

# On rare and unusual types of dissociative disorders: a case of dissociative episodes with time travel-like experience

## Abstract

The Spectrum of Dissociative Disorders are based on criteria that define the dissociative experience of depersonalization along the spatial dimension with patients having dissociative episodes typically describe the experience of being spatially removed from the first person experience. We present the unique case of a patient with Other Specified Dissociative Disorder who exhibits depersonalization in relation to the dimension of time, with no clear spatial depersonalization. We discuss our findings in light of research on disturbances in temporal perception in patients and the implication for future criteria for Dissociative Disorders.

**Keywords:** spatial dissociation, abuse, depersonalization, derealization, time, dissociative, disorder, time perception, temporal dissociation

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**Abbreviations:** CT, computerized tomography; DES, dissociative experiences scale

## Introduction

Dissociative disorders are a group of disorders that involve elements of amnesia, detachment, depersonalization, derealisation, and a distorted sense of self. Depersonalization disorder affects 1% to 2.4% of the general population. Symptoms of depersonalization and derealisation are more common in women and seen in 26.5% of women than in men seen at 19.5%.<sup>1</sup> A survey reported 80% of psychiatric patients had depersonalization disorder and of those 12% suffered from a severe form of the condition.<sup>1</sup> Patients who experience depersonalization often describe the experience as detachment or estrangement from one's self.

The phenomenon of depersonalization is commonly observed in relation to the spatial dimension. Spatial dissociation, or the experience of being separated from one's physical self by space, is reported in one-third of patients with depersonalization or derealisation disorder.<sup>2</sup> Perception of time is less commonly reported in patients who experience episodes of depersonalization. A small percentage of patients have also reported distorted perception of time from reality. Temporal perspective is an important part of psychological time as it can be altered in psychiatric disorders and in altered states of consciousness. In certain states, people have reported their temporal perspective being suspended or distorted and this can be observed in instances of depersonalization.<sup>3</sup> The concept of spatial awareness is commonly discussed in dissociative cases, however, discussion of dissociation along the axis of time is less common.

This case adds to current medical literature on perception along the temporal axis and how this is a new perspective to consider when

analysing patients with dissociative disorders. We present the case of a patient who exhibits separation of self along the dimension of time and highlights a unique perception of temporal disintegration. We aim to bring light to a new approach to understanding dissociation along the axis of time.

## Case presentation

We present the case of a 32-year-old female from northern Africa who presented to the psychiatric emergency room with disorganized behaviour and agitation for one day. The patient's roommates called emergency medical services after the patient exhibited odd behaviours. The patient was also reported to be dancing and singing during her episode. At the time, the patient stated that she felt as though she were asleep and experiencing a dream. In this dream, she stated that she taped her mouth and eyes so that she could "stop seeing light" and her screams could not be heard by others. She stated that during the episode she saw herself as though she were watching herself in a video as she put tape on her mouth and eyes. Only later during the interview the patient learned that she had been awake and had taped her mouth and eyes in real life. The patient also described a distorted perception of time in which "time was not changing, it was fixed, that day I understood time" and attempted to explain the concept of "space-time." On admission, urine toxicology was negative for illicit drugs, controlled substances and alcohol. Complete blood count, complete metabolic panel and coagulation profile were within normal limits. Total iron binding capacity, transferrin, total creatinine kinase was all noted to be above the upper limit of normal at the values of 465µg/dL, 382 mg/dl, and 222U/L respectively. Rapid plasma reagintiters were nonreactive and thyroid hormone levels were within normal limits. Computerized tomography (CT) of the head without contrast was unremarkable.

The patient's prior past medical history was notable for major depressive disorder with psychotic features, post-traumatic stress disorder and anaemia. She denied any history of tobacco, alcohol or recreational drug use. The patient expressed a history of sexual abuse during her childhood. She reported being molested and raped from the age of 5 to 6 by a male maid in her house in Niger. She stated that this abuse stopped after her mother found out and that she felt the abuse was her own fault. Since these experiences, the patient reported intrusive thoughts, flashbacks to the abuse, several trance-like episodes over the course of 20 years, and episodes of depersonalization. She also stated that she avoided men due to her past childhood trauma and decided not to date or marry due to feeling threatened because "all men are rapists."

The patient was admitted to the inpatient psychiatric unit with an initial diagnosis of other unspecified type of mood disorder. She was initialized on Aripiprazole 5mg daily PO and Sertraline 50mg daily PO.

While the patient was admitted to the inpatient unit she described her depersonalization episode as a small child seeing herself in a mirror with an adult woman looking back at her. The patient stated that the small child was herself and her true reflection and that the older woman was the patient from a different time period as her future self. She described herself as being concerned about the reflection, which prompted her to test her sense of reality by turning on the light in the area. This did not change her reflection and the experience, as she described, was now permanently in her mind.

She also described episodes of being able to separate her mind from her current time zone and transport herself to a place where time slows down in frequency. These mental states can be recreated by focusing her mind on a visual stimulus that she described as a continuing spiral. She stated that by closing her eyes and concentrating on that image in her mind she felt an adrenaline-like sensation where time sped up until she arrived at her destination, which was when time slowed down. The patient confirmed that these events have been ongoing since the beginning of the abuse she endured through adulthood. She stated that she enjoys taking part in these episodes because they provided her with relaxation and the ability to avoid reliving her childhood trauma. As a result of diagnostic possibilities, the patient was systematically assessed using The Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders (SCID 5 for DSM-5) was performed resulting in differential diagnosis of Other Specified Dissociative Disorder and potential differential consideration of Other Specified Schizophrenia Disorder. A Dissociative Experiences Scale (DES) was performed with a high score of 62 correlating with her dissociative symptoms.

After one week, the patient responded with resolution of symptoms of anxiety but not changes in her perception of temporal disturbances. She was subsequently discharged safely into the community with outpatient treatment for her symptoms.

## Discussion

The patient in our case exhibited temporal disintegration or discontinuity where she feels she is in the here and now and isolated from all other times. She also demonstrated a sense of temporal distortion where her perception was described as timelessness. The patient explained that she experienced episodes of time not changing and that during these periods she was able to go back to a memory from the past and observe herself. The mixture of time lapses, and depersonalizations meets criteria for DSM 5 Other Specified

Dissociative Disorder. An important element to this patient's unique perception of time and space is potential causative factors or triggers for her state. As noted in her inpatient stay, the patient experienced a history of childhood sexual abuse resulting in post-traumatic stress disorder symptoms and symptoms of depression in addition to her reports of symptoms consistent with another Unspecified Dissociative Disorder.

The study of sense of time in relation to psychiatric conditions is an area of research that has gained little attention in recent years. Currently there is no standard conceptual framework for the study of time in cognitive sciences, but the concept of temporal perception can be understood by its different components. Temporal processing entails judgment of the quantitative intervals, synchronicity and synchronicity of various stimuli. Time perception comprises the passage of time in relation to speed and its spatial components and can also be observed in retrospective or prospective ways. The passage of time can vary in perception as individuals can perceive instances in time approaching, passing by in the present, and receding into the past (time-moving metaphor), or we perceive objects (including our sense of self) traveling through time from past to future (ego-moving metaphor).<sup>4</sup>

This concept of perceiving the sense of self traveling through a temporal plane of the past through the future is demonstrated in our patient's presentation. The distortion of perception of time is referred to as temporal disintegration. A study describes this as distortion demonstrates a cognitive model of psychological time.<sup>3</sup> Temporal disintegrations is described as an impaired goal-directedness and loss of sequential thinking. It was demonstrated that temporal disintegration appears to disrupt the timeline of temporal perspective and gives rise to the feeling of depersonalization. This disruption or gap in temporal perspective can affect an individual's ability to integrate self-identity.<sup>3</sup>

Our patient's presentation aligned with a description from a study on temporal orientation and trauma experiences as focused only on the present time, confusing day and time, experiencing a sense of timelessness, confusing the order of events experienced, and feeling fragmentation in the continuity between past and present.<sup>5</sup> Temporal perspectives is the manner in which a person interprets and experiences the past, present and future. Psychiatric conditions can demonstrate fragmented cognitive processes that cause a distortion in ability to differentiate the past, present and future.

The mechanism of disturbances in temporal perception is unclear and worth exploring. A separate study stated 58 patients, who presented with temporal disorientation with disorganization of time, had a positive correlation between temporal disorganization and changes in depersonalization. The same study concluded that persecutory ideas in acute mental illness was demonstrated.<sup>6</sup> Temporal indistinction is a component of temporal disorganization that was most positively correlated with depersonalization and persecutory ideation.<sup>6</sup> Isolated disturbances in time perception during periods of stress can be linked to cognitive models of time perception such as the pacemaker accumulator model.<sup>4</sup> This model proposes that the brain has an internal clock made of a pacemaker that sends pulses to an accumulator that collects the pulses and allows for a conscious expression of perceived durations of time intervals. The model states that a higher level of brain arousal causes more pulses to be fired and accumulated, thus giving the perception of a longer time interval.

Alternatively, awareness of the accumulator causes fewer pulses to be missed and can also cause a longer perceived time interval.<sup>4</sup>

This model can be used to outline a proposed explanation of the time disturbance experienced by our patient. For our patient, any stressor or specific stimuli during her psychotic break may have caused more pulses to be fired and accumulated. According to the model, if during this time the subject becomes more aware and focuses on the passage of time; they can then enter a mental state where they have increased awareness of the accumulator causing time intervals to be perceived as longer. During patient interviews, the patient stated that she was preparing to go to work that day and was checking the time on her phone. The study states that the subject may refer to an accurate method of time keeping, such as a clock, and compare it to his or her own perception. This constant reality testing between perceived time and actual time, combined with an innate introspective interest in their own thoughts, can cause the person to access a state where time appears to stop. This phenomenon is suggested to cause the brain to become more aroused and according to the pacemaker accumulator model more pulses are fired and accumulated. This process propels a person's constant cycling of reality testing their perception of time against a clock, causing the person to falsely conclude that time has slowed down so much that it actually feels like it stops altogether.<sup>4</sup>

As noted above, the patient experienced a history of childhood sexual abuse. A clinical case series on patients with dissociative identity disorder discusses how dissociative patients have reported high childhood adverse events ranging from childhood sexual abuse to physical abuse as well as neglect.<sup>7</sup> When the patient was interviewed in regards to her dissociative states where her sense of time is altered she suggests that in these moments they serve as a tool for her to escape from revisiting traumatic past experiences. In a study examining women who experienced childhood sexual abuse like that of our patient demonstrates how these early traumas can cause the subject to have past oriented thinking.<sup>5</sup> This case posed some challenges due to understanding specific cultural and religious connection to her presentation. Some strengths in this case would be the uniqueness of the presentation as well as the patient's overall improvement after clinical assessment and targeted treatment.<sup>8,9</sup>

## Conclusion

Isolated time related dissociation in patients who experience Dissociative Disorders has not been widely recognized compared to spatial dissociation. Further studies are needed to explore this presentation of the Other Specified Dissociative Disorders, with a focus on temporal dissociation alone. It will be of interest to explore further

research studies on presentations of Other Specified Dissociative Disorders, with a focus on temporal dissociation alone. This could lead to a new category of specifiers of dissociative disorders, or a new diagnostic code in the Dissociative Spectrum Disorders.

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## Conflicts of interest

The authors declare that there is no conflict of interest to declare.

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