Free associations and social representations: some reflections on rank-frequency and importance-frequency methods

Lionel Dany · Isabel Urdapilleta · Grégory Lo Monaco

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Introduction

Free association method occupies pride of place and is very much used.

According to Flament and Rouquette (2003, p. 58):

"associative tests aim to reveal traces from the collective memory and to reason on the structure of these latter"

Introduction

As a reminder…

Importance

	High	Low
High		
Low		

Frequency

3

1. Please tell us the first four words that come spontaneously to mind concerning "energy saving"

Answer A: ……………………………………..
Answer B: ……………………………………..
Answer C: ……………………………………..
Answer D: ……………………………………..

2. Now, please order your answers from the most to the least important. "1" represents the most important word of the four, "4" represents the least important word of the four.

1: ……………………………………………
2: ……………………………………………
3: ……………………………………………
4: ……………………………………………

	Average rank of importance	
	High (→1)	Low (→4)
High	Preserving natural resources Preserving the future for the generations to come Preserving the environment	Renewable energies Recycling Using the car less Economizing electricity Limiting pollution
Low	A necessary action Economizing heat Economizing water	Allows saving money Economizing electricity

(Frequency — vertical axis label)

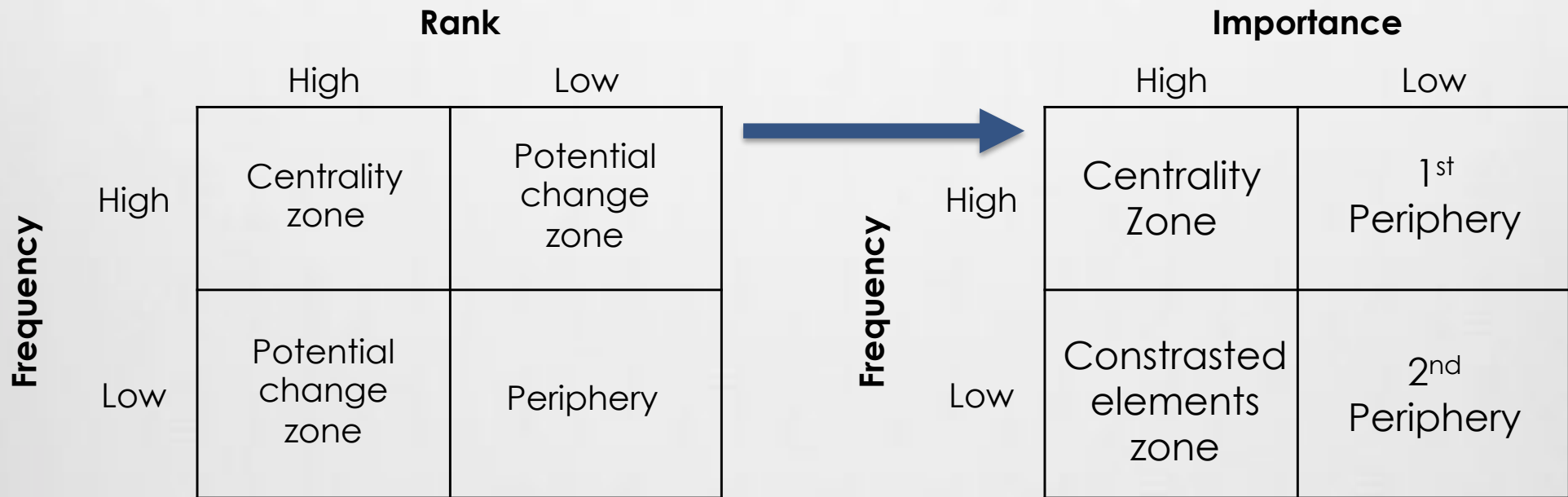|	**Average rank of appearance**	
	High (→A)	Low (→D)
High	Preserving natural resources Preserving the future for the generations to come Preserving the environment	Renewable energies Recycling Using the car less Economizing electricity Limiting pollution
Low	A necessary action Economizing heat Economizing water	Allows saving money Economizing electricity

(Frequency — vertical axis label)

A criticism of rank of appearance

The terms cited first are more important than the others.

"The essential things often appear after a period of warm-up, trust-building or reduction of defence mechanisms" (Abric 2003, p. 53).

A proposition (Abric, 2003):

Substitution of this "appearance ranking" with an "importance ranking" which consists in an *a posteriori* ranking of the elements

Rank

	High	Low
High	Centrality zone	Potential change zone
Low	Potential change zone	Periphery

Frequency

Importance

	High	Low
High	Centrality Zone	1st Periphery
Low	Constrasted elements zone	2nd Periphery

Frequency

Method

Participants were asked to produce the 5 words which came spontaneously to their mind based on the stimulus word
Double analysis (rank-frequency; importance-frequency) of various free association corpora.

The first corpus
- 55 patients from a medical oncology department
  - (58.2% women, mean age = 58.41 years)
- stimulus word: cancer.

The second and third corpora : 2 samples
- 164 doctors
  - (59.3% women, mean age = 46.2 years)
- 95 nurses
  - (91.6% women, mean age = 35.9 years), based on the using the
- stimulus word: palliative care.

The last corpus
- 138 secondary school pupils
- (52.1% young girls, mean age = 14.9 years)
- stimulus word: academic success

Data analyses

First step: Software Evoc

The variations in methods (i.e. rank versus importance) do not therefore constitute a restriction for analysis via this program.

As a second step: statistical analyses

In order to compare the ranking and importance scores of certain terms within the representational fields.
(means comparisons; *t-test*).

Objectives

First: Carrying out a comparative analysis of the two methods

Exploring any changes in the "structuring" of representational fields depending on the data processing mode applied.

Second: investigating these possible changes

A qualitative importance of the free associations determined:
- either by the rapidity of association due to the cognitive availability
- or by a ranking task applied to this spontaneous production.

Results

SR of Cancer

Frequency	Rank	
	High	**Low**
High	Illness (25)	Death (15)
Low	Serious (11)	Chemotherapy (11)
	Tumour (6)	Recovery (10)
	Fear (4)	Suffering (9)
		Hope (5)
		Radiotherapy (5)
		Pain (4)
		Tiredness (4)
		Research (3)
		Treatment (3)
		Life (3)

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		Treatment (3)
		Life (3)

Rank : From the first (5) to the fifth (1)

Importance : From le most important (5) to the least (1)

Objects	Elements	Rank	Importance	t-test
Cancer	Illness	4.76	4.20	2.59
palliative care (doctors)	end of life	3.67	2.52	3.47
	death	3.39	2.36	3.92
	comfort	4.11	3.50	3.35
Palliative care (nurses)	end of life	4.00	2.89	4.49
	death	3.57	3.03	2.28
	providing relief	*3.27*	*4.07*	*-2.26*
academic success	work	4.14	3.80	3.27
	diploma	*3.63*	*2.25*	*-2.90*

Discussion

- Between 60% to almost 90% of participants, depending on the representations concerned, make at least one change in the order of terms spontaneously named.

- 375 participants out of 452 made at least one change during the ranking of elements, amounting to 82.96% in total.

- The appearance ranking cannot be understood as an importance criterion for the terms.

- The observed "shifts" operate in a specific manner.

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