Distorted perception of the subjective temporal distance of autobiographical events in schizophrenia

J. Potheegadoo¹, C. Cuervo-Lombard², F. Berna¹ & J-M. Danion¹

¹Unité INSERM 1114, Pôle Psychiatrie Santé Mentale, CHU de Strasbourg, France
²Service de Psychiatrie d’Adultes, CHU de Reims, France

Contact: jevita.potheegadoo@chru-strasbourg.fr

Introduction
Patients with schizophrenia are impaired in their autobiographical memory, which leads to personal identity disorders. The perception of subjective time, intrinsic to autobiographical memory, refers to the conscious awareness of one’s existence in the past, present and future. We studied whether the ability of patients with schizophrenia to estimate the subjective temporal distance (TD) of recalled personal events is impaired. Subjective TD refers to the subjective feeling, close or distant, regarding an event in time.

Hypothesis
Impaired ability to estimate the subjective TD of events in schizophrenia, regardless of the number of years since events had occurred and regardless of the emotional valence of events

Due to an important lack of detail (perceptual, sensory, contextual & emotional) in events

Methods
• 25 patients with schizophrenia & 25 matched controls
• Recall of 6 autobiographical events from 4 life periods
• Subjective TD estimation of events (7-point scale : from 1 – very close to 7 – very distant)

• Self assessment of the amount of detail of each event (Memory Characteristics Questionnaire)

Results

Subjective TD across life periods

<table>
<thead>
<tr>
<th>Life periods</th>
<th>0-9 yrs</th>
<th>10-19 yrs</th>
<th>20 yrs – 1 yr before test</th>
<th>Current yr</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mean scores of subjective TD of events

<table>
<thead>
<tr>
<th>Life periods</th>
<th>0-9 yrs</th>
<th>10-19 yrs</th>
<th>20 yrs – 1 yr before test</th>
<th>Current yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>**</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distant</td>
<td>7</td>
<td>**</td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

Controls
Significant correlation between subjective TD and amount of detail of events

The greater the amount of detail, the closer the events appeared

\[ r = -0.65, n = 600, p = 0.001 \]

Patients
No significant correlation

\[ r = -0.39, n = 600, p = 0.08 \]

Decreased ability in patients to distinguish between subjectively close and distant events

Memory detail across life periods

<table>
<thead>
<tr>
<th>Life periods</th>
<th>0-9 yrs</th>
<th>10-19 yrs</th>
<th>20 yrs – 1 yr before test</th>
<th>Current yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
</tbody>
</table>

Amount of detail of patients’ events was significantly lower than those of controls

Discussion & Conclusions
From the investigation of the subjective TD of personal events, it is now apparent that, in addition to impaired conscious recollection, the low amount of detail of events is also associated with disturbances in the conscious awareness of subjective time in schizophrenia. Our results suggest that patients with schizophrenia have a distorted perception of subjective time as compared to control participants.