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PhD in Medical Sciences  
2017-2018

INVITATION to the Public defence of

**Daniela HERZOG**

To obtain the academic degree of '**DOCTOR IN MEDICAL SCIENCES**'

**The role of left hemispheric laterality in stress related mental health**

**Tuesday 24 October 2017**

Auditorium **Piet Brouwer**, 17:00  
Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

How to reach the campus Jette:  
<http://www.vub.ac.be/english/infoabout/campuses>

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## Summary of the dissertation

There is a high prevalence of mood disorders including depression, anxiety and post-traumatic stress disorder (PTSD) in society. One way to progress in the understanding and treatment of these problems is to identify resilience factors which may protect people from such effects past stressful situations. One possible resilience factor might be hemispheric lateralization (HL), the tendency to activate parts of one cerebral hemisphere versus homologue parts in the other one, or the tendency to use functions associated with one versus the other hemisphere. Studies show that the left hemisphere is predominantly related to positive affect and approach related moods, while the right hemisphere is predominantly related to negative affect, and to avoidance related moods. The purpose of this thesis was to study the moderating role of the left hemisphere in the effects of stress on mental health. The thesis included five studies, three correlative and two experimental studies, examining this issue. In Study 1, life events were positively correlated with general distress, only in people with right but not left HL. In Study 2, life events were positively correlated with anxiety in right but not left HL participants. In Study 3, an experimentally induced stressor led to increases in perceived stress, only in people with right but not left HL. In Study 4, levels of perceived exposure to missile threat were positively correlated with PTSD levels, again only in people with right but not left HL. Finally, Study 5 examined whether cognitive exercises, aimed to activate the left hemisphere, will lead to lower stress and negative affect than a neutral task, following a stressor. Results did not confirm a protective role for such left-HL activating exercises. Though not perfectly consistent, the majority of the studies conducted here did show a resilience and protective effect of left-HL in stressful situations. Nevertheless, these results reveal a new and possibly important neuropsychological resilience factor which could help to identify people who are less or more at risk to develop mental health disorders following exposure to stress.

## Curriculum Vitae

Daniela Herzog was born in Romania in 1963 and is living in Israel. She received her Bachelor in nursing at Tel Aviv University and received her Master in Medical Sciences at Ben Gurion University in Israel. She worked as nursing training supervisor and clinical research coordinator in hematooncology department at Wolfson Hospital in Israel. In the last 7 years she is working as an oncologic nurse coordinator, students training supervisor and diabetes workshops leader at Maccabi Health Services in Israel. Also, she is working as lecturer at academic school of nursing and she is a member of the research committee of the academic school of nursing. She conducted dozens of studies with her undergraduate students as a research seminar conductor. Her studies were published in peer review journals and she has given numerous oral and poster presentations at international and national congresses and symposia.