

When self-agency goes wrong: the case of schizophrenia.

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The sense of agency is the feeling of voluntarily controlling our actions and, through them, the events in the outside world. Here, we explored the sense of agency in individuals with schizophrenia. We measured the intentional binding phenomenon (an implicit index of self-agency) using a validated ecological temporal judgment paradigm based on the comparison between active and passive movements. Participants (30 patients and 30 controls) were instructed to actively or passively press a switch to turn on a light bulb. In both movement conditions, the bulb turned on with variable delays (250, 450 or 650ms). Participants had to judge the temporal interval between the action (keypress) and the outcome (lighting of the bulb). We analysed the subjective perceived temporal compression of the action-outcome interval across movement conditions and delays: based on the intentional binding phenomenon, the higher the perceived time compression, the stronger the experienced implicit sense of agency. Our results indicate that time compression values are greater in active compared to passive actions, particularly for shorter action-outcome temporal delays (Condition×Delay: $p=.007$). Compared to controls, patients show a reduced difference in compression between active and passive actions (Group×Condition: $p=.004$). These findings suggest that, although the experience of agency is similarly modulated by movement conditions and temporal delays in controls and patients, the distinction between voluntary and involuntary actions is less clear-cut in patients. This dysfunction might contribute to some agency-related symptoms typically present in schizophrenia (e.g., delusions of control).

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