

# Association between mental health and the perception of residential stressors in Belgium

I. Pelgrims<sup>1</sup> • E.M. De Clercq<sup>1</sup> • P. Hautekiet<sup>1,2</sup> • S. Trabelsi<sup>3</sup> • M. Guyot<sup>3</sup> • I. Thomas<sup>3</sup> • H. Keune<sup>4,5</sup> • T. Nawrot<sup>2</sup> • R. Remmen<sup>5</sup> • H. Bastiaens<sup>5</sup> • N. Saenen<sup>1,2</sup>

1. Sciensano, Belgium • 2. University of Hasselt, Belgium • 3. Catholic University of Louvain, Louvain-la-Neuve, Belgium • 4. INBO, Research Institute Nature and Forest, Belgium • 5. University of Antwerp, Belgium

**Mental health (MH) in a broad sense is defined as the ability to cope with problems and fulfill one's role in society. In this area, Belgium has a poor record, featuring a high number of depressions and anxiety disorders. The NAMED project explores different dimensions of mental health in Belgium in relation to the (non)built environment.**



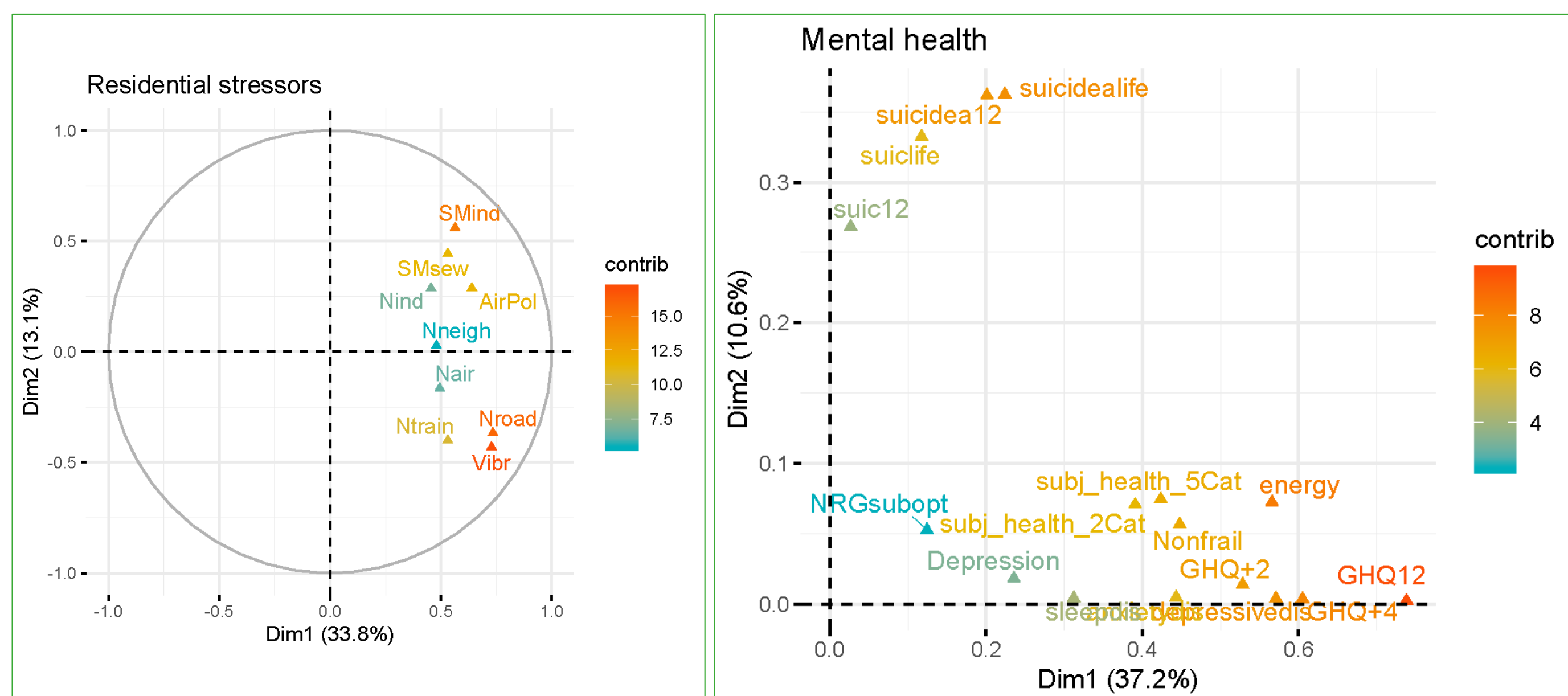
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## Data & processing

- Health Interview Survey (BHIS 2013) : 5.552 participants (>15yrs)
  - Variables describing mental health
  - Annoyance at home (air pollution, noise, smells, ...)
- Mixed factor analysis (FAMD) & general linear modelling (GLM)

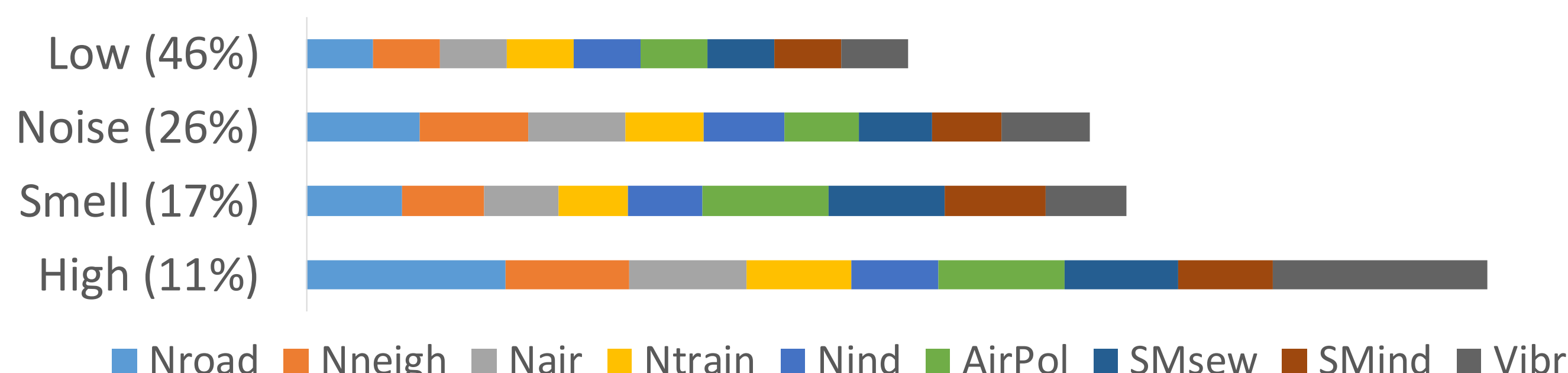
## Exploring dimensions



- Environmental stress from noise (N\_), smell (SM\_) or Vibrations, from road, rail or air traffic, or industrial sites (Nroad, Nrail, Smind, ...)
- Mental health defined by subjective health (1:good - 5: bad), energy level, suicidal ideation (in lifetime or past 12 months), and GHQ<sub>12</sub> (past 4 weeks).

## Clustering participants on perception of environmental stressors

- Cluster 'Low': no environmental stress (46% of participants)
- Cluster 'Noise': noise is causing environmental stress (26%)
- Cluster 'Smell': smell is causing environmental stress (17%)
- Cluster 'High': perceived environmental stress is high (11%)



• Eva De Clercq • T + 32 2 642 50 63 • [eva.declercq@sciensano.be](mailto:eva.declercq@sciensano.be) • [www.sciensano.be](http://www.sciensano.be)

## Clustering participants on Mental Health

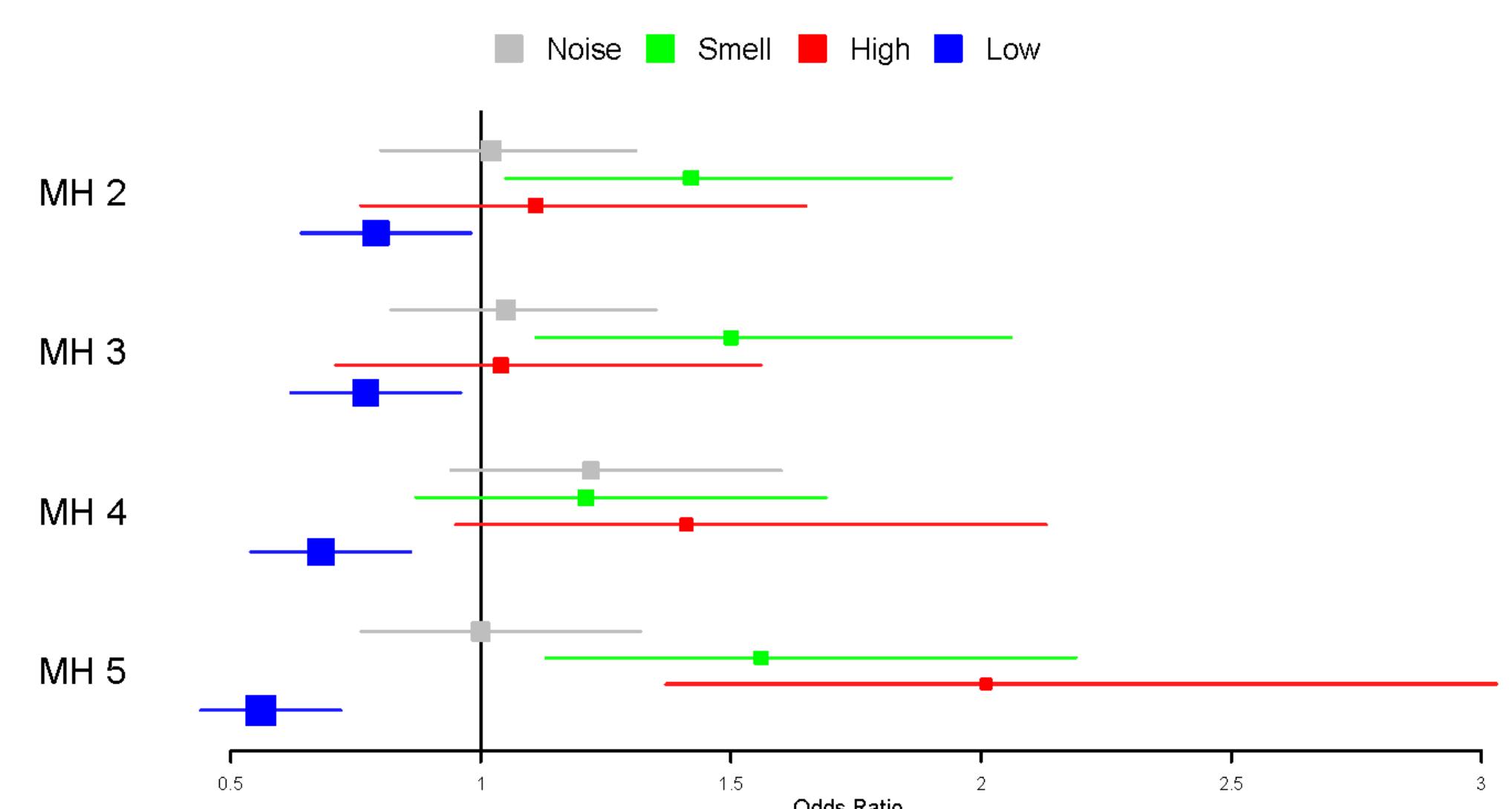
- Groups : gradient from good (MH1) to poor mental health (MH5)
- GHQ<sub>12</sub> > 2 : unhealthy psychological state
- GHQ<sub>12</sub> > 4 : probable mental disorders

MH group	GHQ12	Suicide ideas	Energy	Subj Health
1	0.39 (1.22)	0.02 (0.14)	91.63 (5.14)	1.5 (0.61)
2	0.52 (1.23)	0.07 (0.25)	73.75 (4.64)	1.71 (0.61)
3	1.2 (1.93)	0.14 (0.35)	60.01 (3.05)	1.93 (0.7)
4	2.26 (2.84)	0.19 (0.39)	47.83 (3)	2.18 (0.79)
5	4.9 (3.84)	0.32 (0.47)	27.97 (10.45)	2.8 (1.01)

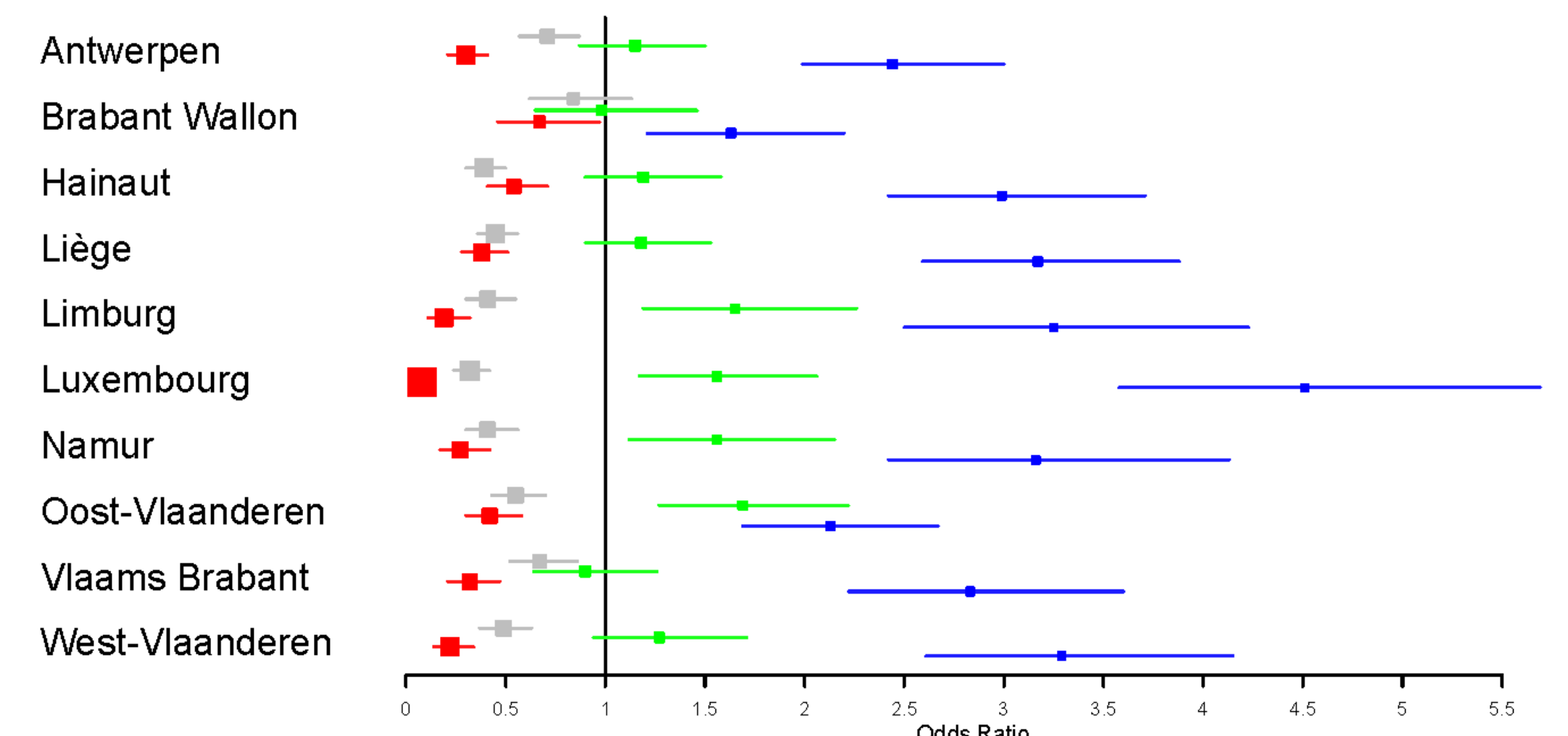
\* Values represent mean (standard error)

## Association of perception of environmental stress with mental health and province of residence

- Groups based on mental health (reference = MH1) yield significant Odds Ratios (OR) for low & high perceived environmental stress, not for noise, and ambiguous for smell.



- Provinces (reference = Brussels) yield significant OR, depending on the type of environmental stress considered.



➔ Perception of environmental stressors can be an indicator of the home environment, and is not only determined by personal characteristics and mental health.

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