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(INTER)CORPOREALITY AND TEMPORALITY IN MUSIC THERAPY. A PHENOMENOLOGICAL STUDY[1]

abstract

What does it mean "playing music together"? Is this action guided by cognitive or pre-inferential skills? The aim of this paper is to unveil the different components that are implied in a collective action such as "playing music together". The idea which will be supported is that embodiment *and* temporality *are the main important structures that guide the subject. In the first part, we will emphasize the centrality of corporeality in the development of self-awareness and intercorporeal understanding. In particular, drawing on Merleau-Ponty's work, we will argue that the cognitive layer of our consciousness and the pre-inferential one are simply the product of our being embodied. Another central structure for the development of selfhood and intersubjectivity is* temporality*: as we will show, our selfhood and our attunement with the world can be also described in terms of rhythm, whereby implicit body memory allows for the sedimentation of habits, and synchrony, when my bodily and temporalized self is able to automatically tune in with others. In the second part, we will show how these components are at stake in an action like "playing music together": attending music therapy sessions with patients who suffer indeed from an (inter)corporeal detachment allowed us to observe the centrality of those components described in the first part of our work, that is, to show how pre-reflective features (such as implicit body memory, intercorporeality, rhythm and synchrony) are necessary for the development of higher social (and cognitive) abilities.In fact, first person reports collected through a qualitative interview applied to patients allow to support the priority of the pre-reflective, affective and (inter)bodily components over the reflective ones.*

keywords

intercorporeality, bodily selves, temporality, qualitative interview, music therapy

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1. From Corporeality To Intercorporeality

1.1. The Embodied Self

Although the philosophical landscape is not always in agreement about the presence of a "philosophy of the body" in Husserl,[1] the presence Maurice Merleau-Ponty's[2] theoretical knot of corporeality is doubtless.

In his thought, the body assumes a marked *ontological* value. In fact, the lived body, according to the French phenomenologist, is distinguished from all other things in the world thanks to precise features, which can be summarized as follows:

- It belongs to a first-person perspective, and, in turn, allows the individual to have a perspective of the world, being a specific "here and now";
- It forms a whole with the consciousness, which, despite the dominant philosophical traditions, then finds itself being essentially embodied;
- It is the means by which we stand out from others and from objects, and it can be said that it is thanks to the body that we affirm ourselves as unique individuals;
- It is in an intentional relationship with the world: the relationship between subject and world does not consist in mere mechanical relationships; rather, the subject, understood as a living body, moves towards what is different from him, through an ontological opening thanks to which we can say that the body has intentionality;
- It can be defined as an "I can", i.e. as a set of potentialities through which the subject perceives and enjoys its relationship with the world.

Being a living subject (a *Leib*) presupposes a body moving and orienting itself in space not just through one of its senses (such as touch or view), but with the totality of its being. This happens because each part of the body is involved in the other to form an integral and complex experience. Thanks to bodily schema (Gallagher, 1986), the subject can provide a significant structure not only to present and real situations, but also to those that are merely possible: it is for this reason that the self is not only bodily determined, but it seems to be an "I can". The body movement of the subject cannot be explained through causal and physiological reactions, or by the intentionality of the act, which is the representative activity of a pure I.[3]

1 For an in-depth discussion, see, for instance, Carman, 1999; Taipale, 2009; Trizio, 2012.

2 For reasons of space, we will focus only on Merleau-Ponty's contribution. Nonetheless, we are aware that an emphasis on the role of embodiment can be found not only in the phenomenological field (e.g. in Fuchs, 2009; Gallagher, 2005), but also within the cognitive sciences, which boast numerous enactive theories and which are increasingly moving towards the so-called 4E cognition (see: Thompson & Varela, 2001; Thompson, 2005).

3 Interestingly, these statements from Merleau-Ponty were subsequently used for empirical experiments designed by

Corporeal activity is a way of understanding that not only precedes rational thematizing, but is the ground for theoretical judgements: Merleau-Ponty aims to emphasize the ontological centrality of the body as antecedent to any representation, including the distinction between *res cogitans* and *res extensa*.

1.2.The Self and the Incorporation of a Tool

But to what extent does the body define the boundaries of the self ? Or, in other words, does our bodily self correspond to our biological body or is it something that can be extended beyond it?

We can observe how learning a new habit changes the corporeal schema, and accordingly, the self: "The body is our general means of having a world. Sometimes it restricts itself to gestures necessary for the conservation of life, and correlatively it posits a biological world around us. Sometimes, playing upon these first gestures and passing from their literal to their figurative sense, it brings forth a new core of signification through them – this is the case of new motor habits, such as dance. And finally, sometimes the signification aimed at cannot be reached by the natural means of the body. We must, then, construct an instrument, and the body projects a cultural world around itself" (Merleau-Ponty, 2012, pp. 147-148). The body is thus revealed as the means by which consciousness inhabits the world, and without which the subject could not exist: subjectivity and corporeality are thus configured as two elements that refer to each other, forming a single ontological entity.

This is clearly described in *Phenomenology of Perception* by the famous example of the blind man and his cane: "The blind man's cane has ceased to be an object for him, it is no longer perceived for itself; rather, the cane's furthest point is transformed into a sensitive zone, it increases the scope and the radius of the act of touching and has become analogous to a gaze" (Merleau-Ponty, 2012, p. 144). Our embodied existence comprises two main aspects: the habit body and the body at that moment. The latter refers to our immediate experience, in which the body plays a fundamental role but which, however, does not involve the totality of existence. It is, in fact, the habit body that takes on this value, being the persistent element at the basis of our personal existence and representing that structure thanks to which we are able to relate to the world and understand the potential it offers us.

At this point, it seems therefore conceivable and licit to extend the self through the incorporation of instruments: what matters for the purposes of defining the subject are not so much its merely biological characteristics, but rather the capacity that its habit body has to structure its experiences in a prereflective manner, through an intentionality constantly directed towards the world and the perception of its own potential for action (the Gibsonian *affordances*).

The phenomenological approach therefore implies that the mind cannot be separated from an actual involvement with the world, or, in other words, that the neurobiological layer (or the "pre-phenomenal" one) is inextricably linked to the "phenomenal", lived layer of consciousness.[4] From this perspective, then, body, cognition and consciousness constitute a whole, and learning a new habit (by incorporating, for example, an external tool) implies something other than a mere intellectual effort.

neuroscientists (for instance, Goodale & Milner, 1992) who have demonstrated the truth of the French philosopher's thesis. Analyzing clinical cases similar to that of Schneider, these scientists agreed that there is a sort of body awareness through which we act and by which we relate to objects: the reference to motor intentionality is explicit.

4 For the distinction between the pre-phenomenal, trans-phenomenal and phenomenal layers see Stanghellini, 2006, for the intertwinement between the brain and the lived consciousness see Fuchs, 2018.

1.3. Intercorporeality[5]

In *Phenomenology of Perception,* the intended perceptual structure of bodily experience leads Merleau-Ponty to consider perception as being in direct contact with the world and other subjects. In fact, the French phenomenologist conceives the body as a connective element between subject and world. Based on this assumption, the conception of other beings becomes problematic: it is necessary to understand the possibility of conceiving other beings as more than mere projections of ourselves. In order to overcome this problem of the correlation between two discrete entities (egos in this case), Merleau-Ponty firstly formulates a proper phenomenology of the body and then applies it to the idea of intercorporeality.
It is important to notice that he discusses the problem of other egos within the framework of child psychology and pedagogy at the beginning of the fifties (Merleau-Ponty, 2010). In considering how children develop the experience of the other, Merleau-Ponty criticizes the idea that we are merely inferring the existence of other egos through analogy – we are assuming the existence of otherness from our own existence.
It is not that I perceive my own body and its perceptual functions and then, in a second moment, I am attributing all these functions to others. Rather, all my senses are communicating as our body is communicating with other bodies in an "intentional encroachment".
To put it in other words, Merleau-Ponty is not analyzing how it is possible for a consciousness to consider another ego by analogy. Rather, Merleau-Ponty is stressing how consciousness of different individuals appear from this bodily – and intersubjective – structure named intercorporeality that relies on the idea of reversibility. For Merleau-Ponty, the reversibility of the body (its being a perceiving and a perceived body) "...overturns our idea of the thing and the world, and that results in an ontological rehabilitation of the sensible" (Merleau-Ponty, 1964, pp. 166-167). Body is not a mere thing, but in virtue of its reversibility, is a perceiving thing.
In order to obtain an operative intentionality, proper to our pre-reflective dimension of embodied subject, it is not sufficient to explain the role of bodily experience, but also to explicate the link between corporeality and the sensible aspects of the world. In order to integrate the sensible within the operative intentionality, Merleau-Ponty considers all the explorative aspects of the perceptive and bodily experience of things (the perceptive course). As Merleau-Ponty puts it: "...it is the transition that as a carnal subject I effect from one phase of movement to another" (Merleau-Ponty, 1964, p. 167). Perception has a correlative function because the correlation between perceiving subject and perceived things is mirrored in the perceptual experience that we have of other beings: We constitute ourselves through others and other things. Without the explorative function of perception, the experience of other beings would be impossible.

In this context, Merleau-Ponty introduces the idea of intercorporeality in connection with the problem of otherness; the body as a perceiving thing is prepared for 'understanding that there are other *animalia* and possibly other men' (Merleau-Ponty, 1964, p. 168). However, in virtue of the idea of a sensible interconnection between beings, the experience of other beings should not be understood in terms of introjection or analogy but rather from an aesthesiological perspective. In considering this aesthesiological – and carnal – intersubjectivity, Merleau-Ponty formulates the idea of intercorporeality:

> The reason why I have evidence of the other man's being-there when I shake his hand is that his hand is substituted for my left hand, and my body annexes the body of another

5 This section is taken from Guareschi, 2018, where the concept of intercorporeality is extensively covered.

> person in that "sort of reflection" it is paradoxically the seat of. My two hands "coexist" or are "compresent" because they are only one single body's hand. The other person appears through an extension of that compresence; he and I are like organs of one single intercorporeality. (Merleau-Ponty, 1964, p. 168)[6]

We can describe therefore intercorporeality as the pre-reflective ground for the shared and intersubjective dimension.
Within this interconnected experience, it becomes possible for different beings to interact communicatively because intercorporeality guarantees an interconnection between the carnal relationship of bodies and the conscious and communicative activities of beings.

2. Temporality in corporeality and intercorporeality

Embodiment is linked to another fundamental structure: temporality. Their connection can be described in terms of a necessary and multilayered intertwining of the one with the other (Fuchs, 2020): we can claim that *not only the body is temporal, but also it constitutes time.*

2.1. Rhythm

The role of body and time is visible already in the development of self, that we can describe in terms of *rhythm* : a pattern of temporal intervals with specific and quantifiable relationships between them. In the development of the selfhood, rhythm plays a central function. We can argue that body and brain are rhythmically coordinated through the processes of interoception and proprioception (see also Fuchs, 2018) that result in a homeodynamic regulation and to a basic bodily sense of self.
Within this basic notion we can identify the following layers (Fuchs, 2020):

1) *Pre-reflective internal time consciousness,* which is primarily given by the *rhythmicity of the body* (for instance, the rhythm that we can observe in basic vital processes like heartbeat) and by *cyclical* drives and needs (conation) that guide subject's dispositions (also influencing his future). In the development of selfhood, rhythm plays a central function.
2) *Implicit body memory,* composed of sedimented capacities and habits that allow the subject to project himself in the world according to his own capabilities;
3) *Autobiographical, existential temporality*. At this level, the subject has a reflective awareness of herself. At this point, she owns not only a diachronic coherence of a basic bodily self but also a history, a qualitative identity: she recognizes himself as a specific, unique person whose individuality persists across time. In this perspective, the time is linear, and the subject is able to reflect upon her awareness as a whole and to recognize herself as a finite and vulnerable creature.

2.2. Synchrony

Like self-awareness, also *intercorporeal awareness* owns a temporal, embodied dimension, that can be described in terms of *synchrony* (or synchronized rhythm with an external being, see Fuchs, 2018) and corresponds to a sort of bodily alignment that, in phenomenological terms,

6 Flesh as correlation is intended as a system of articulation of different beings and things; these elements share the same thickness of the sensible in virtue of their bodily dimension. In using the expression "organs of one single intercorporeality", Merleau-Ponty is expressing the idea that this co-presence is literally carnal. The intercorporeality that characterizes this experiential situation does not imply a mere presence of different discrete entities, but rather an articulation of entities that share a general carnality. At this stage, we know that the flesh has a character of generality, all organic and inorganic objects and beings have a carnal presence. The idea of the flesh is the starting point for the phenomenological reflection, this carnality – in its intersubjective dimension – is what allows the constitution of the world and beings (human or animal).

we define as "intercorporeality". More specifically, concerning this intersubjective level, we have two manners of sharing temporal experiences:

- *Pre-reflective, implicit synchronization* with joint passive exposure (Searle, 1995), where we can register an emphasis on the protentional horizon (and improvised movements). Here we usually have a spontaneous coordination between individuals who have no plans to perform actions together.
- *Reflective, explicit synchronization* with a joint action plan (Tomasello, 2014), where the emphasis is on the retentional horizon (or habitualised movements). Here we can register a sort of rhythmic alignment, a *cooperation* that can be planned as voluntary: individuals share a goal and program their actions in order to achieve it (so they are provided with mutual predictability).

The capacity of the subject to move in the world and to be capable of being and acting with the others seems therefore to be a matter of an embodied and temporal *musicality* that characterizes each level of personal development.

The link between embodiment and temporality allows us to describe the self as *an embodied and temporally developing center of intentional life* (Heinämaa, 2021), a being provided with an internal and an external musicality. How to restore this kind of attitude in those subjectivities who suffer from a strong detachment from their own selves and the intersubjective engagement? In the next section, we will analyze these features (corporeality and intercorporeality, the link with external tools; implicit bodily memory; rhythm and synchrony) in a specific context: a collective action like "playing music together". We underline the prereflective dimension of living shared experience, and we claim its meaningful role in music practice and therapy. The sensible layer of this intercorporeal experience seems in fact to enact two key features of music practice: rhythm and synchrony. Our aim is therefore to apply the concepts of embodied self and intercorporeality to music therapy, especially in the case of people who suffer from mental disorders and have to interact with each other. This case study will be helpful to argue for the centrality of pre-inferential and bodily features, and to emphasize the role played by embodiment and temporality in the development of selfhood and social understanding.

3. Corporeality and Intercorporeality at work: a Qualitative Study

3. 1. Background: Psychopathology and Music Therapy

We can practically observe the result of this embodied perspective in the analyses of certain psychopathologies, especially those that involve an intersubjective alienation: as a matter of fact, losing our corporeal and pre-reflective sense of self involves a disturbance in the understanding of others (see also Bizzari, 2018). Movement-based therapies, dance therapies, and music therapy can be considered good ways to elicit and strengthen intercorporeal awareness, and accordingly, motor and cognitive skills. For instance, according to Pavlicevic, Ansdell, Proctor & Hickey (2009, cited in Dimitriadis & Smeijster, 2011), "...music therapy is a developmental, musical and interpersonal process which can contribute to the social and emotional integration of a person with ASD" (p. 109). Elefant, Gold & Wigram (2014) suggest that the process of musical improvisation, because of its association with non-verbal language, may help people with autism spectrum disorder to develop and improve their capacity for social interaction and communication skills. Musical improvisation, therefore, enables people with limited or non-verbal communication skills to interact and engage on a more emotional level. Furthermore, music therapy is helpful to create what Krueger called "we-space": "...an emotion-rich coordinative space dynamically structured via the ongoing engagement of social agents" (Krueger, 2011, p. 644).

The phenomenologically-informed interview we developed seems to shed light on the importance of *embodiment* and *temporality* and on the different roles they have in a complex

action like "playing music together". The specific method involved in the lab we attended is the Nardoff Robbins, which consists on a setting based on three moments:

a) matching: to tune in with the client's initial rhythm;
b) pacing: to let her/him improvise;
c) leading: to let her/him follow and freely participate at the joint musical performance.

Without any background in music theory or practice, attendants were actively involved in both duo and group performances during the same sessions. We participated actively, and the therapist recorded the sessions in order to use their audio tracks during the interviews.

3.2. A Qualitative Interview for the Analysis of Joint Actions

3.2.1. Target population

Our interview is directed to people affected by those mental disorders (such as schizophrenia, depression, autism spectrum disorder) which involve problems in corporeality and intercorporeality. We found it interesting to focus on people who actively attend music therapy labs since, in this case, we can also observe potential changes and improvements in self/other awareness, and, in particular, the link between self and intersubjective awareness. We interviewed 15 patients who suffer from different psychopathologies (10 schizophrenic and 5 depressed).

Nonetheless, the most important pathology we would like to take into account is schizophrenia – a disorder where the split between the self and the collectivity is dramatic. This disorder seems to be very suitable to our investigation, as it can involve subjects with a normal cognitive, representational activity, while they are severely impaired in domains like self-awareness and intersubjective understanding. The analysis of schizophrenia can thus be helpful in clarifying how these domains work and to what extent pre-reflective structures and reflective abilities are important and intertwined with one another.

Concerning our attention towards embodiment, schizophrenia can fruitfully illuminate the importance of our being a living body. In fact, in schizophrenia we can register a disruption of the embodied self, which implies the impairment of self-awareness, but also the loss of social attunement:[7] others become merely insignificant machines, and the world is perceived as an impersonal game regulated by impersonal rules. There is a shift from the first-person perspective, typical of a living subject, to a third person approach through which the subject is detached from the world.

We also interviewed depressed patients: also in this case we are facing a pathology where we can observe a form of alienation from the interpersonal and intercorporeal world.

The depressed patient not only feels that nobody can understand them but is also unable to understand others. There is a break in the relational and intentional attunement with the world. Especially in melancholic depression, the body loses its fluidity, becoming heavy and solid, further inhibiting the realization of the subject's intentions. These disturbances of embodiment comprise different but intertwined dimensions (Doerr Zegers *et al.*, 2017):

1) *The embodied self.* The alteration of the subject's relationship with his own body;
2) *The embodied intentionality.* The alteration of the relationship of the subject with the world; in other words, the alteration of the patient's embodied affective intentionality.
3) *The embodied time.* The alteration of biological (and existential) rhythms.

Taking into account the phenomenological differences between these pathologies, the thesis we would like provide evidence for is: *a disruption of our pre-reflective, embodied structures may be responsible for the impairments of intersubjective skills.*

7 The phenomenon of social attunement implies the capacity to establish emotional and reciprocal relationships with others, and the ability to understand immediately and intuitively others' mental states as similar to one's own.

Our *inclusion criteria* are:

- Diagnosis: patients with psychosis (with a special attention to people affected by schizophrenia);
- Patient or legal tutor's consent;
- Minimum age: 18; maximum: 70;
- Sex: male/female;
- Patients participating in collective group of music therapy with continuity (users must have attended a minimum of two seats).

The *exclusion criteria* concern brain injuries, intellectual and developmental disabilities , and neurodegenerative disorders, which would inhibit the cognitive abilities of the subjects. More explicitly, we exclude patients with severe mental disabilities (for parameters see DSM V) since they would not be able to verbally communicate answers.

3.2.2. The test: Items and Scoring

Our test is a semi-structured[8] interview that, by stimulating the subject through music pieces and appropriate questions about the relationship between individual and group, tries to explore subjectivity in a relatively direct manner though examining subjects' experience of embodiment and temporality evidenced by their thoughts, feelings or beliefs.
We conduct the interviews in the environment where the subjects normally perform music therapy to provide a familiar environment where respondents feel at ease. To account for the general idea of the life world of the patient, and facilitate a gestaltic analysis of their experiences, we start with an interview about their social history. Then, we focus on the specific items we identified, which are at the center of our analysis. After answering the questions, the subject is elicited to motivate her/his answers, in a direct, semi-structured dialogue. Prioritizing reciprocity, it may happen that the subject drives our questions, as well as our questions be adapted to subject statements. More specifically, the test is designed to investigate the data experienced by the respondent during the practice of music therapy. Starting from pieces taken from songs used within the sessions (that we divided in improvised and non-improvised performances), we presented the patient with 4 different options that represented four main domains.
Then, we focused on the specific items we identified, and we elicited a semi-structured dialogue.
The scores are given through a range from 1 to 4 according to the different options, where 1 means a very low presence of the item at the center of the analysis, and 4 means an elevated presence of the same item. The user can choose according to her own impressions and feelings, and then we discuss the choice through a dialogue that facilitates reciprocity between the patient and the interviewer.

The main domains we take into account are:
A. Theme 1: *The Relationship between Corporeality and Intercorporeality;*
We have argued how being embodied allows not only for self-awareness, but also for the understanding of others: in this view, intercorporeality is a process based on the immediate

8 Our test is meant to follow the methodological and theoretical background of other phenomenological interviews, like the Examination of Anomalous Self Experience test (Parnas *et al.*, 2005) and the Examination of Anomalous World Experience (Sass *et al.*, 2017). The main important features of this kind of interviews, which we mean to take into account, are: to consider the centrality of *person's* situation; to speak freely and rarely interrupted, making the interview in a conversational mood and asking for open-ended questions; to try to find essential features of the experience (both in form and content); to suspend standard assumptions about time, space and causality; to use a second person perspective and to be genuinely interested in the answers of the patient (favoring an empathic understanding).

transfer of corporeal schema. In fact, kinesthetic sensations make us aware not only of our sensations and movements immediately and intuitively – in a sort of a primary self-consciousness – but seems also to be the ground for the understanding of alterity. The consequence being, that, if the embodied being of a subject is compromised, their self-consciousness and their capability of attunement with the other and the world will be lost or disrupted.

In this perspective, social and corporeal selves seem to share the same roots.[9] How can we therefore describe this relationship in an action like *"playing music together"*?

Intentional acts usually require that the agent knows what s/he is doing, i.e. a non-observational and non-inferential self-knowledge. Nonetheless, when describing group actions, the debate is divided between two main perspectives: Authors (like Ludwig, 2016; Miller, 2006) that claim that a groundless group self-knowledge does not exist, since the knowledge of what we are doing together hinges upon individual self-knowledge and observation. And authors who claim the existence of an immediate and non-inferential sense of togetherness (Schmid, 2009; Searle, 1995).

The first results of our interview align with the second perspective and supports the existence of a "plural, pre-reflective self-awareness", that is "the participants' awareness of what it is they are doing together as their joint action, collectively" (Schmid, 2015, p. 66). In fact, the "playing together" does not happen by accident, but it is *felt* and *experienced* by the participants as a *unit:* "...knowledge in question [i.e., the knowledge at stake in joint actions] is plural pre-reflective and non-thematic self-awareness of what it is the participants are doing together" (Schmid, 2015, p. 51).

The patients, in fact, argue that the collective action fails if they do not feel as they are playing like *"a unit with the others, like a we",* or, on the contrary, they consider the execution well-done when they perform it as a *"we", "without thinking about it"*, since *"we are a group and playing is something that we do like a group, like a community"*, "*it's a group, a unity that is born and has its own life*", *"this song is our signal, it represents us".*[10]

In other words, our embodied and pre-reflective features seems to be prior and necessary to other, more complex level of social interaction.

B) Theme 2: The Relationship between the Subject and the Instrument;

In playing an instrument, the boundaries of our living body can be extended to the instrument itself, which becomes an active part of our experience: while I play my piano, for instance, I am not constantly aware of the boundaries between myself and the keyboard.

In our study, we tried to observe the relationship between the subject and the instrument, with the aim of focusing on self-awareness and the ability to project the personal affordances. The results mainly showed that schizophrenic patients are the most impaired and often suffer from abnormal bodily experiences that hinder the (inter)kinaesthetic sensations and the extension of the body into the instrument. Other patients (the depressed ones) have control on their actions and their instruments (*"It was like the instrument were part of my self "*) with main

9 When examining schizophrenia, the importance of a similar ground is very clear: the subject is affected by *kinesthetic disorders*. The senses are perceived as fragmented, and the subject experiences a disruption of self-awareness which is one of the main symptoms preceding the detachment of the self from intersubjective world. Sensorial coordination is disrupted in the schizophrenic experience, especially in the first stages of the pathology development: we can register abnormal bodily sensations which cause disorders in the intercorporeal attunement process at the base of intersubjectivity.

10 These are some reports we collected during the interview. We will use italics when we will refer to the collected reports.

impairments lying in collective awareness. Seemingly, even if they are both (schizophrenics and depressed) provided with cognitive skills and motor abilities which allow them to play the instrument, they are not able to automatically feel themselves as part of a "we", providing another cue that collective awareness does not lie on reflective stances and inferences but on pre-reflective and affective components.

C) Theme 3: Temporality.

3.1 Implicit Bodily Memory;

The phenomenological investigation about embodiment needs to take into account the notion of "embodied memory", which seems to be central for explaining and accounting for self-identity and intersubjective structures as well. Consciousness seems to be a "being-towards-the-world" through the medium of the body, which works in terms of operative, implicit, intentional patterns of interactions sedimented in the form of sensorimotor and affective schemes. We can thus affirm that there is a sort of implicit body memory that underlies our habits and skills. This tacit and non-deliberate ground of experience "...is intrinsic to the body, to its own ways of remembering: how we remember in and by and through the body" (Casey, 2000, p. 147). We can thus affirm that our body memory enables operative intentionality's functions, facilitating our performances and our *praktognosia* (i.e. the capability to relate to the world in a practical sense and not purely theoretically). The subject perceives and acts in the world not only through a *representational knowledge*, but also through an *embodied, kinaesthetic knowledge,* a process where corporeal memory plays a fundamental role (Koch, Fuchs & Summa, 2012). Music practice is a useful field of investigation for the analysis of both of these kinds of knowledge. Playing an instrument, or singing a specific song, requires both a representational knowledge (I need at least an overall understanding of notes and tones, of the instrument's structure and functions, etc.) but also a non-representational, embodied knowledge, which, thanks to the corporeal memory, allows the player to perform a piece without reflecting on her/his movements (what Merleau-Ponty called "knowledge in our hands", cf. Merleau-Ponty, 1945/2012, p. 145; and Polanyi called "tacit, implicit knowledge", cf. Polanyi, 1967). Rephrasing, in music practice we can observe how different sense modalities and bodily movements work together to form a holistic experience.

Within this context, we wanted to analyze the role of implicit bodily memory in collective music performances, in an effort to better understand how intercorporeal knowledge works. Collective music experience is dynamically shaped through a shared agency and a shared intentionality, structures that presuppose the presence of different living bodies related to one another. As noted by Salice, Høffding and Gallagher (2017), joint musical performances imply three main forms of interaction: motor resonance (individuals adapt their actions to the other agent's contribution automatically); an explicit coordination through bodily expressions; and interkinaesthetic affectivity (Behnke, 2008). According to our account of joint music action, another necessary form of interaction is *intercorporeal memory*, which works together with the very first level of bodily memory.

The result is a holistic experience where individual stances and collective ones are not separable, but instead form a collective experience that could be studied just from a Gestaltic approach. In the majority of the patients, especially those who suffer from schizophrenia, the embodied memory does not work, hindering the execution of performance goals and the collective experience.

3.2. Rhythm and Synchrony

In the philosophical debate regarding joint action (Bratman, 1993; Searle, 1995; Tuomela, 2013, among others), where the focus is usually on the higher levels of cognition such as the

processes of action planning, commitments, and goals, we can find the theory (Tollefsen and Dale, 2012) according to which there is an "alignment system". This system involves lower-level coordinative structures that help to implement higher-level goals. When individuals engage in a joint activity such as a conversation (for instance, the one between therapist and client) or joint problem solving, they become aligned at a variety of different levels which include: coordinated eye movements, similar speech patterns and *synchronized bodily movements.* Richardson and Dale (2005) have shown that *the better the alignment, the better the participants are understanding each other,* and they fulfill the shared goal of communicating with one another (Tollefsen & Dale, 2012, p. 393). In other words, the presence of an alignment system (where we can also include nonverbal synchrony) explains how we-intentions can be formed without prior planning and agreement.[11] Quantitative analysis (see Tschacher, 2020) and philosophical, qualitative studies seem to converge into a multi-layered account of interactive processes where lower levels components are necessary for higher level mechanisms (such as prediction and action).

This can explain why people who suffer from intersubjective disorders seem to register impairments at the level of synchronization with other individuals.

In fact, the results of our interview emphasize the difficulties patients experience and the struggle due to a felt self-other gap.[12] Both schizophrenic and depressed patients seem to register impairments in rhythm *and* synchrony*:* everybody claims "*I have many problems with rhythm" "Rhythm is a real struggle to me", "Keeping the rhythm it's unconceivable to me", "I try to synchronize with others but I cannot" "I fail in synchronizing".*[13]

Whereas the schizophrenic experiences an *ontological* disruption that affects them already at the very first stage of awareness and self, due to a fragmentation of her/his bodily awareness, which becomes exclusively centrifugal; the depressed patient is unable to tune in with others (synchrony) and their biological rhythms are altered because of a break in the embodied time and embodied intentionality; they lose their fluidity and their embodied awareness become centripetal (see also Fuchs, 2005).

4. Conclusions

In the first part of this paper, we describe the idea of embodied self in its ontological value and we formulate the theoretical framework on phenomenological ground. This framework is our tool for the qualitative analysis of a case study: the experience of music therapy. The living body emerges as the fundamental element for our being-at-word, the living dimension of the bodily schema opens up to both the corporeal exploration of being and things and the temporal dimension of experience. In doing so, bodily schema provides a concrete structure of present and possible situations.

Starting from the idea of embodied self we move to the idea that our bodily self could be

11 This can be coherent with Schiavio and De Jaegher's view (2014), according to which musical interactivity can be described as a form of "participatory sense-making", a system where the subjects involved are interactive agents who negotiate in real time their emotional, sensorimotor and communicative skills. In particular, musicians participate in, and transform each others' sense-making, enacting unique shared words of meaning. Accordingly, "making music together" is a relational experience which is always dynamically shaped and co-created by the participants.

12 We also hypothesize that Aspergers' patients, for instance, can be very good in performing the non-improvised songs and show to have a functioning bodily memory; while they all register difficulties in interpersonal alignment and synchronic attunement. Despite of the fact that schizophrenia and Asperger seem to have the same kinds of intentionality (joint intentionality works, we-intentionality does not, see Salice & Henriksen, 2015) their *musicality* seem to differ. Schizophrenic patients have a disruption in *diachronic time* (the ontological sphere is corrupted, their own self-awareness is blurred and, accordingly, even interpersonal attunement); Asperger's problem lies in the *synchronic temporality* (while their self is intact, see also Nillson *et al.*, 2019).

13 Reports from the interviews.

extended beyond itself, for instance, by incorporating a tool. We then elucidate the idea of intercorporeality, intending it as a pre-reflective ground of our shared experience. Intercorporeality appears to be central for communication, exchange and cooperation between beings and emerges as fundamental for intersubjective activities such as music practice, where individuals should coordinate with each others. Within this layer of shared experience, we focus on two forms of temporality: rhythm and synchrony. Both of them leads to a conception of a bodily intentional structure characterized by an openness towards the world.

In the second part of the paper, we apply this phenomenological framework to a qualitative study of music therapy experience. We take into account those subjectivities that experience problems at the level of corporeality and intersubjectivity, such as schizophrenic and depressed patients. Through a phenomenologically informed interview, we focus on *embodiment* (corporeality and intercorporeality), and *temporality* (implicit bodily memory, rhythm and synchrony) and we specify the different roles they have in playing music together.[14]

The results of our study emphasized that pre-reflective bodily experience is prior and necessary to more complex and inferential levels of social interactions. From a *philosophical* perspective, this is coherent with those philosophers according to which "embodiment does the cognitive work" (Morris, 2010, p. 235). From a *clinical* perspective, such a view allows to focus on the importance of strengthening the intercorporeal engagement, regardless of the quality of the performance itself. In other words, pre-reflectively "failing together" is better than an accurate and cognitively perfect performance.

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14 It is interesting to notice that our results are opposed to Salice, Hoffding & Gallagher's analysis (2017) about the phenomenon of expert musicianship. In fact, they deny the existence of plural, pre-reflective self-knowledge and claim that shared intentions do not ground non-observational knowledge about our actions. On the contrary, they maintain that observation and the act of playing together can be read as the result of conscious, explicit, and deliberate attitudes. In our view, we-agency is based upon an intentionality which is shared in multiple degrees:
1) a bodily, affective and pre-reflective level of resonance which is the very core of plural awareness;
2) an inferential level (which develops only in a second moment and is not sufficient if you want to account for a genuine plural subject). The main idea which we support is that the we-agency involved in this kind of plural action cannot be reduced either to mere inferential components (such as the shared intention) or to pre-reflective elements but instead is the result of the combination of pre-reflective and reflective stances. Accordingly, we cannot talk about a "pure" cognitive inferential process, since inference itself seems to be a mechanism where the subject's rationality works together with other components: affective mechanisms, (inter)corporeal stances, and ecological features (see Fuchs, 2018).

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