

Addressing equivalence and bias in cross-cultural survey research within a Mixed Methods Research Framework

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July, 2016

- ▶ Research problem
 - *How to improve cross-cultural research (survey and testing), following professional standards and learning from pre-testing and research on validity.*
- ▶ “Equivalence” and “bias” should be addressed as validity issues: the first, as an unattainable goal ("heuristic", Johnson & Braun, 2016), the second, as "threats" to comparability.
- ▶ Mixed Methods Research is the methodological framework for integrating quantitative results and qualitative findings when assessing comparability.

Outline contents

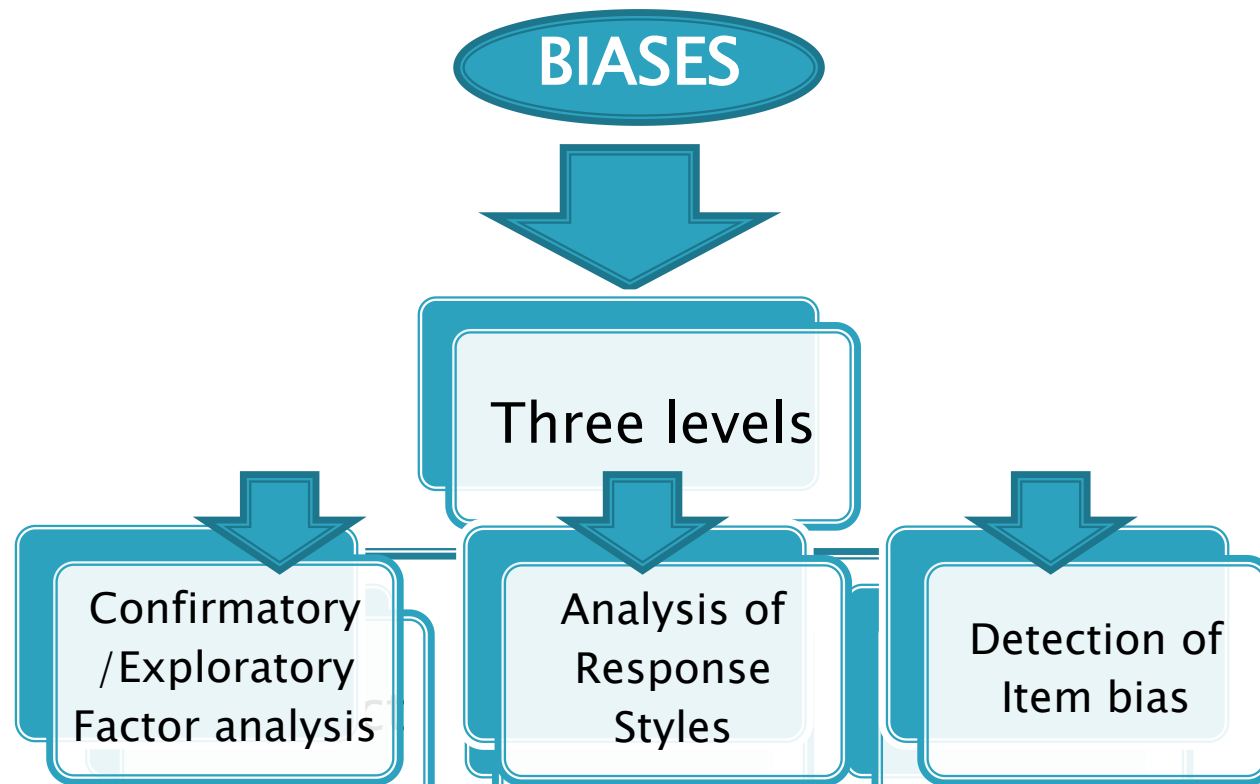
1. How comparability of cross-cultural surveys can be improved?
2. What is the key of a Mixed Methods Research?
3. How to integrate "quanti" and "quali" results when testing equivalence or detecting biases?
4. Example: Detecting response styles in Quality of Life (QoL) scales and survey questions.

How to improve comparability in 3MC studies?

- ▶ To improve validity of CCR comparisons is a “old” concern from both an epistemological and methodological perspectives:
 - *Sechrest (1976) compared cross-cultural psychology with experimental psychology warning about all threat to internal validity of an experiment can be present in a CC study.*
 - *Hambleton (2012) cited Poortinga (?) found 80% of CCR prior to 1995 was seriously flawed because of translation errors and poor adaptation procedures.*
 - *Sireci & Rios (2014) found most of 63 papers published since 1950 (keywords: “assessment” and “cross-cultural comparisons”), relied on exploratory methodology limiting the analysis to structural equivalence, and none of them attained full scalar invariance.*
 - *Is there a methodological framework that can contribute to improving validity of CCR comparisons?*

How to improve comparability in 3MC studies?

“Equivalence” and “Bias” concepts has become a “mandatory” reference to guide CCR and identify requirements to reach comparability (e. g., Van de Vijver & Tanzer, 2004).



We need a methodological framework that allows integrating “qualitative “ and “quantitative” procedures avoiding routine applications of methods to detect only one kind of bias and without paying attention to the potential combined effects.

Short introduction to Mixed Method Research

- ❑ The history of MM research can be traced to the 20 century debate about quantitative vs. qualitative methods in social sciences (Creswell and Plano Clark, 2011).
- ❑ In the last two decades, the development of MM research has been "shaped" by a very active group of researchers committed themselves to the "third paradigm", by means of books, papers, conferences and what is considered the official organ of movement: *Journal of Mixed Methods Research* (JMMR).

Short introduction to Mixed Research

- ❑ A widely accepted definition of MM Research:
 - "As a methodology, it involves philosophical assumptions that **guide the direction of the collection and analysis and the mixture of qualitative and quantitative approaches in many phases of the research process**. As a method, it focus on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its **central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems that either approach alone**. (Cresweel & Plano Clark, 2007. p. 5)".
- ❑ The key of a MM Research is the integration challenge: "1 + 1 = 3". The equation intends to convey the idea that a mixed method study is more than just put together a qualitative and a quantitative part.

Short introduction to Mixed Research

- ❑ *Integration* refers to the requirement of fully combining qualitative and quantitative methods toward a cohesive understanding of a phenomenon... like “item performance” in different cultural or linguistics versions or “**country group differences in item performance**”.
- ❑ There are different mixed–method designs potentially useful for detecting biases and conducting equivalence “ex ante” and “post facto” (Benítez & Padilla, 2014).

How to integrate quanti and quali evidence...?

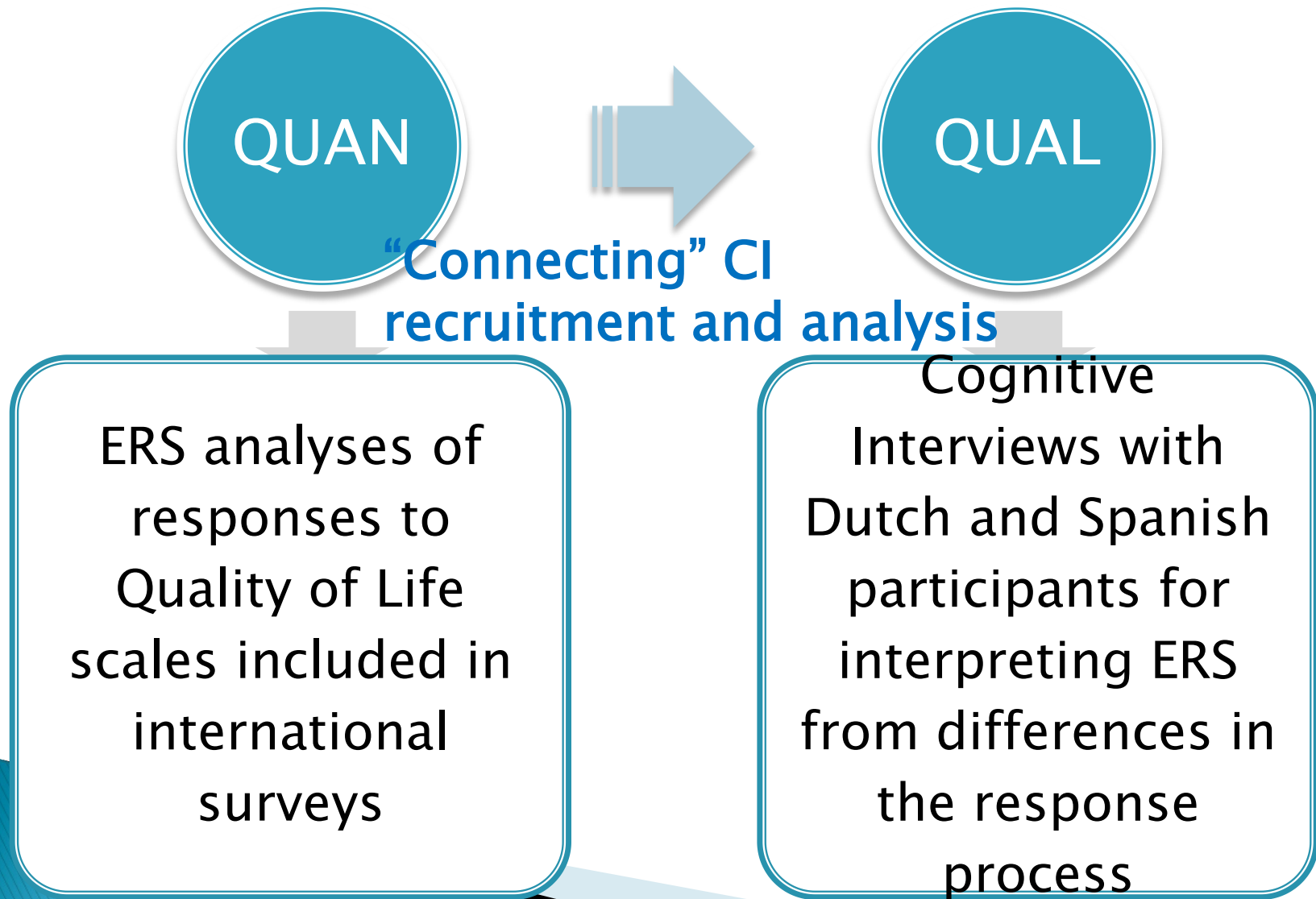
The most promising approaches to reaching integration in item bias 3MC studies:

Integration level	Approaches	Definition
Design	Exploratory sequential ("ex ante")	Quali data first collected and analyzed, then findings inform quanti data collection
	Explanatory sequential ("post facto")	Quanti data first collected / analyzed, then results inform quali data collection
Methods	Connecting	One kind of data links with the other through sampling frames
	Building	Results from one data collection procedure inform the data collection approach to the other
Interpretation and reporting	Narrative	Description of quanti and quali results in a single report

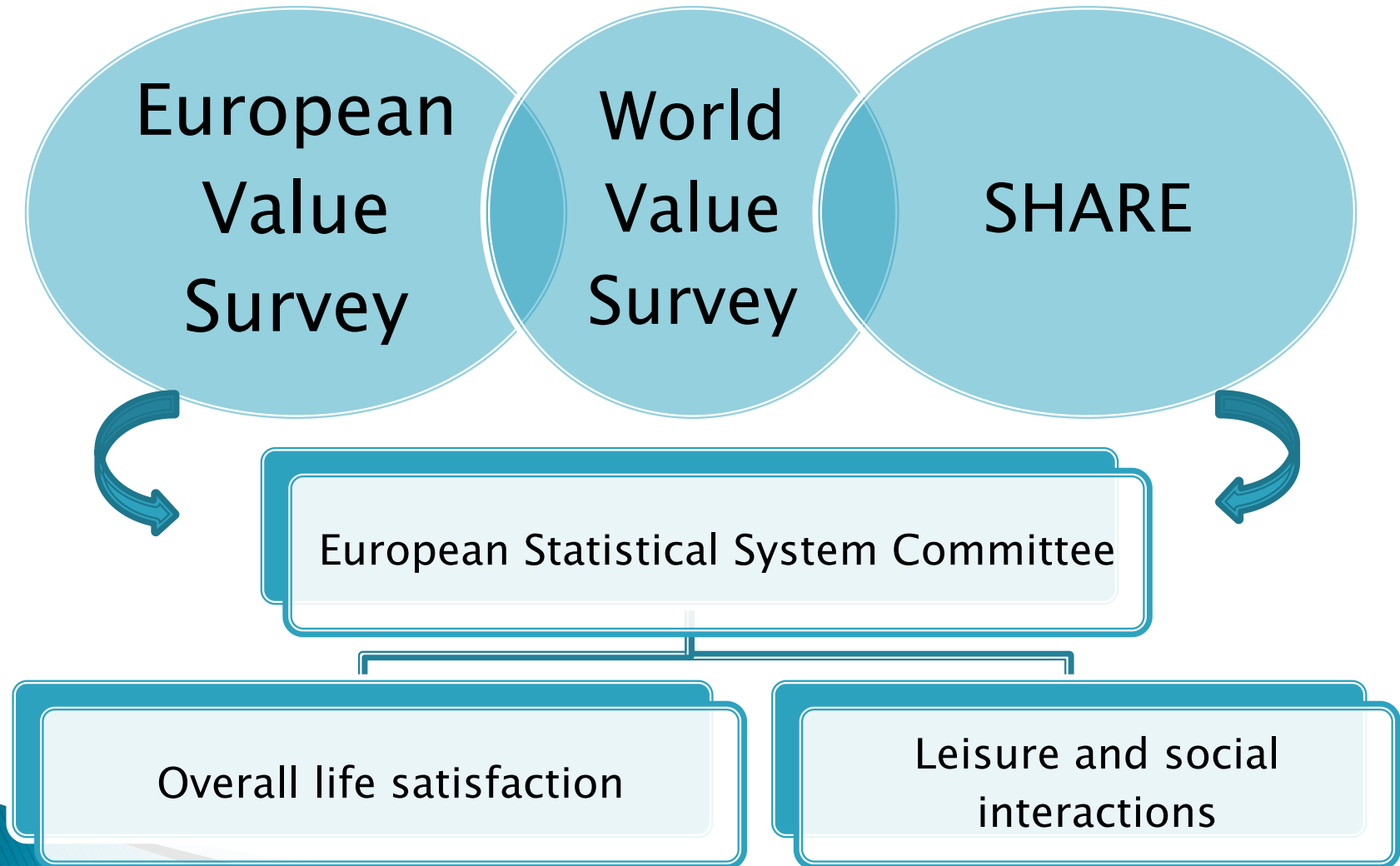
Empirical study: An integrated approach to bias...

The aim of the research project is to **illustrate an integrated approach to bias** by combining quantitative and qualitative evidence from Extrem Response Style (ERS) comparing Spanish and Dutch respondents

General Design: An explanatory sequential design



General Design



Rationale behind the research on extrem response style

- Extrem response style showed systematic differences across cultures (He & van de Vijver, 2013). Extrimity is higher in more collectivistic cultures and lower in individualistic cultures.
- Evidence of “extrem respondents” are less sensitive to item wording, made decisions emotionally and use personal arguments (Morren, Gelissen and Vermunt (2012). We expected Spanish respondents (collectivistic culture) had higher scores on extremity than the Dutch respondents (a more individualistic country).
- The aim of this study was to link statistical indicators of extrem response style to qualitative evidence of interpretation patterns and response processes that can lead to extremity,

Data bases for the quantitative phase

Demographics

Dataset	Country	Sample size	Mean age	Percentage of Male
WVS	The Netherlands	1050	44.56	49
	Spain	1200	46.21	50
EVS	The Netherlands	1554	54.8	45
	Spain	1500	47.85	44
SHARE WAVE1	The Netherlands	2979	67.67	46
	Spain	2396	66.23	42
SHARE WAVE 4	The Netherlands	1389	67.89	44
	Spain	1138	70.95	42

Quantitative phase: Instruments

European Social Value

Please say, for each of the following, how important it is in your life:

	Very important	Quite important	Not important	Not at all important	NS	NC
Work	1	2	3	4	8	9
Family	1	2	3	4	8	9
Friends and acquaintances	1	2	3	4	8	9
Leisure time	1	2	3	4	8	9
Politics	1	2	3	4	8	9
Religion	1	2	3	4	8	9

Results of quantitative phase

Scales	F	Partial η^2	Estimated Mean with Demographics Controlled for	
			The Netherlands	Spain
WVS (four-points, very important-not at all important)	3.183	.002	.519	.537
EVS (four-points, very important-not at all important)	.769	.000	.528	.535
Share_A (four-point, often-never)	115.594**	.033	.553	.462
Share_B (five-point, strongly agree-strongly disagree)	53.858**	.017	.148	.207
Share_C (four-point, almost all of the time-almost none of the time)	6.872**	.002	.489	.510
Share_D (four-point, often-never)	269.293**	.101	.630	.474

- As extremity index we calculated: the proportion of choosing the end points in the response scales (e. g., 1 and 4 in the 4-point scale).
- Spanish groups had a significantly higher score in extremity for SHARE “attitudinal scales” and the same pattern for EVS and WVS scales.

Qualitative phase: CI method

Participants

- 50 respondents (age: 18-75); 25 from Spain (11F & 14M) and 25 from The Netherlands (10F & 15M)
- Demographic characteristics (education levels, age, sex) were balanced across groups.
- Recruitment considered “theoretical relevance” and “saturation” criteria.

Materials

- A booklet was developed for demographics and QoL scales.
- The booklet contained instructions to follow the original administration modes of the QoL scales.
- General and specific follow-up probes were included in the interviewing protocol developed in Spanish and adapted to Dutch.

Qualitative phase: CI method (& 2)

Procedure

- Interviews were conducted by Spanish and Dutch experienced interviewers after two days training sessions.
- Retrospective design: participants first responded to the QoL scales and then took part in the CI.
- Interviews were recorded and transcribed to facilitate analysis.

Analyses

- Multi-stage approach, data reduction (Miller, 2014).
- Themes and subthemes were first developed and then compared between countries.

Qualitative phase findings: General approach

- Spanish made more connections across items and Dutch rated different domains more independently.
- Responses to different items from Spanish were not independent. However, Dutch interviewees interpreted each item in the scales as individual elements.



“Work and family are my priorities. Work is important nowadays, but family is most important for me. So I have ordered them like this. After that, friends are important”. (SP02, EVS)



“Work is very important and family is also very important. Friends and acquaintances... I do not have many friends. But the friends I do have, they are very important to me. I do not have a lot of leisure time. But I do not care. I do not bother about politics. The same for religion”. (NL11, EVS)

Qualitative phase findings: Personal arguments and emotions

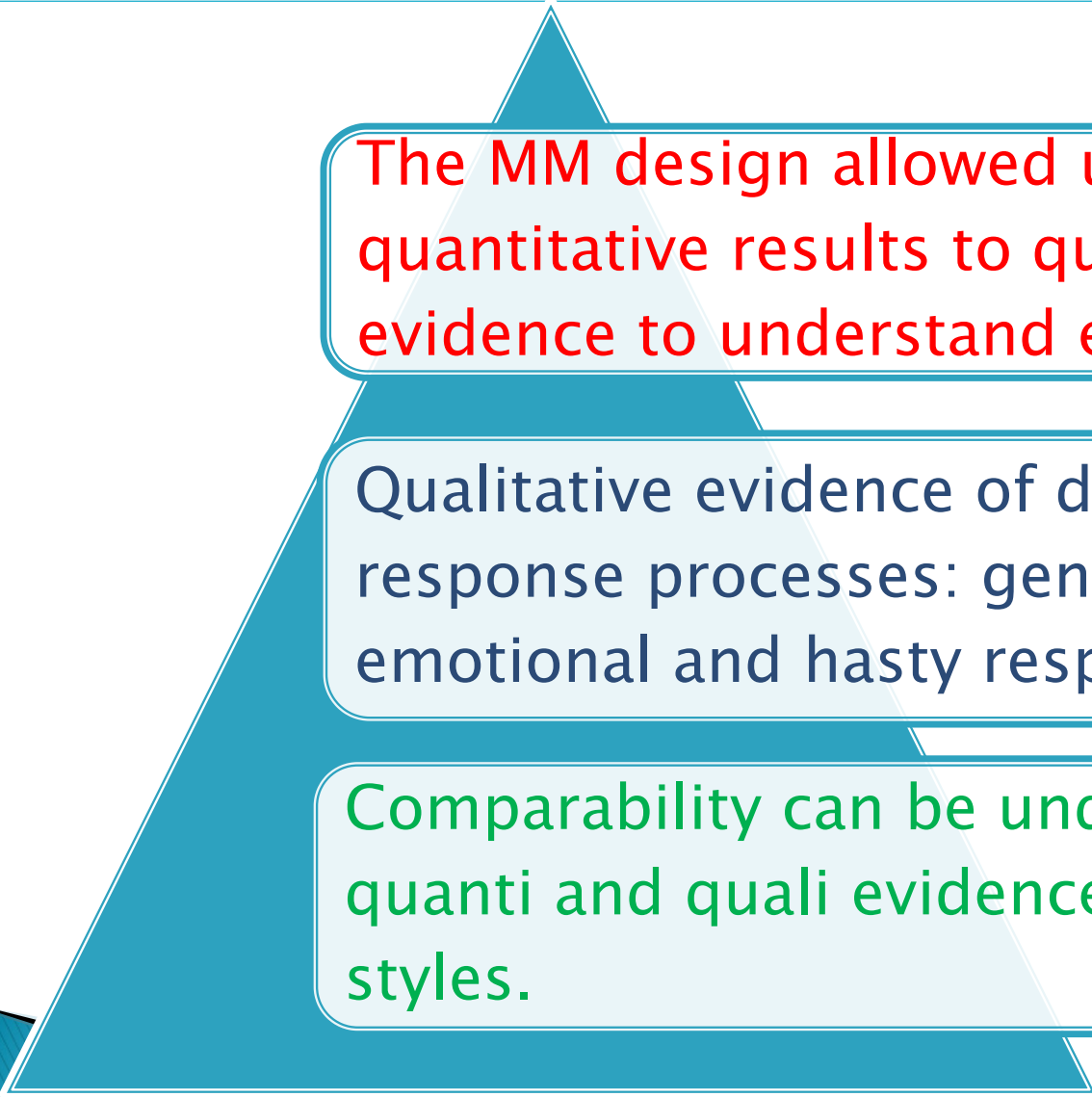
- More evidence of such hasty and emotional judgments in Spanish than Dutch and less personal arguments from the Dutch.



“When I make a balance I have to think about many things, I have lived... on myself, my family... and recently I only live negative events... some illness in my family...I prefer not to think about that”. (SP10, Share_B)



“My home, we just moved. My work, with a permanent contract. That is what I understand about my future is good”. (NL02, Share_A)



The MM design allowed us to link quantitative results to qualitative evidence to understand extremity.

Qualitative evidence of differences in response processes: general approach, emotional and hasty responses.

Comparability can be undermined by quanti and quali evidence of response styles.

Thank you for your attention!

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April, 2015

Interpretations on behaviors related to higher ERS during CI

Spanish	Example
1. Interpret items by extracting a general meaning while paying less attention to specific wording	<i>"My family is the most important thing, and later the job but family is the first. If you don't have a family it does not matter if you have money or friends, for me you don't have anything if you don't have a family". (SP01, EVS)</i>
2. Use more immediate judgments and emotional responses	<i>"I have not understood these questions very well... but now I am thinking that my family responsibilities imply that I cannot do what I want, because I have to be at home, but I am not sure what I did answer in that question". (SP18, SHARE_w1_A)</i>
3. Express personal arguments for justifying their responses, even for questions not about personal aspect	<i>"When I make a balance I have to think about many things, I have lived... on myself, my family... and recently I only experience negative events... some illness in my family...I prefer not to think about that" (SP10, SHARE_w1_B)</i>

Interpretations on behaviors related to lower ERS during CI

Dutch	Example
1. more sensitive to item wording and more precise	<i>"I have thought of two friends. I have many acquaintances. But I do not have many friends. Friends are the ones who you can walk in their house. And when you see them, you have the feeling you never left. You can be who you are."</i> (NL11, EVS)
2. Follow an analytical strategy	<i>"I was thinking about my own situation. For every aspect, I was thinking to what extent this applied to me and how important I thought it was for me. Family for example, I do not have. I do not live with my parents anymore. I do not have a family yet. I live with my girlfriend. I was thinking about my current situation and my future. (NL09, WVS)</i>
3. make less use of personal arguments	<i>"My home, we just moved. My work, with a permanent contract. That is what I</i>