

Letter to the editor

Feeling out of synchrony: Investigating the vulnerability of self in subclinical realms



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The self is a key feature of our mental life. It provides an internal-external relation with our internal (mind and body) and external (others and the natural world) experience and thus serves as our “psychological baseline” (Northoff, 2016; Scalabrini et al., 2022). Intriguingly, the development of the self finds its priors in early internal-external relational experiences with caregivers (Trevarthen, 1993). Here, biobehavioral synchrony play a fundamental role in shaping the sense of self and its relatedness with the world that will resonate and reverberate throughout the development. This provides the individual’s capacity to develop a resilient or a vulnerable self in dealing with stressful and uncertain moments of life (Mucci and Scalabrini, 2021). This might translate in the perception of synchrony with our self and its relatedness with the environment. Further supporting this view, lack of experience of synchrony seems to be considered a marker for the development of psychopathological symptoms (Feldman, 2007).

This is well in tune with the observation that synchronicity is considered part of the intersubjective temporality that when abnormal characterize psychopathology (Fuchs, 2013). Specifically, the temporality of the self is intrinsically related to the other, i.e., intersubjective temporality, featured by synchronization of the self with the others and the environment. What happens when we feel out of synchrony? In such cases we experience being “too early” or “too late” that, when too severe, in psychopathological terms might characterize the manifestation of manic, anxious or depressive states, respectively (Fuchs, 2001). Intriguingly such phenomenological approach finds its complement in the most recent Spatiotemporal Psychopathology (Northoff et al., 2023) aiming at looking for how our experience of time and space shape psychopathological syndromes, like for instance abnormal slowness in depression (Rostami et al., 2022). In sum, the construct of self and the experience of synchrony seems to be closely related to each other. However, the relation of self and its subjective experience of synchrony have not been studied yet in subclinical population. Addressing this gap in our knowledge is the goal of our study. In this study we aim to investigate how the different dimensions of subjective experiences of the synchrony with self, body, others, and the environment. Together with standard psychological scales, this serves the purpose to characterize the vulnerability of individuals that self-report to suffer from subclinical depression, anxiety, or other psychological difficulties. We hypothesize

that impairment in subjects’ perception or experience of synchronization with themselves, their own body and others including the environment goes along with high degrees of subclinical depression, anxiety, and or other psychopathological symptoms (Fuchs, 2013; Northoff et al., 2023).

The collection of data started during the first wave of the COVID-19 pandemic and 1072 individuals participated to the study. These data were the same as those included in our study (Scalabrini et al., 2023) but while the previous investigation focused on the entire sample here we mainly focused on what we defined as a subclinical realm, i.e., 148 participants that self-reported to suffer of psychological difficulties especially related to depression ($n = 77$, 41 %) and anxiety ($n = 44$, 25 %). Focusing on this subsample gave us the possibility to investigate whether there is a difference in the perception of synchrony and other psychological questionnaires in those subjects who reported to suffer from depression, anxiety and other psychological difficulties.

Our data comprise a set of visual analogues scales (VAS) that were created ad hoc to probe different features of the perception related to especially (i) synchrony with self, bodily, social, and environmental features; (ii) internal-external perception of constraints, and (iii) internal cognition (See [supplementary material](#) for specific examples). Our focus was on the perception of synchrony hypothesizing that people with psychological difficulties might feel more out of synchrony with their self. In addition, to further probe our hypothesis, we included a set of standard psychological questionnaires that capture similar aspects related to the self and its degree of connectedness with body, environment and other (Self-Concept Clarity (SCC); Multidimensional Assessment of Interoceptive Awareness (MAIA); Connectedness to nature (CNS); Identification with All Humanity (IWAH); and that might emphasize maladaptive aspects of the self and psychopathology (Difficulties in Emotion Regulation Scale (DERS); Rumination-Reflection Questionnaire (RRQ); the DSM-5 Self-Rated Cross-Cutting Symptom Measure (SVST) (see [Supplementary Information - SI](#)).

Data were initially screened for assumptions (See SI) and examined through simple descriptive statistics, while between-group differences were tested by means of independent sample *t*-test differences between individuals who declared to suffer from psychological difficulties (PD) vs. people that did not report suffering of any form of psychopathology

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(no-PD).

Compared to subjects without psychopathology, the more vulnerable subjects were characterized by significant lower scores in all synchrony VAS (synchrony self, $t = 2.994$, $p = 0.003$; synchrony body, $t = 3.950$, $p < 0.001$; synchrony other, $t = 2.766$, $p = 0.006$; synchrony nature, $t = 3.079$, $p = 0.002$). In contrast, their scores for perception of constraints (with the exception for the sense of the encloseness, $t = -0.318$, $p = 0.002$) and the more cognitive VAS did not differ statistically (Table S1). Moreover, the subjects with low synchrony scores also reported significant higher score on total symptomatology (SVST, $t = -6.328$, $p < 0.001$), on rumination (RUM, $t = -5.634$, $p < 0.001$), on emotional dysregulation (DERS, $t = -3.834$, $p < 0.001$), and lower scores in trusting the body (MAIA Trust, $t = 4.697$, $p < 0.001$), self regulation (MAIA SR, $t = 3.127$, $p < 0.002$), and in self-concept clarity (SCC, $t = 2.005$, $p = 0.040$) (Table S1 for statistical details). These data support

the assumption that low synchrony scores are related to higher degrees of subclinical psychopathological symptoms (See Fig. 1 for an overview of main findings).

Together, these findings show that perception or experience of low synchrony with the own self, body, others and the environment is related with subclinical symptoms of depression, anxiety and other psychopathological manifestations. These data show that “feeling out of synchrony” might index an internal risk factor of the vulnerability of the self that exerts an impact how subjects react to external environmental events (like the COVID-19). Our data highlight the key role of the perception or experience of synchrony of self with regard to subclinical psychopathological symptoms and its malleability by external environmental events. As limitations, we shall mention that we did not administer these data to a specific clinical psychiatric group; therefore, we are limited to the subclinical realm. Future studies are warranted to

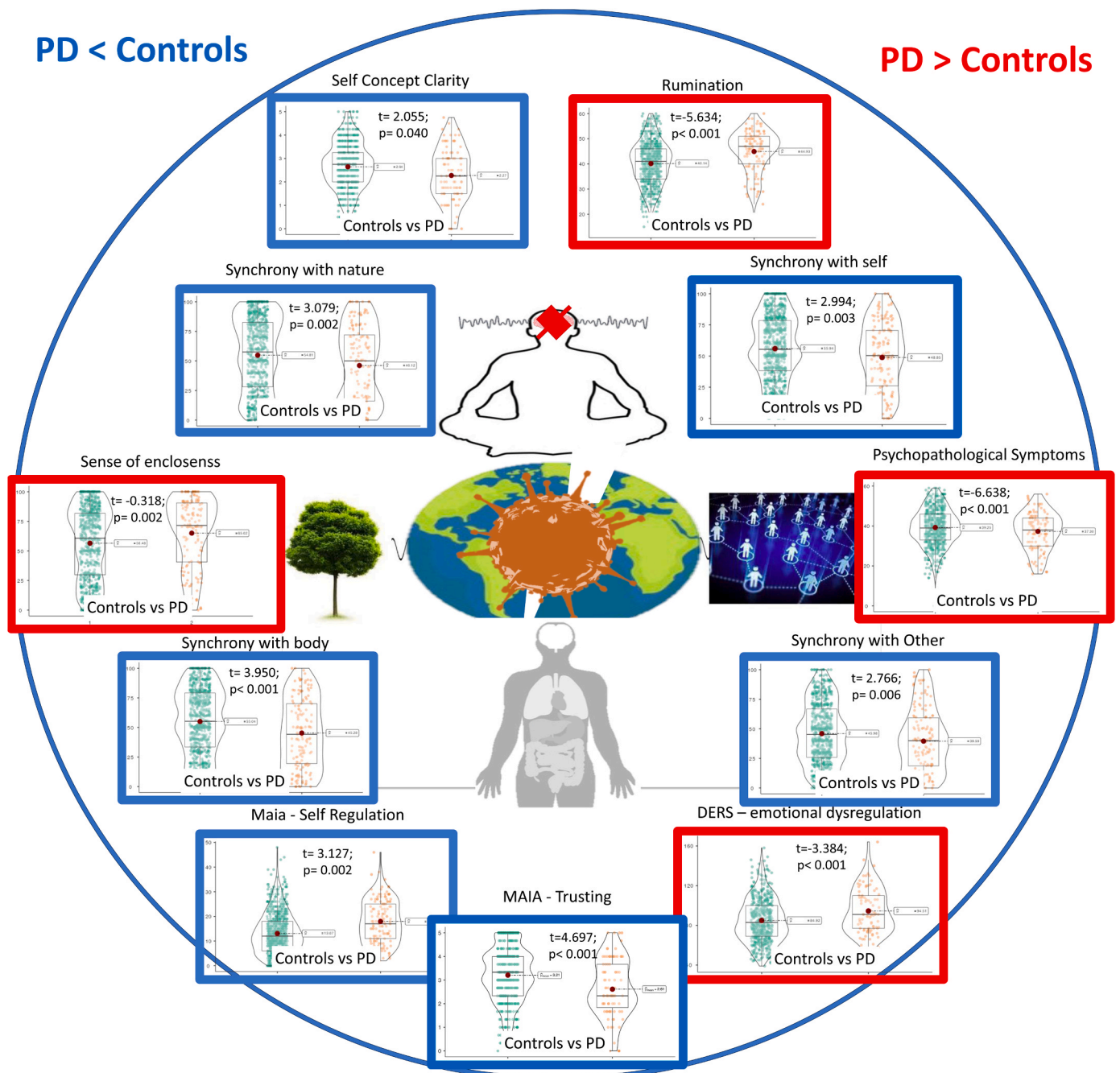


Fig. 1. Visual representation and overview of main findings of the study. PD= psychological difficulties.

include clinical populations or different stress context to better understand the malleability of feeling in synchrony and its relevance for psychopathology and potential treatment.

In conclusion, our findings underscore the importance of the perception or experience of synchrony/connectedness of self including its malleability for subclinical depression, anxiety and other psychopathological symptoms. More generally, our findings highlight the key relevance of our perception or experience of spatiotemporal features like synchrony in constituting psychopathological symptoms. If developed, such spatiotemporal markers like perception of synchrony of one's self could serve for clinical differential diagnosis, as suggested in Spatiotemporal Psychopathology (Northoff et al., 2023), and, following our data, as vulnerability markers or risk factors.

Author Agreement Statement

We the declare that this manuscript is original, has not been published before and is not currently being considered for publication elsewhere.

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

We understand that the Corresponding Author is the sole contact for the Editorial process. He/she is responsible for communicating with the other authors about progress, submissions of revisions and final approval of proofs.

Ethical Statement

- 12) This material is the authors' own original work, which has not been previously published elsewhere.
- 13) The paper is not currently being considered for publication elsewhere.
- 14) The paper reflects the authors' own research and analysis in a truthful and complete manner.
- 15) The paper properly credits the meaningful contributions of co-authors and co-researchers.
- 16) The results are appropriately placed in the context of prior and existing research.
- 17) All sources used are properly disclosed (correct citation). Literally copying of text must be indicated as such by using quotation marks and giving proper reference.
- 18) All authors have been personally and actively involved in substantial work leading to the paper, and will take public responsibility for its content.

Declaration of Competing Interest

The authors declare no conflict of interest.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.ajp.2023.103859](https://doi.org/10.1016/j.ajp.2023.103859).

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