



HAL
open science

Emotional process through autobiographical memory

Audrey Lavallee, F. Sansen, Xavier Saloppé, V. Delvaux, Mohamad El Haj, Laurent Ott, Marie-Charlotte Gandolphe, T.-H. Pham, Jean-Louis Nandrino

► **To cite this version:**

Audrey Lavallee, F. Sansen, Xavier Saloppé, V. Delvaux, Mohamad El Haj, et al.. Emotional process through autobiographical memory. Congrès annuel de la Société de Psychophysiology et de Neurosciences Cognitives, Emotional Brain and Pathology, Sep 2016, Lille, France. hal-04475378

HAL Id: hal-04475378

<https://hal.univ-lille.fr/hal-04475378>

Submitted on 23 Feb 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

A. Lavalée¹, F. Sansen², X. Saloppé^{1,3,5}, V. Delvaux⁴, M. El Haj¹, L. Ott¹, M.C. Gandolphe¹, T. Pham^{2,3} & J.L.Nandrino¹

¹ Laboratory SCALab, UMR CNRS 9193, University of Lille, France

² Department of Legal psychology, University of Mons, Belgium

³ Research Center in Social Defense, Tournai, Belgium

⁴ Laboratory of Phonetic, University of Mons, Belgium

⁵ Psychiatric Hospital, Saint-Amand-Les-Eaux, France

Contact : audrey.lavallee@yahoo.fr

Introduction

Self defining Memories (SDM) are highly significant autobiographical memories that contribute to the construct of identity (Conway et al., 2004). SDM are vivid, emotional and carry the values of the individuals (Conway et al., 2004 ; Singer & Blagov, 2000). However, to the best of our knowledge, no study has evaluated psychophysiological changes that may be related to emotional processes in SDM.

Objectif

The aim of this study is to examine the emotional process involved during the evocation of SDM using neurovegetative indicators.

We recorded both a marker of emotional activation of the sympathetic system (electrodermal activity) and an indicator of the parasympathetic system (High frequency of the Heart-rate variability, HF-HRV) to characterize the emotional processes.

Methods

Participants

29 healthy adults (25-35y)

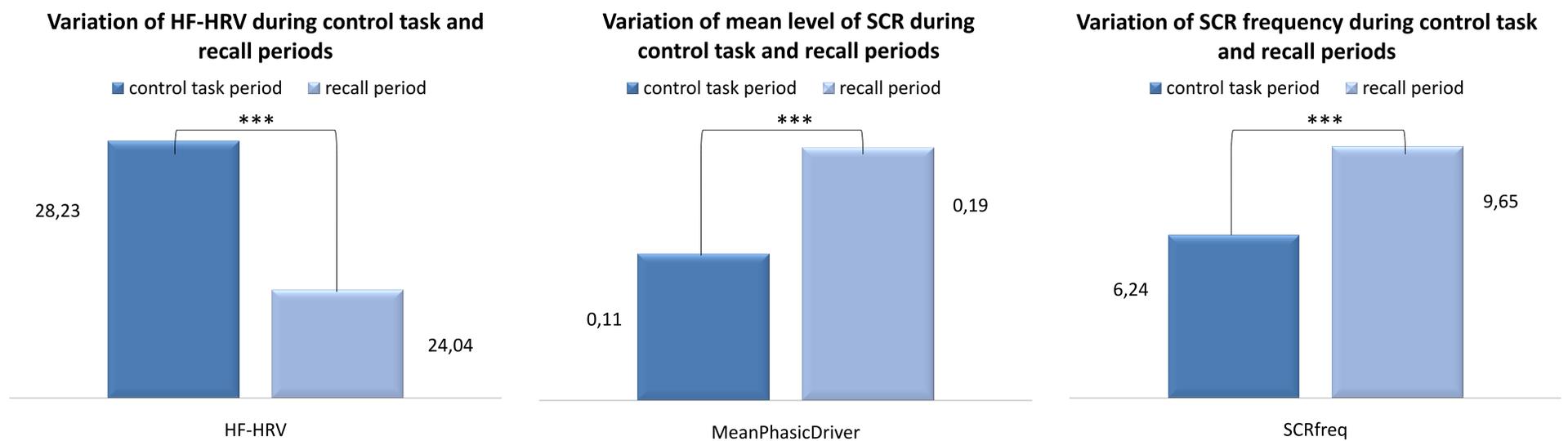
Procedure

Electrocardiogram and skin conductance signals were recorded during two periods :

- control task
- recall and evocation of 5 SDM

Results

- HF-HRV decrease from control task period to recall period.
- Mean deviations of standard electrodermal responses (MeanPhasicDriver) and the responses frequency (SCRfreq) increase from relaxation period to recall period.



Notes: Wilcoxon Test ; Significance level indicated by the following symbols: * $p < .05$, ** $p < .01$, *** $p < .001$

Conclusion

Relatively to the control task, SDM retrieval resulted in an activation of sympathetic and parasympathetic nervous system.

These physiological activations highlight the role of emotional processes and regulation mechanisms during SDM retrieval.

References

- Conway, M. A., Singer, J. A., & Tagini, A. (2004). The self and autobiographical memory: Correspondence and coherence. *Social Cognition*, 22(5), 491.
- Singer, J. A., & Blagov, P. S. (2000). Classification system and scoring manual for self-defining autobiographical memories. *Unpublished Manuscript, Connecticut College*

Acknowledgment

This work was supported by European funds through the program FEDER SCV-IrDIVE. The authors thank the team of Equipex-IrDIVE.