http://dx.doi.org/10.1007/s11097-019-09618-5

Stanghellini, Giovanni and Milena Mancini. "Abnormal time experiences in persons with feeding and eating disorder: a naturalistic explorative study." *Phenomenology and the Cognitive Sciences* (2019): 1-15.

ABNORMAL TIME EXPERIENCES IN PERSONS WITH FEEDING AND EATING DISORDER: A NATURALISTIC EXPLORATIVE STUDY

G. Stanghellini, M. Mancini

Commentato [MM1]: Grammar is often not very consistent. There are also typos (quite a few). Should this manuscript be published, I think it is mandatory that someone with a high knowledge of formal English corrects this script before it is resubmitted.

Abstract

Objective: To provide a qualitative analysis of abnormal temporal experiences (ATE) of persons affected by feeding and eating disorders (FED).

Sampling and Methods: This is a naturalistic explorative study on a group of 27 patients affected by FED interviewed over a two-years period in a clinical/psychotherapeutic setting. Clinical files were analysed by means of Consensual Qualitative Research (CQR).

Results: twenty-one (77,8 %) out of twenty-seven patients affected by FED reported at least one ATE. The main categories identified are 1) Irruption of disturbing bodily experiences (18 patients); 2) Anxiety for the passing of time (17 patients); 3) Ritualization/Digitalization of time (19 patients).

Conclusions: ATE are a relevant feature of the life-world inhabited by people with FED and may represent an important link between abnormal bodily experiences and disorders of personal identity in these patients.

Limitations: The sample number is small but our preliminary findings justify testing a larger number of samples.

Key-words: Feeding and eating disorders, abnormal time experience, phenomenology, life-world, psychopathology.

Introduction

This paper explores abnormal time experience (ATE) in person affected by feeding and eating disorders (FED) within the framework of a model that considers abnormal eating behaviours in persons with FED epiphenomena of a more profound disorder of lived corporeality and identity (Stanghellini et al. 2012, 2014; Stanghellini and Mancini 2017).

The notion of temporality is central to clinical phenomenology (Jaspers 1963; Minkowski 1933; Binswanger 1960; Kimura 2005; Broome 2005; Vogeley and Kupke 2007; Fuchs 2010, 2013). In recent years, there has been an increasing interest in this area, in particular in the field of schizophrenia and depression (Fuchs 2013; Fuchs and Van Duppen 2017; Northoff 2015; Stanghellini et al. 2015; Stanghellini et al. 2017; Sass et al. 2017). Also, studies on the life-world, and especially on lived corporeality, selfhood and otherness in FED are starting to appear (Castellini et al. 2014, 2015, 2017). In spite of that, there are only few reports, and to our knowledge no empirical studies, about ATE in FED.

FED encompass different psychopathological conditions such as Anorexia Nervosa, Bulimia Nervosa, Binge Eating Disorder, Pica, Rumination Disorder, Avoidant/Restrictive food intake disorder (American Psychiatric Association 2013). Longitudinal studies indicate that most patients migrate among these diagnostic categories over time (Fairburn and Harrison 2003a; Milos et al. 2005) without a substantial change in basic psychopathological features (Fairburn and Cooper 2007; Tozzi et al. 2005; Eddy et al. 2008). This suggests the existence of a common psychopathological nucleus (Fairburn and Harrison 2003; Fairburn et al. 2003).

All these conditions share key phenomena that can be divided into two main psychopathological domains: behavioural and experiential anomalies. Behavioural anomalies include binge eating,

dietary restraint, compensatory purging and body checking. There is a general agreement on considering behavioural anomalies (which are required for nosographical diagnosis) as secondary epiphenomena to a more basic experiential core (Fairburn and Harrison 2003; Fairburn et al. 2003; Fairburn and Cooper 2007; Tozzi et al. 2005; Eddy et al. 2008). Among these experiential features attachment profiles (Bruch 1981; Monteleone et al. 2017a, b; Zachrisson and Kulbotten 2006; Eggert et al. 2007; Demidenko et al. 2010; Illing et al. 2010; Kuipers and Bekker 2012; Dakanalis et al. 2014; Tasca and Balfour 2014;), disorders of emotion (Arnow et al. 1995; Masheb and Grilo 2006; Macht 2008; Schneider et al. 2012; Castellini et al. 2014;), emotional eating (Arnow Bet al. 1995; Waller and Osman 1998; Masheb and Grilo 2006; Macht 2008; Ricca et al. 2009; Schneider et al. 2012; Ricca et al 2012; Castellini, et al. 2014;), abnormal bodily experiences (Grilo et al. 2009; Goldschmidt et al. 2010; Grilo 2013; Castellini et al. 2015; Stanghellini and Mancini 2017), disorders of bodily image and schema (Schilder 1950; Stice and Shaw 2002; Fairburn et al. 2003; Dalle Grave 2011; Eshkevari, et al. 2014;) and disorder of personal identity (Bruch 1982; Sands 1991; Goodsitt 1997; Stein and Corte 2007; Stanghellini et a. 2012) are the most investigated.

In this study, we investigate ATE focusing on self-reports taken from 27 therapeutic interviews with patients with FED. During these interviews, we focused on the experiential dimension of their symptoms and complaints and explored abnormal phenomena particularly with regard to time experience.

Body, otherness and identity in the life-world of persons with FED

This section provides a summary of the main dimensions of the life-world - the province of reality inhabited by a given person, having its own meaning structure and a style of subjective experience and action (Schutz and Luckman 1973, 1989) – of people affected by FED with special reference to three dimensions: the lived body, otherness and identity. We will analyse these dimensions separately and propose an interpretative model that sees them as parts of a meaningful *Gestalt*.

Lived body: Abnormal bodily experiences and anomalous attitudes toward one's own corporeality and related difficulties in the definition of one's own identity have been proposed as the core features of FED (Castellini et al. 2014; Castellini et al. 2015; Stanghellini et al. 2012, 2014; Castellini et al. 2017; Stanghellini and Mancini 2017). Persons with FED often report – with different extents of severity and insight – their difficulties in feeling their own body in the first-person perspective and in having a stable and continuous sense of themselves as embodied agents. What they seem lack is the coenesthetic apprehension of their own body. Difficulties in feeling oneself are accompanied by difficulties in perceiving one's emotions. Indeed, feeling oneself is a basic requirement for achieving a stable sense of one's Self and personal identity (Zahavi 2005; Gallagher 2006; Stanghellini 2009). The experience of not feeling one's own body and emotions affects the whole sense of identity. If a person can hardly feel herself and her feelings are discontinuous over time her identity is no longer a real psychic structure that persists beyond the flow of time and circumstances. Persons with FED feel extraneous from their own body and attempt to regain a sense of bodily Self through compensating strategies. These include starvation:

Bones define who we really are! Let them show! I only feel beautiful when I'm hungry (source: theproanalifestyleforever - Quote# 109772);

or quantification:

Patient: "I will ask my GP to prescribe me some blood tests. I need numbers". Clinician: "Why?". Patient: "To be scared". Clinician: "Why do you need numbers to get scared?". Patient: "Because I do not trust what I feel in my body".

Selfhood and identity: Bodily experience is interconnected with the process of shaping personal identity. We construe our personal identity on the basis of the way we, as embodied Selves, feel emotionally situated in the world. Our feelings tell us what we like or dislike: we appraise the value of things in the world through our body as we feel attracted, disgusted or indifferent to them. This is the way we understand who we are and what we want to be. Whereas most people evaluate and define themselves on the basis of the way they feel themselves in various situations and perceive their performance in various domains, patients with FED judge their self-worth largely, or even exclusively, in terms of their shape and weight and their ability to control them:

"Having my weight under control makes me feel in control of my emotional states"; "If my measures remain the same over time I feel that I am myself, if not I feel I am getting lost". "I believe in bathroom scales as an indicator of my daily successes and failures" (source: theproanalifestyleforever).

Otherness: People with FED feel alienated from their own body and emotions. Since they cannot feel their own body coenesthetically from a first-person perspective, they need to apprehend themselves in alternative ways. As we have seen, these alterative strategies to feel their body include starvation and quantification, yet the most characteristic compensatory mode is experiencing their own body as an *object being looked at by another person*. This phenomenon can be illuminated in the light of the Sartrean concept of 'lived-body-for-others' (Sartre, 1943). Next to experiencing one's body from within (first-person perspective, the body-I-am) or from without (third-person perspective, the body-I-have), one can also apprehend one's own body as one's own body when it is looked at by another person. One can feel one's own body through the gaze of the other or from a *second-person perspective*. Sartre explains that when I become aware that I, or better that my own body, is looked at by another person, I realize that my body can be an object for that person. The upshot of this is a feeling of having my being outside. Thus, one's body becomes reified by the gaze of the Other, and reduced to the external appearance of one's own body.

Empirical research (Stanghellini et al. 2012, 2014; Castellini et al. 2014, 2015, 2017) has documented that Sartre's lived-body-for-others is an excellent philosophical prototype of a psychopathological phenomenon. FED patients feel and define themselves by the gaze of other persons:

"The way I feel I'm seen by others is the way I see myself", "The way I see myself depends on the way other people see me", "Being looked at by another person gives me a sensation solidity".

The way persons with FED feel, even the very possibility to feel themselves, depends on the way they feel looked at by the others.

The incapacity to feel one's body and emotions from a first-person perspective, the difficulty to establish a stable sense of personal identity and the apprehension of one's bodily Self from a second-person perspective through the Other's gaze are supposedly the core inter-related abnormal features of the life-world of people affected by FED. This study is an initial exploration of the way temporality

may relate to these abnormal phenomena. The Other's look only seizes what is visible, that is, appearance. Also, it only seizes what is present here and now. The temporal dimension of the gaze is the present moment. The gaze does not even expand into the nearest future, as it might in the case of someone gazing at someone else while the latter replies with her own gaze. There is not a dialogue of gazes. The other is not a partner with whom one can dialogue (Stanghellini and Mancini 2017). In the following we will explore the temporal dimension of bodily experience of person with FED.

Lived time in persons with FED: an introduction

We must preliminarily distinguish two levels of temporality: explicit and implicit temporality (Fuchs 2013), or (which is quite the same) phenomenal and pre-phenomenal time (Northoff and Stanghellini 2016). By 'phenomenal time' we mean explicit time experience; for instance, the experience that time is running too fast when my football team is losing, or the experience that time is passing too slowly when it is winning. Emotions too affect phenomenal time: for instance, the passage of time seems to vary depending on whether I am anxious, or bored, or angry (Stanghellini and Rosfort 2013). Explicit or phenomenal time must be distinguished from implicit or pre-phenomenal time since the latter functions tacitly and automatically. The pre-phenomenal level is non-experienced but is accessible to cognitive reflection. The integrity of the experience of time is the prerequisites for a basic sense of a coherent Self (Fuchs 2010) and is also connected with the experience of the embodied human subject as being situated in the world in terms of attunement/dis-attunement with other human beings (Fuchs 2013). Personal time can be experienced as synchronized with the time of others (intersubjective time) or as lagging behind the time of other. In this paper we focus on self-reports by persons with FED about the way they experience time, or phenomenal/explicit time.

Materials and methods

The aim of this study is to provide a detailed empirical, although preliminary characterization of the abnormal explicit temporality in patients with FED, and on the basis of that ascertain whether there is an intrinsic temporal structure in their symptoms.

Materials

This is a naturalistic explorative study on a group of 27 patients affected by FED performed in the period between 2015 and 2017 by one of the authors (MM). In this period of time, these patients were interviewed in a clinical setting (see Methods). Diagnoses were assigned according to DSM-5 criteria. Disagreement among the two investigators about diagnosis was a case of exclusion. Patients with substance abuse, severe head injury, medical illness, neurological diseases and mental retardation were also excluded. Of the original 27 patients, 77,8% (N=21) were retained for subsequent qualitative analysis: 12 patients affected by bulimia nervosa, 4 by anorexia nervosa and 5 by binge eating disorder (see table 1).

INSERT TABLE 1 ABOUT HERE

In the present study, we restricted our analysis of the clinical material to subjective anomalies in one's feelings, sensations, and perceptions arising in the domain of explicit/phenomenal time (Abnormal Time Experience - ATE). Our a priori definition of ATE is the following: an anomalous flux of temporal experience both affecting the temporal character of one's awareness of external objects and situations and of oneself as a unified and alive subject of experience. Twenty-one patients (77,8 %) out of the total sample of 27 patients reported at least one ATE.

Methods

Data were collected by M.M. The patients were under the interviewer's care. Patients were interviewed in a clinical setting (phenomenological-dynamic psychotherapy according to the PHD method (Stanghellini 2017; Stanghellini and Mancini 2017), a kind of psychotherapy aimed to expand the patient's insight into abnormal experiences. Duration of each interview was approximately 45 minutes. Each patient was interviewed at least 20 times. Appropriate consent was obtained from all patients for the purpose of the interviews.

The interviewer adopted an interactive conversational style exploring life-time symptoms as well as abnormal phenomena relevant to unfold the patient's field of experience. The latter included subtle, strange and disturbing fringe experiences usually neglected in routine clinical examination. During the interviews, experiential patterns were extracted through self-descriptions: patients were asked open questions and subsequently requested to offer descriptive examples of their experiences, particularly with regard to time, body, others and Self. Interviews sought to uncover the qualitative features of experiences and to illuminate them through vivid self-descriptions, rather than measure or causally explain them.

Interview questions related to ATE and other abnormal phenomena were not established a priori, but always generated within the interview context and attuned with the interviewee's personal experience and involvement. Examples of questions include the following: 'Think about an experience, a period in your life when you were particularly aware of time and tell me about it'. 'Did you experience some strangeness in the flowing of time? For instance, in time duration?', or ''Are you more focused on the present, past, or future?'. 'Do you experience the speed of time as accelerated or decelerated?'. The majority of self-narratives analyzed in this study were provided by patients spontaneously and not as answers to *ad hoc* questions.

ATE were re-classified following Consensual Qualitative Research (CQR), a consolidated method for qualitative research (Hill et al. 1997; Hill et al. 2005). Qualitative research is essential for improving the understanding of the patients' morbid subjectivity, not constrained by fixed schemata such as specific rating scales. The qualitative approach to anomalous phenomena is concerned with bringing forth the typical feature(s) of subjective experiences in a given phenomenon (Stanghellini and Ballerini 2008). CQR is ideal to conduct in-depth studies of the inner experiences of individuals and for the study of phenomena whose evaluation measures have not previously been designed. The CQR method seems very suitable for phenomenological approaches as it is devised for an in-depth description of subjective phenomena while reducing the bias of the researcher's subjectivity. The reasons why we adopted CQR for elaborating our data can be summed up as follows: (1) CQR is a

manualized method; the existence of a handbook is essential for making a qualitative method understandable, applicable, transmissible and replicable; (2) with CQR, the 'consensus among judges' procedure allows an 'objective' assessment of 'subjectivity' as it disciplines the researchers' subjectivity, especially in the phase of data analysis; (3) CQR does not aim to select a single core category with a hierarchical structure since it does not want to propose a new theory but to describe a given phenomenon in great detail.

In the phase of research called 'cross-analysis' we identified common themes in ATE reflected in the experiences of the patients, in order to place the central experiences within the categories. According to CQR method a typical Category must include more than half of the participants. Each Category may include more Subcategories (e.g., 'Sudden irruption of disturbing bodily experiences'). For each single case, we identified a *core experience*, in order to catch with greater clearness, the essence of what has been said. Then, we asked for feedback from an auditor in order to make sure that the cross-analysis was clear and made sense. The auditor gave his feedback individually to the primary team, who discussed it and made, when necessary, the appropriate changes.

Results

ATE were reported by 21 out of 27 patients affected by FED. We identified three main categories of ATE, namely (1) Sudden irruption of disturbing bodily experiences, (2) Anxiety for the passing of time, (3) Ritualization/Digitalization (see table 2).

INSERT TABLE 2 ABOUT HERE

1. Sudden irruption of disturbing bodily experiences

Patients experience violent changes in their body experience and/or invasion by emotions, impulses or desires. They experience a state of loss of control on themselves and on the situation. These experiences are felt as a threaten to their sense of sameness over time and of personal identity and lead to a feeling of inner vacuum and isolation. Their inability to define what is happening throws them into a state of confusion. Typical sentences are:

- *It's like a flash! I see him and I feel very stupid. As soon as I am alone, I eat until I explode!*
- *When reality crashes on me I don't know what to do ... I feel like a complete stranger. It runs fast! Time is so elusive.*
- *Chaos takes on me when I cannot control my emotions.... I feel useless... I come back to my old friend: food.*

Eighteen out of 21 responding patients report at least one ATE in this category.

2. *Anxiety for the passing of time*

Patients are over-preoccupied with the passing of time. In patients with a cross- sectional diagnosis of anorexia time is experienced as passing too fast, whereas to patients during a bulimic phase time is empty, meaningless, confused. Typical sentences are:

- *The passage of time empties me. I have to fill up all ... everything. All this troubles me.*
- *This bad time, ... this savage time blows in my face my uselessness ... Pure anguish! I have to fill the time, the void I have inside, the days ... this anguish.*
- *If I could choose I would stop time! Time is responsible for my failure. I will not succeed! I promised to lose weight ... Two kilos before Christmas. I will not succeed!*
- *It's a fight against the minutes but I'll make it! I will succeed!!!*
- *I feel the pain of the passing time ... as if it was a falling star!*

Seventeen participants out of 21 responding patients report at least one ATE in this category.

3. Ritualization/ Digitalization

The abrupt changes in body experience and the irruption of emotions and desires (category 1), and the anxiety for the passing of time (category 2) involve the need to “manage time” in order to cope

with these disturbing phenomena. Coping or compensating strategies include *ritualization* and *digitalization*. Nineteen participants out of 21 responding patients report at least one of these behaviours aimed to cope with the loss of the naturalness of time experience. Examples of rituals include: weighing and measuring food, sometimes repeatedly, eating specific foods and in a particular order, cutting food into small pieces, disassembling food, eating a rigid amount of calories and stopping once that amount is reached, eating only at specified times. Typical sentences are:

- *Now, I know how to eat! Chew very slowly… I divide everything into small pieces, so there seems to be more food in the dish …*
- *Drink at least 5 litres of draining infusions each day.*
- *I spend a lot of time by dividing everything.*
- *Everything in my dish must be reduced to small pieces!*

Rituals are often evident in binge eating (e.g., specific patterns of purchasing/gathering large quantities of food). In bulimia, rituals include amassing and ingesting large quantities of food, followed by purging (compensatory behavior).

A characteristic behavior of anorexic patients consists in counting calories and recording weight. Being obsessed with numbers is a typical feature of these ritual. The need to achieve control over bodily changes produces a *digitalization* of one's body's inputs and outputs. Eating is "a numbers game", "a game of input and output". A "bad number" in the morning can cause the anorexic persons to restrict severely for the rest of the day.

- *I eat one or two apples each day … I wish to be a size 38!*
- *Weight everything … Everything... Nothing must exceed 15 grams …*
- *35 kilos is my threshold … if I get more I'm scared to lose control.*
- *30,000 steps is 20 kilometres, 1 kilometre is 80 calories. I can 'walk away' 1,600 calories in less than 2 hours.*

Discussion

Patients with FED report the feeling that their body can change continuously (Nordbø et al. 2006; Skårderud 2007a, b). Obviously, all human beings are affected by a dynamic person-situation interaction that involves fluid changes in the experience of one's own body (Castellini et al. 2014). For example, there can be activating contexts such as a public party in which one may feel more clumsy or smart. Persons' beliefs entail self-evaluative social comparisons in which being placed in a body have ceased to be guarantees of identity or stability, and have become tasks. The behavioural consequences may for instance include attempts to conceal one's body by covering it, or the restriction of social interactions. Understanding this dynamic interplay of the person and contextual events is crucial for the appreciation of body experience fluidity in everyday life.

Yet the way FED people experience changes in their lived body largely exceeds the standard fluid and dynamic person–situation interaction. Anecdotal reports (Stanghellini 2005; Castellini et al. 2014; Stanghellini and Mancini 2017) suggest that FED patients are affected by temporal discontinuity in the experience and representation of their own body as these may change profoundly according to the kind of social situation in which they are embedded. This sudden and unpredictable changes in bodily experience enhance compensatory strategies (avoidant behaviour, obsessive monitoring and control over eating as well as bodily shape, weight, etc.).

Our research conformed that a central feature of ATE in persons with FED is their fear that their body may change continuously (Nordbø et al. 2006; Skårderud 2007a, b; Castellini et al. 2014). We named this category *Sudden irruption of disturbing bodily experiences*; this is characterized by a disorder of the basic continuity of experience. There is no past, present and future articulated in a temporal flow, but the present stands out and it imposes itself to the patient. Patients live the present as an urgency, and feel unable to define what happens and what they are feeling. When they have a feeling coming from their body, an emotion or bodily sensation (e.g. stomach rumbling), FED patients are surprised

and upset by these experiences as they imply the frightening sensation of loss of control. Here, the basic core for the temporal experience is a discontinuity and suddenness related to body and emotional experience.

Another key feature is the *anxiety for the passing of time*. To persons affected by FED identity is a task, not a taken for granted datum. Shaping oneself is a "concretised metaphor", establishing equivalence between a psychic reality (identity) and a physical one (one's body shape) (Stanghellini 2005, 2017; Stanghellini and Mancini 2017). This necessity to endlessly construct themselves is accompanied by anguish with respect to the inexorable passing of time ('time uncontrollable', or *being-too-late* temporal mode) and anxiety with respect to an uncontrollable future ('time lost', or *impending/uncontrollable-future* temporal mode). Especially persons with anorexia struggle to give a stable shape to their body as a guarantee to preserve their identity. Patients report a need for severe restrictions to achieve their 'ideal weight' and complain that the time to complete this task is short and adverse. They strive to achieve control over their body (in particular their weight), through a "fight against time". Time past is lived as negative (it reminds them of an "ugly" body, or of a body out of control). Time present is hostage to an uncontrollable future, and the latter is felt as impending and pre-determined.

Patients feel that they have lost the capacity for "unfolding in time" (Minkowski 1952). ATE in persons with FED reflect and bring to its climax the experience of the passing of time as an inevitable rush to entropy, to the *unform*. Their preoccupation that something in future will jeopardize self- and body-control encapsulates more vividly than all other abnormal existential conditions a phenomenon we could call *existentiophobia*. This is the deep-rooted, irrational fear of existing, of changing, of becoming. *Existere*/*exsistere* means "stand forth, come out, emerge"), or - as Paul Tillich (1957) argues - the encounter sometimes traumatic between the person and reality, the attempt to stand out of non-being or the face-to-face of "actual being and the resistance against it" (p. 23). Future is dangerous because it is the realm of the event, the unattended, the uncontrollable, that is of something unexpected rising from the body, from its involuntary dimension (drive, emotion, desire); future is

also dangerous because it is where the crash between the involuntary bodily dimension and reality takes place.

Irruption of disturbing bodily experiences and anxiety for the passing of time determine the third category of ATE in FED, namely *Ritualization/Digitalization*. Ritualization and digitalization are secondary phenomena with respect to the anxiety for the passing of time and the fear for the irruption of the uncontrollable (see figure 1). Time is employed in the attempt to monitor and to achieve or restore control over one's body. Patients strive to feel in control of their lives through controlling their bodies. Dieting is perceived as being in control and "good" while not dieting or bingeing is valued as out of control and "bad". However, the dieting or "good" phase is short-lived and always leads to an eating or bingeing phase. Ritualization is a way of restoring control and defining oneself.

ha formattato: Evidenziato

INSERT FIGURE 1 ABOUT HERE

A second strategy to try to compensate anxiety for the sudden irruption and for passing of time is digitalization. Persons with FED live in a sort Galilean life-world dominated by the idea that everything is digital, that numbers are the measure of everything and the way to monitor and control all that exists. Ritualized time appears 'hyper-focalized' and spontaneity is lost. A main consequence of the digitalization of time is a sort of Fordism applied to the manufacturing of one's own body. Time is not experienced as a fluid succession of events, but fragmented into separate and numerable units. This parallels the digitalization of the body, the latter consisting in apprehending one's body through objective measures like weight, size, calories input, etc. (Stanghellini et al. 2012; 2014) rather than holistically and coenesthetically. Digitalization reduces the disturbing emotional components (irruption and anxiety) in experiencing time. Its purpose is also to optimize the use of time, and achieve a more effective control over it.

ha formattato: Evidenziato

ha formattato: Evidenziato

Persons with FED share with persons affected by obsessive disorder both ritualization and digitalization, yet there are relevant differences between the two. In the former digitalization and ritualization are all focused on the body and directed to fat and appetite and their moral value, rather

than to the *aneidos* (the *un-form*) and its contaminating power as it is the case with persons with contamination obsession (Straus 1966; von Gebsattel 1958). Ritualization and digitalization in FED are a way to avoid unnecessary consumption of time. They are meant to limit the passing of time that generates anxiety. They also have the purpose of controlling the sudden irruption of emotions or catastrophic bodily changes.

As we have seen ritualization and digitalization are at the origin of behavioural symptoms (e.g. weighing and measuring food, disassembling food, eating a rigid amount of calories, compulsive exercise, etc.). However we should remember that these abnormal conducts are defences or attempts to compensate more profound experiential anomalies. Behavioural symptoms in persons with FED are "technics" in the Foucaldian sense of *technai tou biou* (Foucault, 1988) – attempts to cope with existential fragilities – or "shelters" (Jaspers 1925) in which a person has her hold and seeks refuge from her dread of limit situations, those situations in which her existence can be put at jeopardy. When rituals are impeded or interrupted patients drop into a state of vacuum and indefiniteness. This leads to bankruptcy experiences, reduction of self-esteem and self-efficacy.

Conclusions

Our research highlights the relevance of ATE in persons with FEDs, and the links between these anomalies, abnormal bodily experiences and disorders of personal identity. Both body and Self are experience as temporally fleeting, discontinuous, and in need for an external locus of control.

The temporal continuity of the experience and representation of one's own body is altered in patients with FED. Selfhood and identity are affected as a consequence of ATE. One morning they feel they thighs fit perfectly in their pants, another morning instead they have become huge. For this reason, these patients spend a lot of time in front of the mirror to check their body. Especially anorexic patients try to maintain a sense of continuity trough time by continuous monitoring of eating (e.g.

quantity of calories), checking of body weight, shape, etc. Due to the discontinuity of their bodily feelings, they need to resort to their own body weight as a viable source of definition of the Self.

ATE in FED are characterized by three main features. The first, *Abrupt irruption of disturbing bodily experiences*, includes feeling of invasion by emotions or desires and the incapably to define oneself, time by time, in the course of these violent changes. The second, *Anxiety for the passing of time*, is characterized by abnormal experience of flow and velocity of time. The third, *Ritualization/Digitalization*, includes the need to establish rituals to control these. All are supposedly the manifestations of the discontinuity of the temporal experience related to body experience, experience of one's emotions and personal identity.

Our data suggest that the abnormal experience of time is strictly related with the feeling of alienation of one's own body and from one's own emotions, and from the difficulties in the definition of one's own identity. These three domains are closely connected to each other. The incapacity to construe their personal identity on the basis of their feelings, and their difficulties in feeling their own body in the first-person perspective, does not allow people with FED to achieve and maintain a stable and continuous sense of themselves as embodied and embedded agents. Lived time thus becomes merely *additive* and loses its *situative* dimension.

This study has at least three limitations. The first is the small sample number, the second is that it does not clearly differentiates different temporal profiles in different phases of FED (e.g. anorexic or bulimic phase), the third is that it does not help to clarify the temporal contour of feeling one's body in the second-person perspective. Yet our preliminary findings are sufficiently consistent to justify extending this research to a larger number of patients.

Table 1: Socio-demographic features of the Study Sample

Participants

Feeding and Eating Disorder

		Anorexia Nervosa		Bulimia Nervosa		Binge Eating	
N	21	4		12		5	
Gender Male/Female	1/20	0/4		0/12		1 /4	
%Male	4,76%	/		/		20%	
Age		**fi**	**f%**	**Fi**	**f%**	**fi**	**f%**
< 19		0	/	1	8,33%	0	/
20-30		4	100%	9	75%	4	80%
31-41		0	/	2	16,6%	1	20%
Means	27,76						
SD	24,87						

Table 2: ATE in FEDs: categories and core phenomena

1. CATEGORY: Sudden irruption of disturbing bodily experiences (N=18)

Core phenomenon:

Patients experience violent changes in their body and/or invasion by emotions or desires. This category is characterized by a disorder of the basic continuity of experience, in particular of temporal flow.

Typical sentences:

- *It's like a flash! I see him and I feel very stupid. As soon as I am alone, I eat until I explode!*
- *When reality crashes on me I don't know what to do ... I feel like a complete stranger. It runs fast! Time is so elusive.*
- *Chaos takes on me when I cannot control my emotions... I feel useless... I come back to my old friend: food.*

2. CATEGORY: Anxiety for the passing of time (N=17)

Core phenomenon:

Patients are over-preoccupied with the passing of time. This category is characterized by the "fight against time". Patients feel that they have lost the capacity for "unfolding in time".

Typical sentences:

- *The passage of time empties me. I have to fill up all ... everything. All this troubles me.*
- *This bad time ,... this savage time blows in my face my uselessness .. Pure anguish! I have to fill the time, the void I have inside, the days ... this anguish.*
- *It's a fight against the minutes but I'll make it! I will succeed!*

3. CATEGORY: Ritualization/Digitalization (N=19)

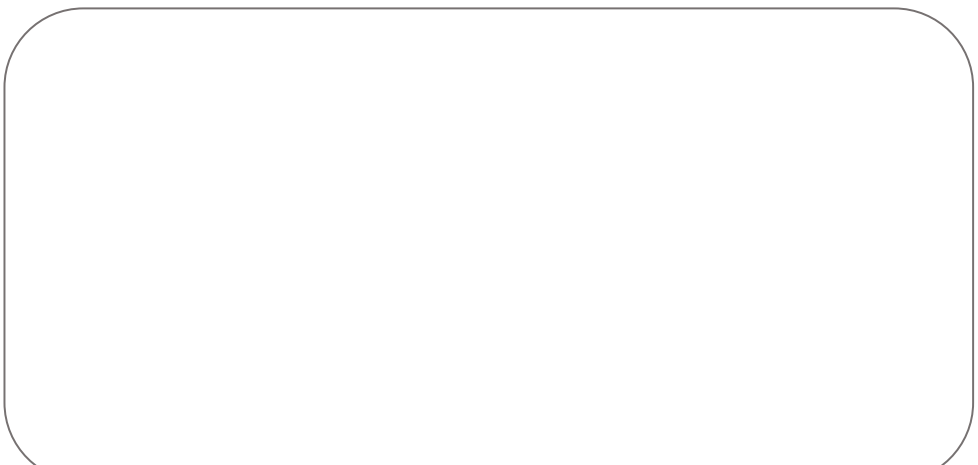
Core phenomenon:

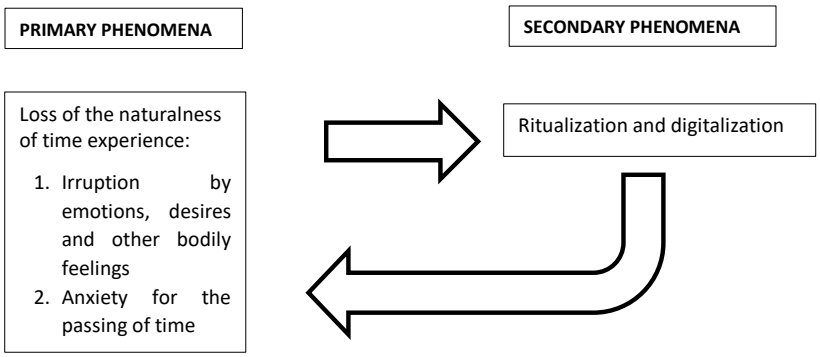
Patients need to establish rituals to control and to "manage time". Time is employed in the attempt to monitor and to achieve or restore control over one's body.

Typical sentences:

- *Now, I know how to eat! Chew very slowly… I divide everything into small pieces, so there seems to be more food in the dish …*
- *30,000 steps is 20 kilometres, 1 kilometre is 80 calories. I can 'walk away' 1,600 calories in less than 2 hours*
- *I eat one or two apples each day … I wish I were size 38!*

Figure 1: Primary and secondary phenomenon





References

American Psychiatric Association (2013). *DSM 5*. American Psychiatric Association.

Arnow B., Kenardy J., Agras W.S. (1995). The Emotional Eating Scale: the development of a measure to assess coping with negative affect by eating. *Int J Eat Disord*;18:79-90.

Binswanger, L: Melancholie und Manie. Phänomenologische studien. Günther Neske, Pfullingen, 1960.

Broome M. R. (2005). Suffering and eternal recurrence of the same: the neuroscience. Psychopathology and philosophy of time. *Philos Psychiatry Psychol*;12:187–194.

Bruch H. (1982). Anorexia nervosa: therapy and theory. *Am J Psychiatry*; 139: 1531–1538.

Bruch, H. (1981). Developmental considerations of anorexia nervosa and obesity. *The Canadian Journal of Psychiatry/La Revue Canadienne de Psychiatrie*, 26(4), 212–217.

Castellini, G., Franzago, M., Bagnoli, S., Lelli L., Balsamo, M., Mancini, M. et al. (2017). Fat mass and obesity-associated gene (FTO) is associated to eating disorders susceptibility and moderates the expression of psychopathological traits. *PloS one*, *12*(3), e0173560.

Castellini, G., Stanghellini, G., Godini, L., Lucchese, M., Trisolini, F., and Ricca, V. (2015). Abnormal bodily experiences mediate the relationship between impulsivity and binge eating in overweight subjects seeking bariatric surgery. *Psychotherapy and Psychosomatics*, 84(2), 124–126.

Castellini, G., Trisolini, F., and Ricca, V. (2014). Psychopathology of eating disorders. *Journal of Psychopathology*, *20*(1), 461-470.

Dakanalis, A., Timko, C. A., Zanetti, M. A., Rinaldi, L., Prunas, A., Carrà, G., et al. (2014). Attachment insecurities, maladaptive perfectionism, and eating disorder symptoms: A latent mediated and moderated structural equation modeling analysis across diagnostic groups. *Psychiatry Research*, 215, 176–184.

Dalle Grave R. (2011). Eating disorders: progress and challenges. *Eur J Intern Med*; 22: 153–160.

Demidenko, N., Tasca, G. A., Kennedy, N., and Bissada, H. (2010). The mediating role of self-concept in the relationship between attachment insecurity and identity differentiation among women with an eating disorder. *Journal of Social and Clinical Psychology*, 29, 1131–1152.

Eddy, K. T., Dorer, D. J., Franko, D. L., Tahilani, K., Thompson-Brenner, H., and Herzog, D. B. (2008). Diagnostic crossover in anorexia nervosa and bulimia nervosa: implications for DSM-V. *American Journal of Psychiatry*, *165(2)*, 245-250.

Eggert, M. A., Levendosky, A., and Klump, K. (2007). Relationships among attachment styles, personality characteristics, and disordered eating. *International Journal of Eating Disorders*, 40, 149–155.

Eshkevari, E., Rieger, E., Longo, M. R., Haggard, P., and Treasure, J. (2014). Persistent body image disturbance following recovery from eating disorders. *International Journal of Eating Disorders*, 47(4), 400–409.

Fairburn C. G., Cooper Z., and Shafran R. (2003). Cognitive behaviour therapy for eating disorders: a transdiagnostic" theory and treatment. *Behav Res Ther*;41:509-28.

Fairburn C. G., Harrison P. J. (2003a). Eating Disorders. *The Lancet*, *361*(9355), 407-416.

Fairburn, C. G., Cooper, Z. (2007). Thinking afresh about the classification of eating disorders. *International Journal of Eating Disorders*, *40*(S3).

Foucault M. (1988). The History of Sexuality, Vol. 3: The Care of the Self. New York : Vintage Books.

Fuchs T. (2010). Phenomenology and psychopathology. In: Gallagher S, Schmicking D (eds), *Handbook of Phenomenology and the Cognitive Sciences*. Dordrecht, Netherlands: Springer; 547–573.

Fuchs T. (2013). Temporality and psychopathology. *Phenom Cogn Sci*; 1:75–104.

Fuchs, T., Van Duppen, Z. (2017). Time and events: on the phenomenology of temporal experience in schizophrenia (ancillary article to EAWE domain 2). *Psychopathology*, *50*(1), 68-74.

Gallagher S. (2006). *How the Body Shapes the Mind*. Oxford, Oxford UP.

Goldschmidt A. B., Hilbert A., Manwaring J. L., Wilfley D. E., Pike K.M., Fairburn C. G. Et al. (2010). The significance of overvaluation of shape and weight in binge eating disorder. *Behav Res Ther*; 48: 187– 193.

Goodsitt A. (1997). Eating disorders: a self-psychological perspective. In Garner D., Garfinkel P. (eds), *Handbook of Treatment for Eating Disorders*, ed 2. New York, Guilford, pp 205–228.

Grilo C. M. (2013). Why no cognitive body image feature such as overvaluation of shape/weight in the binge eating disorder diagnosis? *Int J Eat Disord*; 46: 208–211.

Grilo C. M., Crosby R.D., Masheb R.M., White M.A., Peterson C.B., Wonderlich S. A. et al. (2009). Overvaluation of shape and weight in binge eating disorder, bulimia nervosa, and sub-threshold bulimia nervosa. *Behav Res Ther*; 47: 692–696.

Heidegger M. (1962). Being and Time. New York, NY: Harper and Row.

Hill, C.E., (2011). Consensual qualitative research: A practical resource for investigating social science phenomena. *American Psychological Association.*

Hill, C.E., Knox, S., Thompson, B.J., Williams, E.N., Hess, S.A., Ladany, N., (2005). Consensual qualitative research: an update. *Marquette Univ*; 52, 196-205.

Hill, C.E., Thompson, B. J. E., Williams, N., (1997). A Guide to Conducting Consensual Qualitative Research. *Couns Psychol*; 25, 517-572.

Illing, V., Tasca, G. A., Balfour, L., and Bissada, H. (2010). Attachment insecurity predicts eating disorder symptoms and treatment outcomes in a clinical sample of women. *The Journal of Nervous and Mental Disease*, 198(9), 653–659.

Jaspers K. (1925) Psychologie des Weltanschauung. Berlin: Springer.

Jaspers K. (1963). *General Psychopathology*. Translated by Hoenig J, Hamilton MW. Chicago, IL: University of Chicago Press.

Kimura B. (2005). *Scritti di Psicopatologia Fenomenologica*. Roma, Italy: Giovanni Fioriti Editore.

Kuipers, G. S., Bekker, M. H. J. (2012). Attachment, mentalization and eating disorders: A review of studies using the adult attachment interview. *Current Psychiatry Reviews*, 8, 326–336.

Macht M. (2008). How emotions affect eating: a five-way model. *Appetite*;50(1):1-11.

Masheb R. M., Grilo C. M. (2006). Emotional overeating and its associations with eating disorder psychopathology among overweight patients with binge eating disorder. *Int J Eat Disord*;39:141-6.

Milos, G., Spindler, A., Schnyder, U., and Fairburn, C. G. (2005). Instability of eating disorder diagnoses: prospective study. *The British Journal of Psychiatry, 187(6)*, 573-578

Minkowski E. (1933). *Le temps vecu.* Paris, France: d'Arey.

Minkowski, H. (1952). Space and time. In Sommerfeld, A. (ed), *The Principle of Relativity*, New York: Dover.

Monteleone A. M., Castellini G., Ricca V., Volpe U., De Riso F., Nigro M., et al. (2017). Embodiment Mediates the Relationship between Avoidant Attachment and Eating Disorder Psychopathology. *European Eating Disorders Review*; doi: 10.1002/erv.2536.

Monteleone, A. M., Castellini, G., Volpe, U., Nigro, M., Zamponi, F., Ricca, V., et al. (2017a). The disorder of lived corporeality: A possible link between attachment style and eating disorder psychopathology. *European Psychiatry*, 41, S557-S558.

Nordbø, R. H., Espeset, E., Gulliksen, K. S., Skårderud, F., and Holte, A. (2006). The meaning of self-starvation: Qualitative study of patients' perception of anorexia nervosa. *International Journal of Eating Disorders*, *39*(7), 556-564.

Northoff, G. (2015). Is schizophrenia a spatiotemporal disorder of the brain's resting state? *World Psychiatry*, *14*(1), 34-35.

Northoff, G., Stanghellini, G. (2016). How to link brain and experience? Spatiotemporal psychopathology of the lived body. *Frontiers in human neuroscience*, *10*, 33-…

Ricca V, Castellini G, Lo Sauro C, Ravaldi C, Lapi F, Mannucci E, et al. (2009). Correlations between binge eating and emotional eating in a sample of overweight subjects. *Appetite*;53(3):418-21.

Ricca, V., Castellini, G., Fioravanti, G., Sauro, C. L., Rotella, F., Ravaldi, C., et al (2012). Emotional eating in anorexia nervosa and bulimia nervosa. *Comprehensive psychiatry*, *53*(3), 245-251.

Sands S. (1991). Bulimia, dissociation, and empathy: a self-psychological view. In Johnson C. (ed), *Psychodynamic Treatment of Anorexia Nervosa and Bulimia Nervosa*. New York, Guilford, pp 34–50.

Sartre, J. P. (1943/1992). *Being and Nothingness*. New York: Washington Square Press.

Sass, L., Pienkos, E., Skodlar, B., Stanghellini, G., Fuchs, T., Parnas, J., and Jones, N. (2017). EAWE: Examination of anomalous world experience. *Psychopathology*, *50*(1), 10-54.

Schilder P. (1950). *The Image and Appearance of the Human Body: Studies in the Constructive Energies of the Psyche*. New York, International UP.

Schneider, K. L., Panza, E., Appelhans, B. M., Whited, M. C., Oleski, J. L., and Pagoto, S. L. (2012). The emotional eating scale. Can a self-report measure predict observed emotional eating?. *Appetite*, *58*(2), 563-566.

Schutz, Alfred and Luckmann, Thomas. 1973. *The Structures of the Life-World Vol. 1*. Northwestern University Press.

Schutz, Alfred and Luckmann, Thomas. 1989. *The Structures of the Life-World Vol. 2*. Northwestern University Press.

Skårderud, F. (2007a). Eating one's words, Part I:'concretised metaphors' and reflective function in anorexia nervosa—An interview study. *European Eating Disorders Review*, *15*(3), 163-174.

Skårderud, F. (2007b). Eating one's words, part II: The embodied mind and reflective function in anorexia nervosa—theory. *European Eating Disorders Review*, *15*(4), 243-252.

Stanghellini G. (2009). Embodiment and schizophrenia. World Psychiatry 8: 56–59.

Stanghellini G., Castellini G., Brogna P., Faravelli C., Ricca V. (2012). Identity and Eating Disorders (IDEA): a questionnaire evaluating identity and embodiment in eating disorder patients. *Psychopathology*; 45: 147–158.

Stanghellini G., Rosfort R. (2013). *Emotions and Personhood: Exploring Fragility – Making Sense of Vulnerability*. Oxford, Oxford University Press.

Stanghellini, G. (2005). For an anthropology of eating disorders. A pornographic vision of the self. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, *10*(2), 21-27.

Stanghellini, G. (2017). *Lost in dialogue. Anthropology, psychopathology, and care*. Oxford: Oxford University Press.

Stanghellini, G., Ballerini, M. (2008). Qualitative analysis. Its use in psychopathological research (editorial). *Acta Psychiatr Scand*; 117, 161–163.

Stanghellini, G., Ballerini, M., Presenza, S., Mancini, M., Northoff, G., and Cutting, J. (2017). Abnormal Time Experiences in Major Depression: An Empirical Qualitative Study. *Psychopathology*, *50*(2), 125-140.

Stanghellini, G., Ballerini, M., Presenza, S., Mancini, M., Raballo, A., Blasi, S., and Cutting, J. (2015). Psychopathology of lived time: abnormal time experience in persons with schizophrenia. *Schizophrenia Bulletin*, *42*(1), 45-55.

Stanghellini, G., Mancini, M. (2017). *The therapeutic interview. Emotions, Values, and the Life-World.* Cambridge: Cambridge University Press.

Stanghellini, G., Trisolini, F., Castellini, G., Ambrosini, A., Faravelli, C., and Ricca, V. (2014). Is feeling extraneous from one's own body a core vulnerability feature in eating disorders? *Psychopathology*, *48(1)*, 18-24.

Stein K. F., Corte C. (2007). Identity impairment and the eating disorders: content and organization of the self-concept in women with anorexia nervosa and bulimia nervosa. *Eur Eat Disord Rev*; 15: 58–69.

Stice E., Shaw H.E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: a synthesis of research findings. *J Psychosom Res*; 53: 985–993.

Straus, E. W. (1966). *Phenomenological Psychology*. New York: Basic Books.

Tasca, G. A., Balfour, L. (2014). Attachment and eating disorders: A review of current research. *International Journal of Eating Disorders*, 47(7), 710–717.

Thompson, E. (2007). *Mind in life*. Cambridge, MA: Harvard University Press; 2007.

Tillich, P. (1957) *Systematic Theology*. Volume 2. Chicago: The University of Chicago Press.

Tozzi, F., Thornton, L. M., Klump, et al. (2005). Symptom fluctuation in eating disorders: correlates of diagnostic crossover. *American Journal of Psychiatry, 162(4),* 732-740.

Vogeley K., Kupke C. (2007). Disturbances of time consciousness from a phenomenological and a neuroscientific perspective. *Schizophr Bulletin*; 33:157–165.

Von Gebsattel, V. E. (1958). The World of the Compulsive. In May, R., Angel, E., and Ellenberger, H. F., *Existence, a New Dimension in Psychiatry and Psychology*. New York: Basic Books.

Waller G., Osman S. (1998). Emotional eating and eating psychopathology among non–eating-disordered women. *Int J Eat Disord*;23: 419-24.

Zachrisson, H. D., Kulbotten, G. R. (2006). Attachment in anorexia nervosa: An exploration of associations with eating disorder psychopathology and psychiatric symptoms. *Eating and Weight Disorders*, 11, 163–170.