



**SELF-CARE DIFFERENCES BETWEEN ITALIANS AND
AMERICANS WITH CHRONIC ILLNESSES:
A STUDY OF THE INVARIANCE OF MEASUREMENT**

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Self care in Chronic illnesses

Chronic illnesses are highly prevalent across both developed and developing countries, accounting for about 60% of all deaths

Managing such illnesses requires mastery of complex regimens that must be followed over a prolonged period

This process of the individual managing a chronic condition with only intermittent interaction with the healthcare system is referred to as self-care

(Mendis et al., 2015; Riegel et al., 2012)

Self care in Chronic illnesses

Self-report instruments are useful in informing healthcare providers about patient health and health behaviors, informing research and guiding clinical practice

Different measures of self-care have been developed and translated into many languages

The benefit of translations is that self-care behaviors of patients can be compared across different countries and cultural groups

(Souza et al., 2017, Terwee et al., 2007)

Self care in Chronic illnesses

People in some cultural groups may be unfamiliar with terms and the conceptual meaning being measured

Cross-cultural differences exist in values, nuances of meanings, attitudes, language, settings and perceptions of patients

These issues call into question our assumption that an instrument that is valid in one cultural group can be translated and used in another

(Chen, 2008; Saint Arnault, 2018)

Self care in Chronic illnesses



If an instrument is valid in a cultural group it does not mean that the results can be compared to those from another cultural group

(Beaton et al., 2000, Reichenheim and Moraes, 2007)

When outcomes from different cultural groups are compared, investigators and clinicians are left wondering if differences reflect true group differences or measurement issues

Measurement Invariance

- Compare how instruments perform across different cultural groups
- Assess the equivalence of a measured construct in two or more groups

If measures are comparable across groups
meaningful comparisons can be made

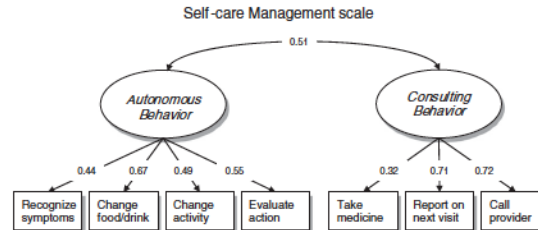
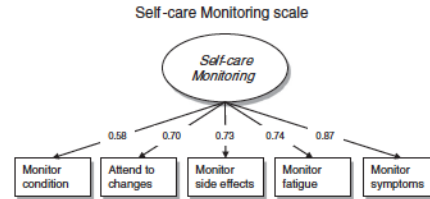
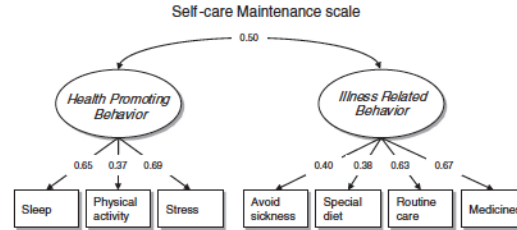
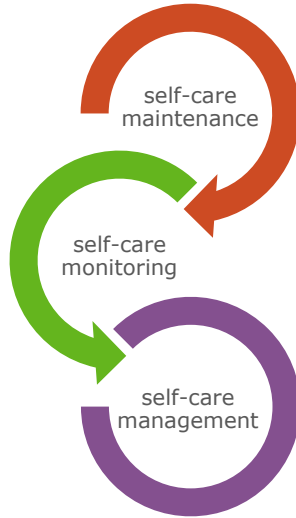
(Epstein et al., 2015, Gjersing et al., 2010, Squires et al., 2013)

AIM

Investigate the measurement equivalence of the Self-Care of Chronic Illness Inventory (SC-CII) in individuals from three different cultural groups

Determine if Italians, Swedes, and Americans interpret the measure in a conceptually similar way

Self-Care of Chronic Illness Inventory



Based on the Middle Range Theory of Self-Care of Chronic Illness

(Riegel et al., 2012)

Generic measure of self care designed for use in individuals with any number and type of chronic conditions

(Riegel et al., 2018)

The 20-items of the SC-CII are divided among three separate scales

Likert 5-points

METHODS

Measurement equivalence is used to determine whether the interpretation of a measured construct is conceptually similar in different cultures

We used the framework developed by Meredith to test ME because it is grounded in Multiple Group Confirmatory Factor Analysis (MG-CFA)

Meredith's framework specifies four different levels of ME: configural, metric, scalar and strict

(Meredith 1993; Bollen, 1989; Byrne et al., 1989)

METHODS

Used data (N=1629) from five multicenter studies conducted in Italy (n=784), Sweden (n=438) and the United States (n=407)

SAMPLE

Adults with at least two chronic conditions

INCLUSION CRITERIA

Inpatient and outpatient

SETTING

RESULTS

Table 1. Sociodemographic and clinical characteristics of Italian, Swedish and the US samples.

Variables/Countries	Italy (n=784)	Sweden (n=438)	US (n=407)
	M ±SD (n)	M ±SD (n)	M ±SD (n)
Age (years)	71.31 ±11.43 (784)	75.00 ±9.3 (438)	62.94 ±14.99 (406)
Years since diagnosis of primary chronic condition	10.75 ±8.36 (626)	NA	10.33±9.74 (169)
Number of comorbid conditions	3.85 ±1.33 (522)	2.36 ±0.72 (438)	2.71±1.33 (406)
Gender:	% (n)	% (n)	% (n)
I. Female	49.11 (385)	36.50 (160)	45.54 (184)
II. Male	50.89 (399)	63.50 (278)	54.46 (220)
Education:			
I. Less than high school	74.94 (586)	53.70 (235)	10.84 (44)
II. High School or secondary education	19.95 (156)	32.2 (141)	27.59 (112)
III. Some College/University degree	5.12 (40)	14.2 (62)	61.58 (250)
Marital Status:			
I. Single/never married	6.69 (35)	34.25 (150)*	15.06 (53)
II. Married	60.23 (315)	65.75 (288)*	67.90 (239)
III. Divorced/Widowed	33.08 (173)	-	17.05 (60)
Occupation:			
I. Employed	23.28 (122)	16.00 (70)	37.11 (131)
II. Retired/unemployed	76.72 (402)	84.00 (368)	62.89 (222)

SD= standard deviation; NA= no data available

*For the Swedish population the two options were single or married/living with a partner.

RESULTS

Three out of four measurement equivalence levels were supported in all three SC-CII scales

The **partial scalar invariance** level was reached for self-care maintenance, self-care monitoring, and self-care management scales

RESULTS

Chronic patients in Italy, Sweden and the U.S. when responding to SC-CII items

Use the same cognitive framework

Configural equivalence

Use the 1–5 Likert response scale in a very similar or almost identical way

Metric equivalence

Respond with limited bias

Partial scalar equivalence

CONCLUSIONS

The concept of self-care could be universal with behaviors focused on maintaining stability of the chronic illness, monitoring signs and symptoms and doing something when the illness worsens

In spite of sociocultural differences among Italy, Sweden, and the U.S., patients in these three countries share the same fundamental view of self-care, as assessed by the SC-CII

FUTURE DIRECTIONS

Is the self-care construct also valid for other populations?

Why are some self-care behaviors not invariant in the three populations?



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