cutoffs choice and compatibilities of different fit indices in more details.
2. Using gender, age, education level, and religiosity as exogenous variables we are going to run several MIMIC models in order to find out the possible sources of non-invariance.
3. To provide the theoretical interpretation to the obtained results.

Thank you for your attention!