
The sense of self in patients with otoneurological disorders and PPPD : alteration and implication of anxiodepression

Maélys Gobinet*¹, Jacques Léonard², Maya Elzière³, and Christophe Lopez*²

¹Centre de Recherche en Psychologie et Neurosciences – CRPN, Aix-Marseille Université - AMU –
Faculté des Sciences 3, place Victor Hugo 13003 Marseille, France

²Centre de Recherche en Psychologie et Neurosciences – CNRS, Aix-Marseille Université - AMU –
Faculté des Sciences 3, place Victor Hugo 13003 Marseille, France

³Centre des Vertiges - Hôpital Européen – Hôpital Européen, Marseille – 6 rue Désirée Clary 13003
Marseille, France

Résumé

The vestibular system plays a crucial role beyond balance, contributing to the emergence of the bodily self through multisensory integration. Dysfunction in this system can disrupt the sense of self, leading to depersonalization-derealization (DD) symptoms. Anxiety and depression, common comorbidities in otoneurological disorders, may mediate this relationship. Regarding this, chronic dizziness such as Persistent Postural-Perceptual Dizziness (PPPD) is of particular interest, as it often results from the interplay between vestibular dysfunction, anxiety and depression. Consequently, this study aims to identify alterations of the sense of bodily self in patients with vestibular disorders and PPPD and to examine the mediating role of anxiety and depression.

We recruited 342 patients with vertigo/dizziness (221 with vestibular disorders and 121 with PPPD) and 215 control participants without vertigo/dizziness. Participants completed questionnaires assessing DD symptoms (CDS), state anxiety and depression (HADS), and trait anxiety (STAI). Data were analyzed using intergroup comparisons and structural equation modeling.

Results revealed that patients scored significantly higher on DD, anxiety (state and trait), and depression than healthy controls, with PPPD patients showing the highest scores. Structural equation models further demonstrated that anxiety and depression significantly mediate the relationship between vestibular dysfunction and DD symptoms.

These findings suggest that vestibular dysfunction in otoneurological and PPPD patients lead to bodily self distortions, supposedly because of mismatches in multisensory integration. This incoherence, exacerbated by anxiety and depression, contributes to the observed symptoms. Future studies should explore these bodily self distortions using experimental approaches and investigate the cerebral processing of associated vestibular information.

Mots-Clés: bodily self, vestibular system, PPPD, depersonalization, derealisation, anxiodepression

*Intervenant