NURSES' PROFESSIONAL SELF-IMAGE: THE DEVELOPMENT OF A SCORE

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Professional Self-Concept

'the way in which nurses perceive themselves within their working environment''

Cowin, L. (2001). Measuring Nurses' Self-Concept. *Western Journal of Nursing Research* 23(3), 313–325

Assessment tools for professional self-concept

- Porter and Porter (1991): The Porter Nursing Image – 3 factors: interpersonal power, interpersonal relations, interpersonal ability

- Arthur (1995): The Professional Self Concept of Nurses Instrument – 3 dimensions : professional practice, satisfaction and communication

- Cowin (2001): Nursing Self Concept Questionnaire – 6 dimensions: General self concept, Caring, Staff relations, Communication, Knowledge, Leadership

- Siebens et al (2006): BELIMAGE - 4 dimensions: competence, care, team functioning, work environment

Siebens, K. et al. (2006). The professional self-image of nurses in Belgian hospital: A cross-sectional questionnaire survey. *International Journal of Nursing Studies 43*,71–82

Our Study

- Instrument:
  - Translation of the BELIMAGE instrument
  - Adaptation to the Lebanese context

- Sample:
  - Stratified random sample of 1000 nurses registered in the Lebanese Order of Nurses

- Ethical considerations:
  - Approval by ethical committee of St. Joseph University
  - Informed consent from participating hospitals and respondents

- Pilot Testing

Development of a multi-item scale
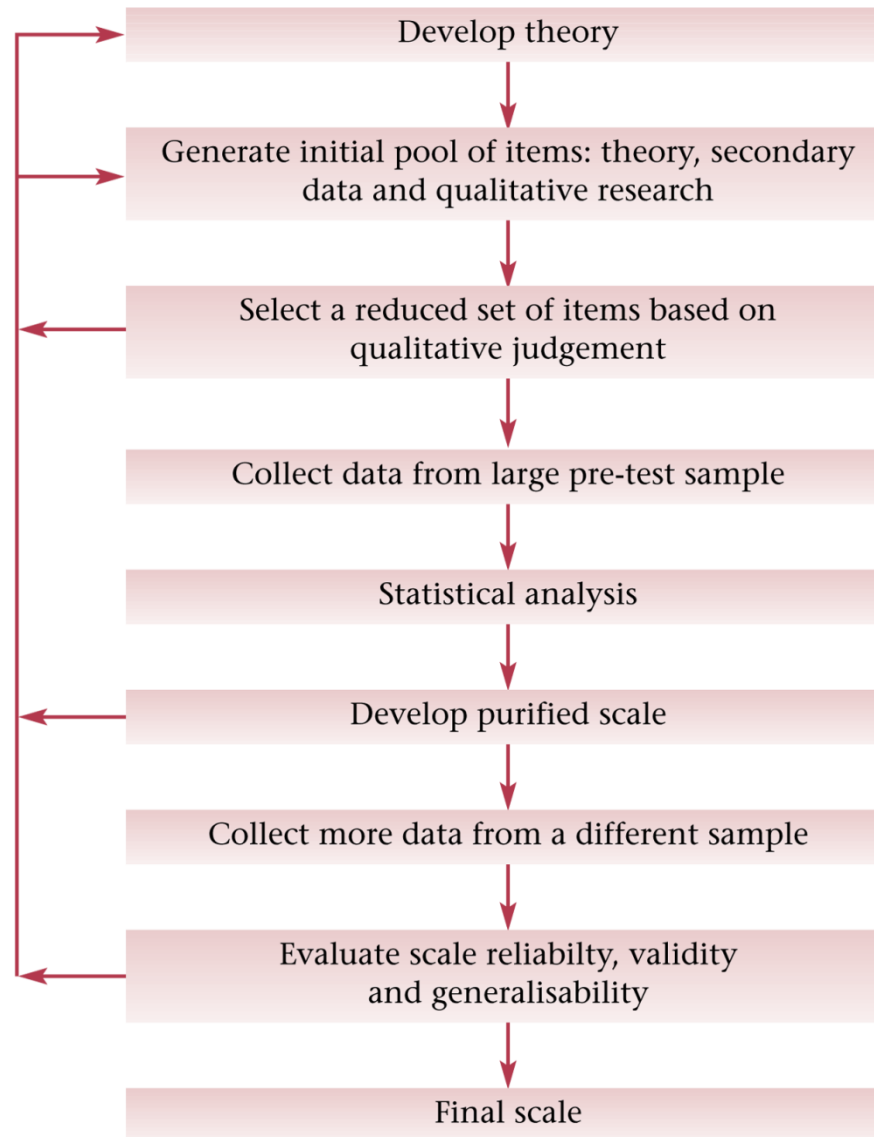
Methods

- Wording and Scoring of Items:
  - changing categorical variables into scales

- Exploratory Factor Analysis

- Reliability:
  - Inter-item correlations
  - Internal consistency (Cronbach's alpha)
  - Item-to-total correlations

- Validity:
  - Construct
  - Content
  - Criterion

RESULTS

Exploratory Factor Analysis

- Justification:
  - KMO = 0.772; Bartlett's Test of Sphericity significant with p = 0.000

- Iterative process:
  - Items within subscales as presented by Belimage
  - Items within dimensions as presented by Belimage
  - Items for the total instrument using 4, 5, 9 and 11 factors

Scree Plot
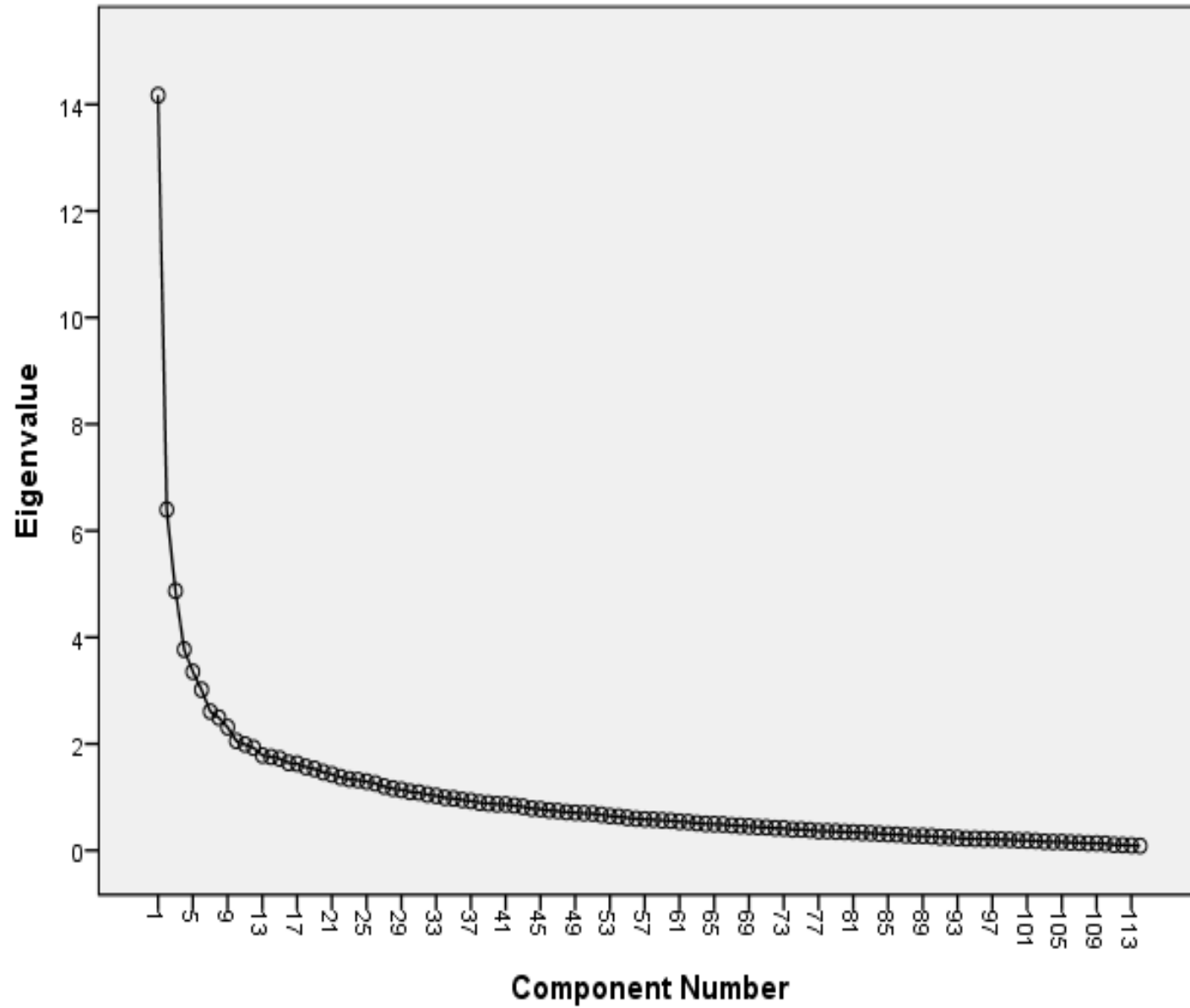
Exploratory Factor Analysis

- Final Model:
  - 4 factors were extracted based on:

    - Visual interpretation of the scree plot (eigen values 42 factors with low loadings)
    - Similarity in dimensions to the original proposition by Belimage
    - Coherence of the constructs with respect to item grouping

  - Items retained had loadings of 0.4 on 1 factor; items that loaded on several factors were excluded
  - Variance explained 25% (11 factors 41%)

Comparison of Instrument before and after Factor Analysis

Dimensions of the original instrument	Number of items	Dimensions of this instrument	Number of items
Competence	55	Competence	22
Care	55	Nursing Practice	19
Team Functioning	12	Work Environment	20
Work Environment	58	Work Benefits	9
TOTAL	180	TOTAL	70

Summary of Professional Self-Concept Dimensions

Dimension	Description
Competence	Knowledge, attitude, organization, administrative skills, professionalism, collaboration and communication
Nursing Practice	Practical tasks and skills in daily work
Work Environment	Interpersonal exchanges and relationships with both staff and administration, leadership, value, belonging, support
Work Benefits	Salary compensations, reduction in working hours, continuous education, child care, parking, …

Reliability

Dimension	Mean ± SD	Average Inter-Item Correlation	Cronbach's Alpha	Item-Total Correlations
Competence	98.0±9.8	0.35	0.92	0.43-0.66
Nursing Practice	60.3±7.9	0.33	0.90	0.41-0.63
Work Environment	43.1±9.2	0.29	0.88	0.38-0.59
Work Benefits	26.6±1.9	0.20	0.65	0.24-0.46

Content Validity

- Literature review

- Qualitative development

- Expert opinions

- Panel discussions

- Translation methods

- Pre-test results

- Coherence of items within a dimension

Construct Validity

- Factor Analysis

- Multitrait Scaling
  - Convergent validity was supported since 91% of the correlation coefficients between an item and its own scale were > 0.4 (except for 6 items, 4 of which were in the last scale)

  - Discriminant validity was supported since all items correlated more with their own scale than with other scales

Correlation Matrix Dimensions and Total Score

	competence	work environment	nursing practice	working conditions	score
competence	1				
work environment	.289**	1			
nursing practice	.425**	.277**	1		
work benefits	.024	.015	.067	1	
score	.752**	.714**	.743**	.153**	1

** Correlation is significant at the 0.01 level (2-tailed).

Criterion Validity: Predictive

Predicting Future Intentions (adjusting for socio-demographic characteristics)

Professional self-concept	Long term OR (95% CI)	Short term OR (95% CI)
Competence	0.98 (0.95-1.00)	1.00 (0.97-1.03)
Work Environment	**1.06 (1.03-1.09)***	**1.05 (1.03-1.08)***
Nursing Practice	1.00 (0.96-1.04)	1.00 (0.97-1.04)
Work Benefits	1.04 (0.91-1.16)	1.02 (0.92-1.14)

* $P < 0.05$

Validation Study

- n=150 nurses from the same hospital in North Lebanon

- scale vs. ordinal question on self-perception (significant results for the first 3 dimensions

- high reliability on all four factors using the same items as proposed scale (0.89-0.93)

- item loadings in EFA slightly different than scale – some conceptual inconsistencies

Criterion Validity: Validation Study

Professional self- concept		N	Mean	Std. Deviation	p-value Kruskal Wallis
Competence	negative	8	89.6250	7.94512	
	mostly negative	10	97.6000	6.14998	
	mostly positive	57	95.5965	8.81326	
	positive	66	99.2273	8.04181	
	Total	141	97.0993	8.54091	0.008
Nursing Practice	negative	8	29.1250	6.24357	
	mostly negative	10	36.3000	9.75306	
	mostly positive	54	40.1296	7.28153	
	positive	63	45.5238	7.16366	
	Total	135	41.7111	8.52202	0.000
Work Environment	negative	7	53.8571	9.24533	
	mostly negative	8	56.2500	6.96419	
	mostly positive	57	59.4386	6.58737	
	positive	64	64.2344	7.04575	
	Total	136	61.2206	7.57647	0.000
Work Benefits	negative	7	26.2857	1.25357	
	mostly negative	8	26.6250	1.06066	
	mostly positive	38	25.8684	3.05951	
	positive	53	26.1321	2.82188	
	Total	106	26.0849	2.72944	NS
score	negative	6	194.5000	11.65762	
	mostly negative	6	214.3333	16.42762	
	mostly positive	31	221.6129	17.22145	
	positive	43	238.6279	15.93293	
	Total	86	227.7209	20.45290	0.000

Limitations

• Sampling frame not updated

• A few items were misunderstood and had to be eliminated

• Validation study conducted among nurses in 1 hospital

• Low variance explained

• Confirmatory Factor Analysis

Conclusion

- Instrument that measures nurses professional self-concept that takes into account the working environment

- Construct with less variables that can be used for inferential statistics

- Reconsideration of the 4th dimension: work benefits

- Suggestion of another dimension as yet not investigated

- Needs to be tested in different settings

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Thank-you