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Mathilde **Horn**[1,2,*], Fabien **D'Hondt**[1,2], Axelle **Gharib**[2], Laura **Gangloff**[2], Alexandre **Dumais**[3], Ali **Amad**[1,2], Pierre **Thomas**[1,2], Thomas **Fovet**[1,2], Delphine **Pins**[1,2].

[1] Univ. Lille, CNRS, UMR 9193 - SCALab - Sciences Cognitives et Sciences Affectives, F-59000 Lille, France
[2] CHU Lille, Clinique de Psychiatrie, CURE, F-59000 Lille, France
[3] Institut Philippe-Pinel de Montréal, Institut Universitaire en Santé Mentale de Montréal, Université de Montréal, Montréal, Canada

* Corresponding author.
E-mail address: horn.mathilde@gmail.com
Postal address: Centre Hospitalier Universitaire de Lille (CHU Lille), Hôpital Fontan, F-59037 Lille, France

Patients with schizophrenia (SCZ) are at a higher risk of violent behaviour (VB) than members of the general population (Fazel et al., 2009). Nevertheless, many SCZ patients will never exhibit any VB (Large and Nielssen, 2011), and the differences between these individuals and those who commit VB remain unclear. Several authors have drawn attention to delusional misidentification syndromes (DMS), which empirically appear to be more strongly associated with serious violence (Horn et al., 2016; Klein and Hirachan, 2014; Silva et al., 1996).

DMS are specific delusional syndromes in which patients misidentify familiar persons, objects or themselves, holding the delusional belief that they have been replaced or transformed (Carabellese et al., 2014). DMS can, therefore, be considered delusional responses to familiarity disorders, where familiarity is defined as the feeling indicating that a stimulus has been previously encountered (Yonelinas 2001). Interestingly, DMS can be distinguished in hypofamiliarity (e.g., Capgras syndrome) and hyperfamiliarity disorders [e.g., Fregoli syndrome (Klein and Hirachan, 2014)]. The risk of violence of patients with DMS may be dependent upon the type of familiarity disorder. Specifically, severe VB, such as homicide, may be more likely to be observed among SCZ patients with hypofamiliarity disorders because these patients may no longer perceive a person who is a close relative to be a close relative and consider him/her to be a malevolent impostor.

In the current study, we directly examined the association between hypofamiliarity disorders and serious VB in SCZ and a high risk of exhibiting VB, i.e., inmates hospitalized in the Unité Hospitalière Spécialement Aménagée of Lille (a full-time inpatient psychiatric unit for inmates in the North of France).

Male patients over 18 years of age who had been admitted between January 2016 and December 2016 with a DSM-5 diagnosis of schizophrenia or schizoaffective disorder were included. A retrospective review of their record was conducted to extract the following data: positive psychotic symptoms [(regularly assessed in the unit using the Positive And Negative Severity Scale (PANSS)]; substance use disorders (SUD) and antisocial personality disorder (ASPD) status (according to the DSM-5 criteria); history of violence according to the MacArthur Study of Mental Disorder and Violence criteria, which distinguishes between serious violence, defined as assaults resulting in injury, any use of a weapon, or sexual assault, and other minor forms of violence (Monahan and MacArthur Violence Risk Assessment Study., 2001) and familiarity disorders. Based on a semi-structured interview routinely conducted in the unit, SCZ patients are considered to have a history of hypofamiliarity if they have ever experienced the feeling that a familiar person was similar to a stranger, that something about her/him seemed to be different or that she/he had been replaced by a double (spitting image).

The following two groups of patients were defined according to familiarity disorder status: SCZ patients who had a history of hypofamiliarity disorders (hF+) and SCZ patients who did not have a history of such disorders (hF-). Between-group comparisons were performed using chi-square tests for categorical data and independent student's t tests (or Mann–Whitney U tests). Statistical analyses were performed using SPSS.

All 51 patients without missing data (59% of the initial sample) were included in the study. The results of the analysis are presented in **Table 1**. Forty-seven percent of patients had a history of hypofamiliarity disorders. No significant between-group differences were identified for age, positive PANSS score, SUD or ASPD status. A significant association

between hypofamiliarity disorder history and severe VB was observed, with SCZ hF+ prisoners being more likely to present severe VB than SCZ hF- prisoners ($\chi^2(1) = 5.088$, $p = 0.024$).

Table 1
Age; presence of serious VB, SUD, and ASPD; and PANSS scores by hypofamiliarity status.

Variable	Hypo-familiarity + (n = 24)	Hypo-familiarity - (n = 27)	Group comparison
Age (years)	33.7 (±8.4)	32.0 (±10.5)	$U = 317.000$, $p = 0.741$
Serious VB	**87 %**	**59 %**	$\boldsymbol{\chi^2(1) = 5.088, p = 0.024}$
SUD	91 %	81%	$\chi^2(1) = 1.113$, $p = 0.291$
ASPD	45%	36 %	$\chi^2(1) = 0.490$, $p = 0.484$
Positive PANSS score	19.2 (±6.8)	20.8 (±5.4)	$U = 267.500$, $p = 0.290$

(SUD: substance abuse disorder; ASPD: antisocial personality disorder; VB: violent behavior). Significant differences between groups are indicated **in bold**.

Our results support the hypothesis that prisoners with both schizophrenia and a history of hypofamiliarity disorders are at high risk of severe VB, whereas other risk factors of VB (SUD, ASPD and positive symptoms) were not more frequently identified in the group of SCZ hF+ than in the group of SCZ hF-. While our results are in line with case studies reporting severe VB among patients with Capgras syndrome (e.g., Bourget and Whitehurst, 2004; Carabellese et al., 2014; Klein and Hirachan, 2014; Silva et al., 1996), this study is, to the best of our knowledge, the first to directly demonstrate an association between hypofamiliarity disorders and serious VB in SCZ.

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