

# DEPRESSION IS A HETEROGENEOUS CONDITION: A CLUSTER-ANALYSIS APPROACH

Aurelie WAGENER<sup>1</sup>, Celine BAEYENS<sup>2</sup>, Martial VAN DER LINDEN<sup>1,3</sup>, & Sylvie BLAIRY<sup>1</sup>

<sup>1</sup> Psychology and Neuroscience of Cognition Research Unit, University of Liege, Belgium

<sup>2</sup> UFR SHS, Univ. Grenoble Alpes, France

<sup>3</sup> University of Geneva, Switzerland



## ABSTRACT

The heterogeneity of depression is more and more evidenced (i.e., symptomatology profiles, treatment responsiveness). This study aims at replicating and extending these previous findings in adults presenting depressive symptoms through a cluster-analysis approach. A six-cluster solution was evidenced: heavy sleepers, cognitive depressives, affective-somatic depressives, mild depressives, sleepless depressives, typical depressives.

## 1/ THEORETICAL BACKGROUND

The heterogeneity of depression is more and more evidenced (Rush, 2007; Wagener et al., 2016)  
 ↳ e.g., symptomatology profiles, treatment responsiveness,...

→ From a clinical perspective, having a clearer overview of the symptom's heterogeneity of depression will help to...

- ↳ Deeper understand its underlying psychological processes
- ↳ Tailor clinical treatments

To determine subtypes of depression, several authors used a cluster-analysis approach:

- ✓ Andreasen et al. (1980) → **3 clusters**
- ✓ Schacht et al. (2014) → **5 clusters** (lack of insight, sleep/sexual/somatic/typical MDD, gastrointestinal/weight loss, mild MDD)
- ✓ Hybels et al. (2012) → **3 clusters**
- ✓ Guidi et al. (2011) → **2 clusters** (depressed somatizers, irritable/anxious depression)

AIMP

Replicating and extending previous findings in adults presenting depressive symptoms

HYPOTHESIS

In line with previous research, different clusters will be highlighted

## 2/ METHODS

### PARTICIPANTS (N = 619)

- ✓ Adults from community and mental healthcare centers

### Inclusion criteria

- Age ≥ 18 years and ≤ 60 years
- At least 5 symptoms on the Beck Depression Inventory – Second Edition irrespective of their severity (i.e., ≥ 1)

### MEASUREMENT

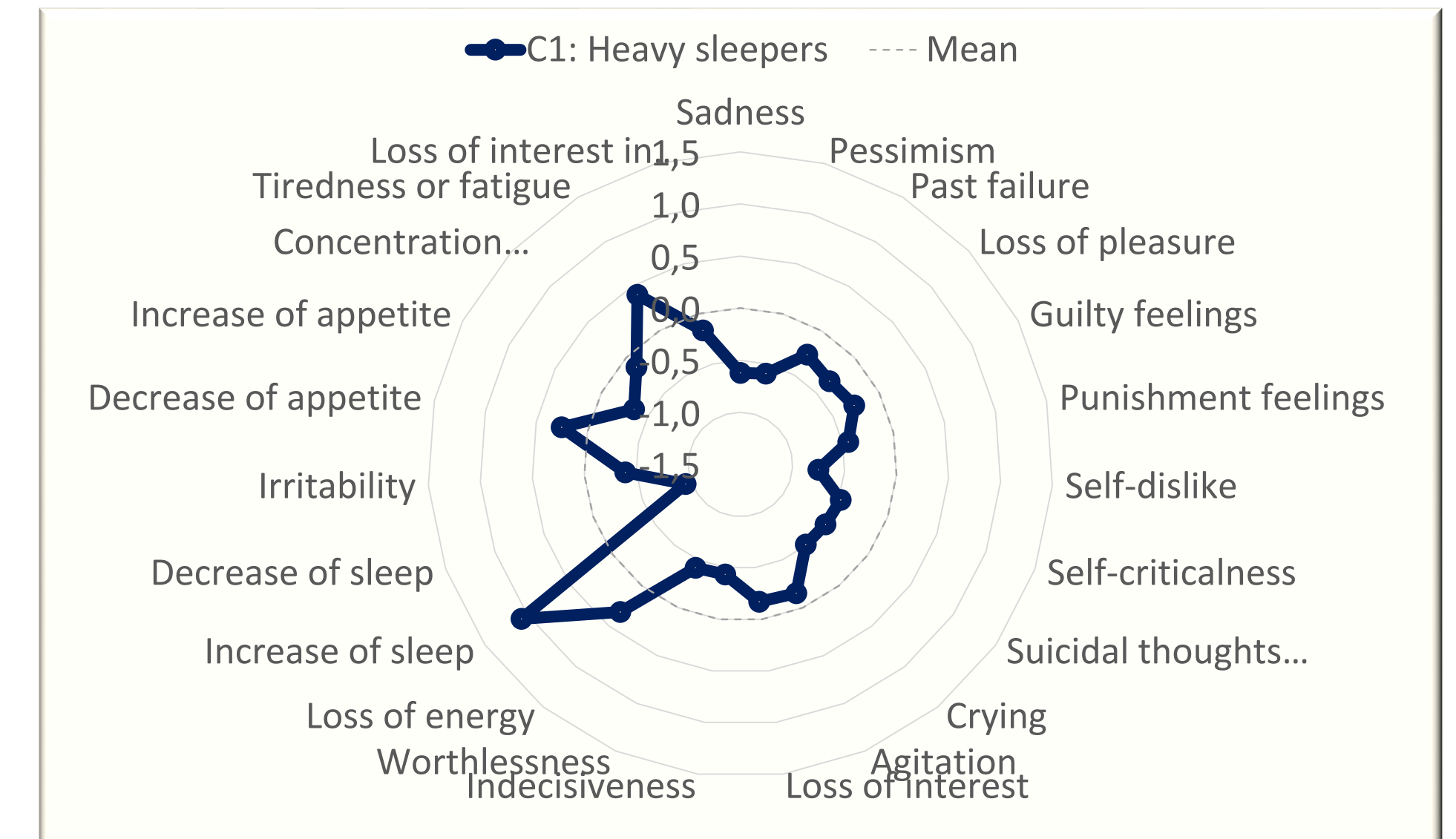
- ✓ Beck Depression Inventory – Second Edition (BDI-II)

### STATISTICAL ANALYSES

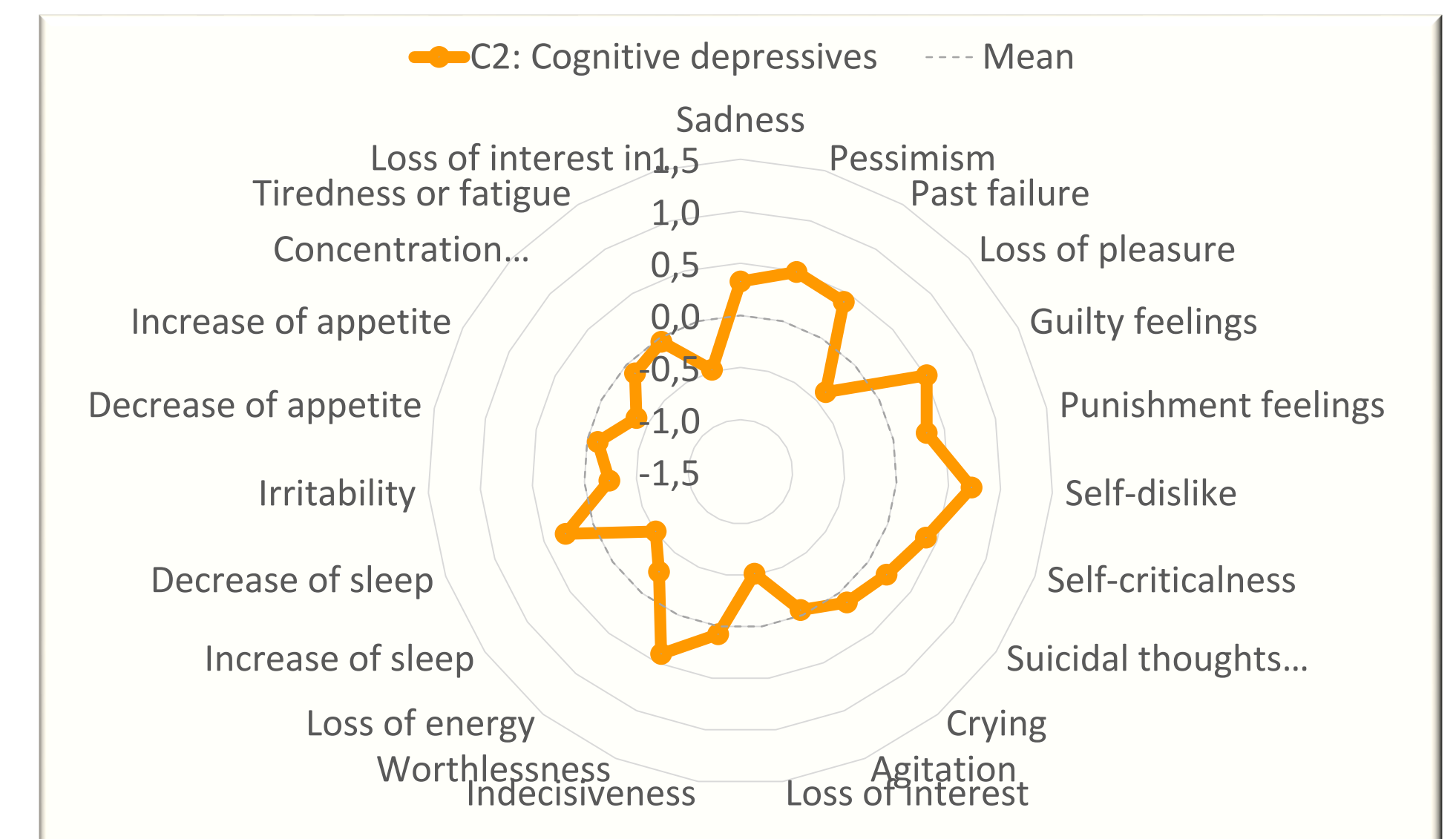
- ✓ Data grouping was achieved through a combination of hierarchical (Ward's method with squared Euclidian distance measurement) and nonhierarchical procedures (K-means cluster analysis)

## 3/ RESULTS

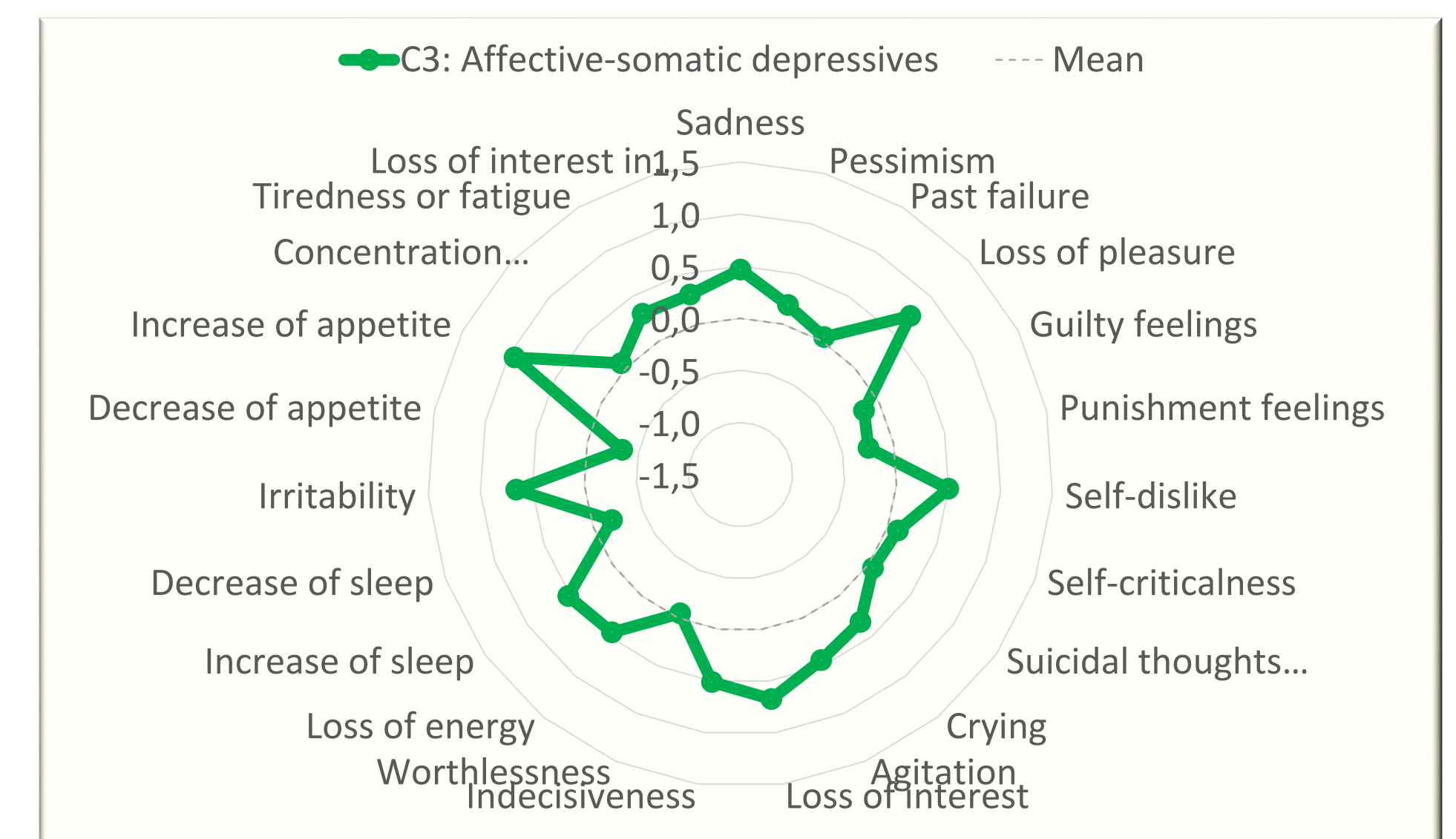
Heavy sleepers	
N	105
Women	60
Men	45
M (SD)	
Age	32.57 (13.34)
BDI-II total score	9.63 (3.63)



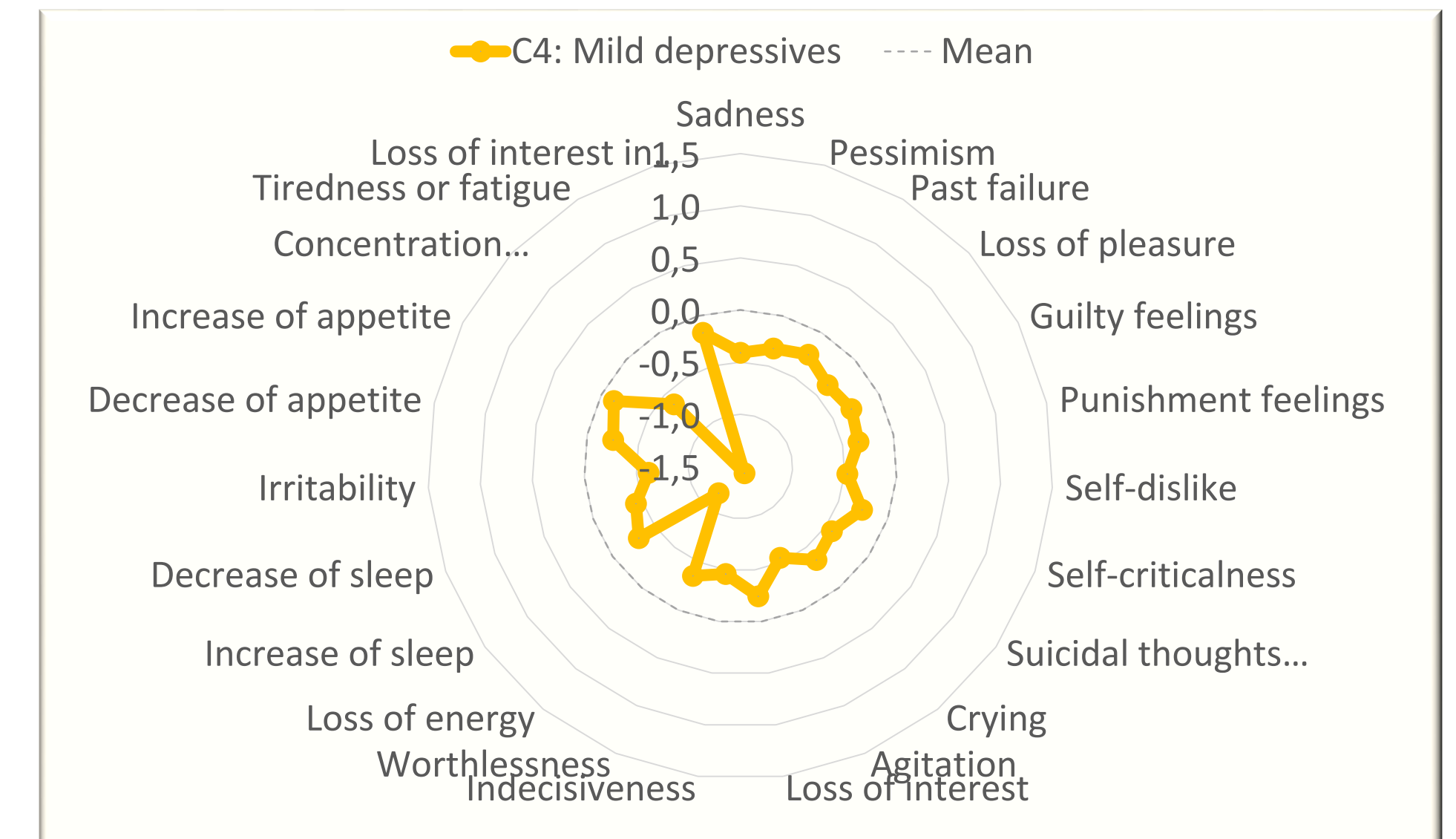
Cognitive depressives	
N	100
Women	68
Men	32
M (SD)	
Age	29.97 (11.57)
BDI-II total score	16.26 (5.47)



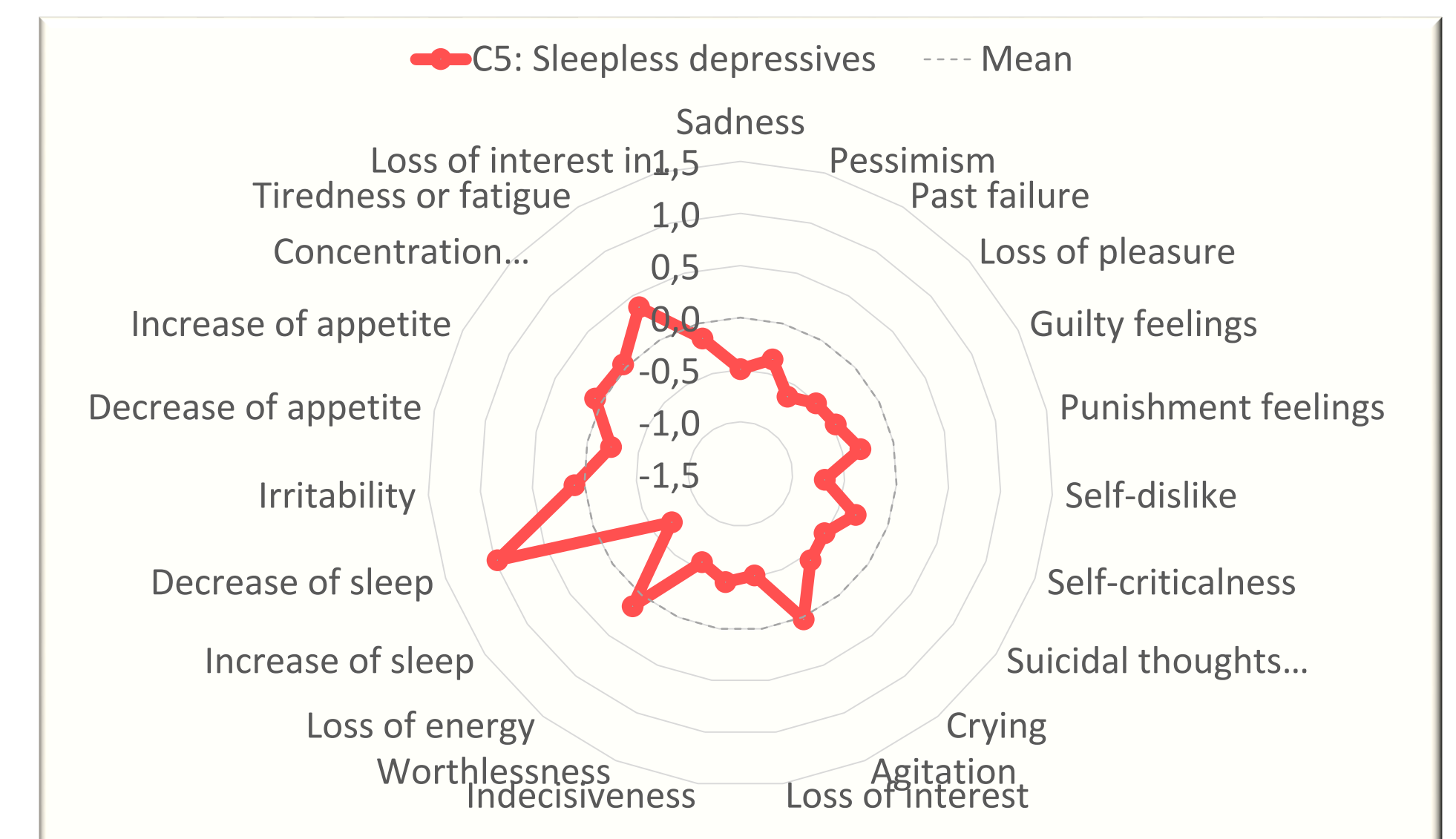
Affective-somatic depressives	
N	91
Women	74
Men	17
M (SD)	
Age	30.84 (10.83)
BDI-II total score	19.79 (5.18)



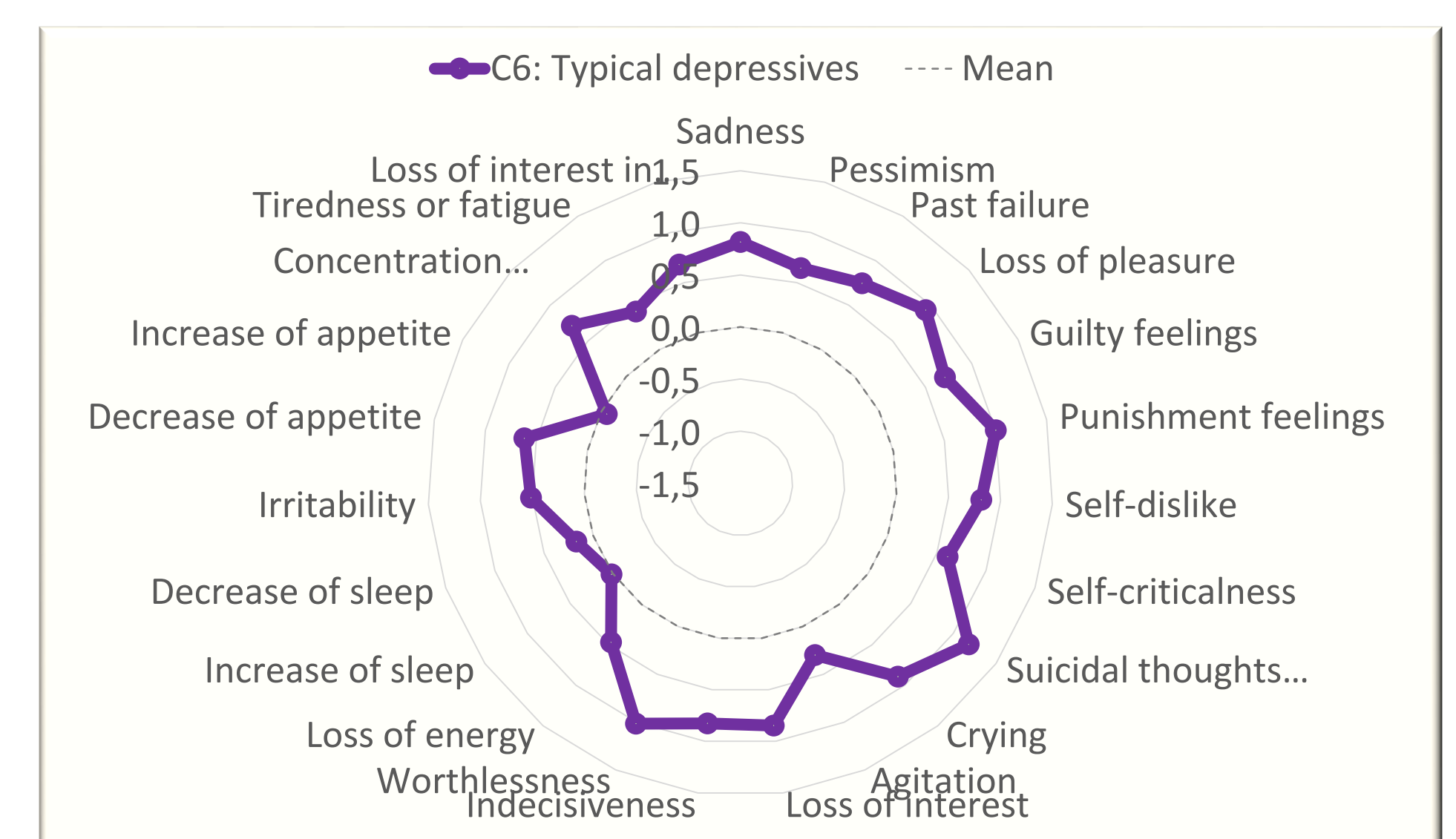
Mild depressives	
N	99
Women	64
Men	35
M (SD)	
Age	30.31 (11.51)
BDI-II total score	7.87 (2.59)



Sleepless depressives	
N	116
Women	77
Men	49
M (SD)	
Age	29.31 (11.11)
BDI-II total score	10.10 (3.75)



Typical depressives	
N	108
Women	74
Men	44
M (SD)	
Age	33.64 (12.34)
BDI-II total score	31.79 (9.18)



## 4/ DISCUSSION

In accordance with our hypotheses, our results support the heterogeneity of depressive symptoms  
**< 6 clusters have been found**

➤ 2 of our clusters are similar to 2 clusters identified by Schacht et al. (2014)

Sleepless depressives // "sleep/sexual/somatic"

- ↳ Highly characterized by symptoms related to insomnia and tiredness

Mild depressives // "mild MDD/symptoms"

- ↳ Characterized by low to average levels on all symptoms

➤ 2 of our clusters are similar to symptoms networks identified by Bringmann et al. (2015)

Cognitive depressives // network of cognitive symptoms

- ↳ Characterized by e.g., guilty feelings, worthlessness, pessimism

Affective-somatic depressives // network of physical and affective symptoms

- ↳ Characterized by e.g., loss of energy and pleasure

### Experimental perspectives ?

→ Future research should provide further support to the clusters previously identified through novel experimental manipulations

### Limitations ?

- Use of a self-reported assessment of depression

TAKE-HOME MESSAGE?

DEPRESSION = HETEROGENEOUS CONDITION

IT IS NECESSARY TO TAILOR OUR PSYCHOLOGICAL INTERVENTIONS

## REFERENCES

Andreasen et al. (1980). *British Journal of Psychiatry*, 137, 256-265.  
 Bringmann et al. (2015). *Psychological Medicine*, 45, 747-757.  
 Guidi et al. (2011). *Journal of Affective Disorders*, 132, 383-388.

Hybels et al. (2012). *International Journal of Geriatric Psychiatry*, 27, 601-611.  
 Rush. (2007). *Journal of Clinical Psychiatry*, 68, 4-10.  
 Schacht et al. (2014). *Journal of Psychiatric Research*, 53, 54-61.  
 Wagener et al. (2016). *Journal of Affective Disorders*, 193, 123-129.

CONTACT

Aurelie Wagener: [aurelie.wagener@ulg.ac.be](mailto:aurelie.wagener@ulg.ac.be)  
 +32 4 366 35 69

<http://bit.ly/2cP2Gff>  
 @AureWag