BRILL

JOURNAL OF PHENOMENOLOGICAL PSYCHOLOGY 47 (2016) 17–40

brill.com/jpp

From Body Image to Emotional Bodily Experience in Eating Disorders

María Isabel Gaete
University of Chile
isagete@gmail.com

Thomas Fuchs
Psychiatrist and philosopher, Karl Jaspers Professor for Philosophical Foundations of Psychiatry at the University of Heidelberg; Head of the Section "Phenomenological Psychopathology and Psychotherapy"

Abstract

This paper is a critical analysis and overview of body image conceptualization and its scope and limits within the field of eating disorders (EDs) up to the present day. In addition, a concept of *emotional bodily experience* is advanced in an attempt to shift towards a more comprehensive and multidimensional perspective for the *lived body* of these patients. It mainly considers contributions from phenomenology, embodiment theories and a review of the empirical findings that shed light on the emotional bodily experience in eating disorders. It proposes an 'embodied defense' that leads patients to experiencing their own bodies as objects. This proposal highlights the need for new psychotherapeutic tools in the treatment of EDs that take into account the bodily resonance of emotions and their use for improving adaptive responses to the environment: it calls for helping patients to recover the subjective experience of their bodies.

* Thanks to the National Committee of Scientific Research and Technology of Chile, CONICYT for the financial support granted by the scholarship N°21100137.

 | DOI 10.1163/15691624-12341303

Keywords

embodiment – embodied affectivity – affective intentionality – bodily resonance – embodied defense.

• • •

> *I know it sounds crazy, but when I get scared, I really need some fixed points in my life. I need to feel my skeleton.*
>
> SKÅRDERUD, F., 2007b, 168.

The relevance of bodily experience for the development of the eating disorders field (EDs) lies in the need for a better understanding of the underlying factors that could explain the emergence of symptoms; this understanding may lead to the improvement of the psychotherapeutic tools currently available. The development and application of the body image construct to the EDs field reflects the heritage of the misunderstanding of the original distinction of body image and body schema by Merleau-Ponty. This misunderstanding leads to a loss of Merleau-Ponty's notion of the lived body or subjective experience of the body (body schema) by focusing, both in the comprehension and treatment of EDs, mainly on the body as an object that could be perceived or distorted. It is argued here that the same loss of the subjective or lived body occurs in patients escaping from their emotional bodily experiences by focusing on their bodies as objects. Thus, it could be said that a curious isomorphism has prevailed between the form of presentation of ED symptoms and the development of theory and practice towards them up to now. Thus, from the theoretical model proposed here it is assumed that the body image disturbance is not the whole story for explaining symptoms. Moreover, it is considered that emotional bodily experiences, especially negative ones, are threating for patients so as to block them out by focusing on their bodies as objects. Therefore, the present work first focuses on the cross-disciplinary difficulties of conceptualizing the *body image*. Then it proposes a shift away from using the body image construct in understanding the bodily phenomena in eating disorders, which finally leads to a proposed conceptualization of *emotional bodily experience*.

Body Image Conceptualization

The concept of body image has its origins in Schilder's definition as "the picture of our own body which we form in our own mind" (Schilder, P., 1950, p. 11.). Schilder proposes that body image is more than perceptual sensations considering that "there is always a personality that experiences the perception" (p. 15). Thus, the concept put forward by Schilder considers actions and emotions as inseparable parts of the body image; there is no perception without actions and there is no action without emotions. This is what Schilder calls the libidinous structure of the body image. However, his clear intention to develop a multidimensional concept has not completely held up over time. Slade (1994) defines body image as a broad mental representation of body shape influenced by biographic, sociocultural, and biological factors which change over time, thus taking the dynamic and changing nature of body image into account. However, both conceptualizations had a representational emphasis, which was retained by researchers and theorists over time, considering body image as a mental image of one's body that could be captured in an objective way, almost as a 'picture.' This representational aspect of the body image concept has led clinicians to help patients adjust their 'distorted lens' to their real and 'objective' bodies through mirror exposing, virtual reality, corrective exercises, and video-feedback techniques (Delinsky & Wilson, 2006; Farrell, Shafran, & Lee, 2006; Ferrer-García & Gutierrez-Maldonado, 2012, Garner & Garfinkel, 1997; Marco, Perpiñá, & Botella, 2013; Trentowska, Bender, Tuschen-Caffier, 2013). The question is if such an objective image of our bodies is obtainable at all, not only for patients but for anyone. In this regard, there is even some evidence of a trend in the normal population to underestimate their weight in comparison with the ED population which showed a higher objectivity in self-evaluation (Garner et al., 1976; Jansen et al., 2006).

Merleau-Ponty (1945/ 1962) first proposed the concept of the "lived body" in association with the notion of the body schema, being quite careful to differentiate between perceptual impressions (the perceived body or body image) and the dynamic sensori-motor functioning of the body in its environment (the lived body or body schema). However, since the mistaken English translation of Merleau-Ponty's body schema into body image (Gallagher, 2001), there has been a long history of conceptual and terminological confusion up to the present. Therefore, most studies on body image disturbance are unavoidably affected by this confusion. Gallagher points out that it is unlikely that body image could be everything that has been posited by a wide variety of perspectives and disciplines. He suggests that it would be advisable to leave this term

behind and look for alternative conceptualizations of embodiment. The concept proposed here belongs to this search for alternatives.

Between the 1970s and the 1990s, psychodynamic concepts of body image came closer to the idea of a non-objective image of the body. Contributions from Fischer & Cleveland (1958) along with Krueger (2002) put forward the developmental aspect of one's body image where early bodily experiences with attachment figures become relevant for the later sense of self, especially via proprioceptive bodily experiences.

Within the field of eating disorders, Bruch (1973) also drew early attention to the surprisingly vague use of the concept, stating that the broad use of the expression 'body image' in the psychiatric evaluation of patients was not sufficiently developed, either theoretically or empirically, to allow measuring it or its components with any certainty. She considered that the range of attitudes that patients show goes far beyond the early definition of body image, highlighting the role of a sense of control and of body ownership along with an accurate interpretation of interoceptive stimuli, among other bodily attitudes. From the 1990s onwards there was a shift favoring cognitive behavioral approaches (Cash, & Pruzinsky, 1990; Fairburn, 2008; Rosen, 1997, Thompson et al., 1999). Rosen (1997) described the clinical features of body image disturbances, including different types of distorted thinking such as overvalued, obsessional, and delusional, along with various associated behaviors such as withdrawal and isolation. Likewise, specific cognitive behavioral psychotherapeutic strategies were developed, narrowly targeting the symptomatic level. Among these strategies, one of the best known was developed by Fairburn (2008). It addressed over-evaluation (of shape, weight, and eating), shape checking, shape avoidance, feeling fat, and the mindsets that sustain the symptomatology. Fairburn (2008) proposed a very detailed and logical procedure of working mainly at the cognitive and behavioral levels. Even though he recognized that the feeling of fatness could be associated with a mislabeling of certain *emotions and bodily experiences*, this idea was addressed in connection with problem solving, a mainly cognitive approach where the problem to solve is the mislabeling of emotions as a cognitive distortion. In this paper it is considered that through adjusting the perceptual and cognitive distortions, the emotional bodily experience disturbances will not necessarily change, particularly if they play the role of a defense mechanism against anguish and depressive feelings that the patient doesn't seem able to cope with. In this regard, Cash & Pruzinsky (2002) stress that "if, as scientists and clinicians, we can appreciate the breadth and depth of bodily experiences, then we have the capacity to prevent and relieve the suffering of persons whose body images undermine the quality of their lives." (p. 7).

Thereafter, body image terminology proliferated as research progressed, leading Cash & Pruzinsky (2002) to state that there is a lack of empirical and theoretical integration within and across disciplines regarding the conceptualization of body image. Nonetheless, a great number of studies and instruments have been developed, which in turn has generated a series of meta-analytic studies and reviews intended to organize and give coherence to this body of knowledge. However, studies have concluded that the lack of a clear conceptualization of body image makes it very difficult to integrate the accumulated knowledge into coherent theories, and that more research is needed to shed light on what constitutes the normal range of attitudes towards the body. Furthermore, it was also pointed out that there were problems with defining body image which greatly impaired the authenticity of the instruments (Cash & Deagle, 1997; Farrell, Shafran, & Lee, 2006; Hsu & Sobkiewicz, 1991; Probst, Pieters, & Vanderlinden, 2008; Sands, 2000; Scott Mizes, Heffner, Madison, & Varnado-Sullivan, 2004; Skrzypek, Wehmeier, & Remschmidt, 2001; Thörnborg, Nordholm, Wallström, & Svantesson, 2005; Túry, Güleç, & Kohls, 2010). Farrell, Shafran, & Lee (2006), in a review of empirically based treatments, concluded that treatments for body image disturbance are hindered by the lack of appropriate theoretical models and that such analysis is necessary for the development of effective interventions. The conceptualization proposed here is aimed at closing this gap by going beyond body image disturbances as explanations for EDs symptoms, assuming that there is a more profound disturbance of the patients' lived bodies.

Empirical Contributions to the Emotional Bodily Experience Conceptualization

There are some qualitative or methodologically mixed studies which are an important contribution to the comprehension of what bodily experience means for ED patients. Skårderud (2007a, 2007b, 2007c) explored, in a series of qualitative studies, the symbolic role of the body and the subjective comprehension of *body-food pride and shame* experiences in patients with anorexia nervosa (AN). His findings lead to an assumed impaired *reflective functioning* (Bateman & Fonagy, 2004; Fonagy et al., 2002) in AN patients, for whom the body becomes a concretized metaphor. Skårderud developed specific metaphors of the bodily experience in a group of AN patients where the *as if* of the metaphor is replaced by *is*, thus highlighting the immediate connection between physical and psychological realities such as the sense of bodily expansion in stressful situations. In this regard, Atwood and Stolorow (1984), in their

explorations in psychoanalytic phenomenology, analyzed this 'concretization' in persons with vulnerable self-organization, defining concretization as "the encapsulation of structures of experience by concrete, sensorimotor symbols" (p. 85). This creates a relieving distance from unpleasant experiences as a means of maintaining one's sense of reality and of a coherent and ordered existence. The studies of Skårderud as well as Atwood and Stolorow support the idea of an objectification of the body as a respite from negative feelings.

Roth & Armstrong (1993), on their part, showed that subjects have a considerable cross-situational variability with regard to their experience of bodily thinness-fatness, especially in relation with their affective state, performance evaluation, public scrutiny, self-consciousness, and the nature of their interpersonal field. Likewise, a qualitative study developed by Jeppson et al. (2003) explored the nature and function of binging and purging in BN patients by a semi-structured interview applied to eight bulimic patients, finding that both behaviors are attempts to cope and control, to improve self-regard and social status, to regulate emotions, and to get physiological reinforcement.

Otherwise, the aforementioned study by Jansen et al. (2006), which replicates the controversial previous results of Garner et al. (1976), forces a reflection on how the body image disturbance has been understood in the field of eating disorders. They found that eating disordered patients showed a significantly higher objectivity in their self-evaluation about their weight (level of coincidence or discrepancy between how you assess your own weight and how the others do it) as compared with normal control samples.

Another promising line of research yielding data about the bodily experience of EDs comes from neuroscience. Strigo et al. (2013) developed a study that looked for neural correlates of pain anticipation and processing in women who had recovered from AN (REC AN group) compared with healthy controls. Their findings showed that both groups activated the right anterior insula (rAI) during pain anticipation, but that this activation was significantly greater in the REC AN group. The rAI has a key role in perceiving and modulating the physiological state of the body, processing homeostatic emotions and probably being an integrator of interoceptive, cognitive, and emotional experiences. The contradictory issue is that, despite the increased activation of the rAI in the REC AN group, the patients did not rate the upcoming painful stimulus as more aversive than the control group. This observed mismatch in the REC AN group between objective and subjective experiences is explained by the authors as a probable abnormal integration and disconnection between reported and actual interoceptive states. The authors suggest that most likely the REC AN group showed a positive correlation between alexithymia and rAI

activation because they are well able to experience emotions, in fact showing hyperarousal to them; however, the REC AN patients are unable to effectively appraise and identify emotions because they suppress them intentionally, which implies a high level of focusing on bodily signals in order to control threatening emotions. The suppression of emotions shown by this study gives support to the 'embodied defense' hypothesis presented here.

Otherwise, the findings of Brøsted's (2005) reissue of the Alien Hand Experiment (TAHE, Nielsen, 1963, as cited in Brøsted Sørensen, 2005), showed that BN patients were more convinced by what they saw than by what they felt, losing their sense of agency and confusing the alien hand with their own hand, showing also the objectification of the lived body in ED psychopathology.

The Contribution of the Embodied Mind Concept

> *The ego is first and foremost a bodily ego*
> SIGMUND FREUD, 1925/1976, P. 26

In agreement with Johnson and Lakoff (Johnson, 1987; Lakoff & Johnson, 1999), and in agreement with the phenomenological tradition, we propose that the mind is always based on bodily perception and sensorimotor experiences. *Embodiment* appears to be a more thorough conceptualization than *the body,* considering that the embodiment approach is not about the body *per se* but rather about bodily being in the world as an existential condition that involves both subjective and intersubjective experiences. Putting it in Behnke's terms (1997), the individual's signature constitutes a recurrent bodily configuration that includes particular shapes and relations between body parts, a habitual set and quality of movements and some particular bodily tonus responses (more relaxed or tense depending on the circumstances) which Behnke regards as an ongoing way of *holding my self* and of *self shaping*. A woman, for example, who has danced since infancy will probably show a particular bodily configuration pattern; in contrast, an individual who experienced some form of physical abuse in his/her infancy will express some other bodily configuration pattern as a kind of *embodied* implicit relational knowledge (Fuchs 2012a). In Behnke's terms, this means the actual presence of the past in the body. Thus, the bodily experience that is relevant to this article has to do with these bodily patterns that shape the embodied self and that occur in the relational domain of intersubjectivity and intercorporality.

In this regard, Stanghellini et al. (2012) have also argued that a more profound disturbance of the experience of the body is affected in EDs, namely

embodiment. They propose that eating disordered patients experience their bodies first and foremost as an object seen from the other's perspective. Based on Sartre's notion of the *lived body for others* (Sartre, 1943) as another dimension of embodiment, they propose that ED patients' lack of identity pushes them to shape their body by external and more 'objective' parameters: their weight, the mirror, the gaze of others, etc.

Fuchs & Schlimme (2009) have suggested that there are two main forms of embodiment disturbances: one affecting the subject's body or the pre-reflective embodied sense of self, associated with depression and schizophrenia, and another affecting the explicit body awareness or body image associated by the authors with eating disorders and somatoform disorders, among others. They distinguish between what they call hyperembodiment for depression and disembodiment for schizophrenia, describing melancholic depression as a lived body that becomes heavy, solid, and resistant to the individual's intentions and impulses.

From the point of view that is shown here, one could think that eating disordered patients show a combination of both forms of embodiment disturbances: on the one hand affecting the explicit awareness of the body as the body image disturbance aforementioned, while on the other hand, the pre-reflective embodied sense of self also seems disturbed in association with comorbid depressive symptoms. Further, ED symptoms (including body image disturbance) could reflect a failed attempt to deal with the bodily feelings of heaviness, physical or solid resistance as they are described by Fuchs & Schlimme (2009).

Herbert & Pollatos (2012), in their review of interoception and embodiment, highlight the close relationship between alexithymia and EDs, proposing that alexithymia features are related to low interoceptive awareness and, in turn, to poor decision making ability because emotions as a basic resource for decision making (Damasio, 1994) are insufficiently available.

Contribution of the Embodied Affectivity Model

The phenomenology of affectivity proposed by Fuchs (2013), connecting body, self, and the world, sheds light on the emotional bodily experience through distinguishing between short-lived, intense, object-related states, and longer-lasting objectless states that remain in the background of awareness. This basic distinction differentiates between *emotions* and a variety of *background feelings* (moods, vitality, existential feelings, atmospheres).

Background feelings share the features of being in the background of awareness, lacking an 'aboutness' (not needing a special triggering situation, motivation or content), and having no definite points of beginning and ending. Background feelings do not involve the body as an object of awareness, but rather as the medium by which being-in-the world is experienced. As a paradigm for background feelings, consider the feeling of being alive or vitality. It is assumed that such feelings are not in a steady state but move through states in which they are heightened, intensified or diminished. This may be illustrated by the basic polarities of well-being and of upset through which the feeling of being alive is expressed. In feelings of well-being, the body is the medium for experiencing the world, while in feelings of upset or illness the surroundings withdraw into the background and the body itself becomes the focus (Fuchs, 2012b, 2013).

In this regard, William James (James, 1890) proposed a distinction between the self as known and the self as knower, depending on where the body is situated with regard to attention. James asserted that individuals could disown their bodies in some situations and be entirely their bodies in others. Thus, in bodily states of unbearable pain the body demands our attention as an object (body as known) whereas while lying on the beach and listening to the waves, we are barely aware of our body (body as knower).

However, emotional bodily sensations seem to be different from physical sensations. With emotions, the subject and object positions must be dynamically intertwined (you must be 'here' and 'there') in order to enable adaptive responses. This is what affective intentionality conveys; you should feel what is going on at the level of your bodily sensations but you should also be aware of what is going on outside in the world. It is through the emotional bodily sensation of fear that you are anxiously directed towards a frightening situation. The *feeling body* is the way you are emotionally related *to the world*.

Thus, unlike background feelings, emotions are distinguished for being short lasting, for having an identifiable beginning and ending, and for their intentional content or 'aboutness;' they are always directed to persons, objects and events in the world. This is broadly known as the *intentionality* of emotions (Solomon, 1976, Frijda, 1994, De Sousa, 2010) or affective intentionality. Feeling some bodily sensations can be understood as a specific emotion with regard to some intentional meaning that configures those bodily sensations *as* feelings of fear, sadness, anger, etc. Then, intentionality is not neutral; it concerns what is especially valuable and relevant for the subject which could also be understood by the concept of affordances (Gibson, 1979). Affective affordances are features of the objects that appear to us as 'important,'

worthwhile,' 'attractive' or 'repulsive,' etc. Moreover, the intentional object of an emotion (world reference) is continuously integrated with self-related aspects (self-reference). Thus, fear as reference to something that is perceived as a threat (world-reference) is associated with aspects of oneself that are felt as weak (self-reference).

Considering that emotions are salient bodily sensations in the context of intentional directedness, they imply a change in one's awareness of bodily signals, calling for a directedness to one's bodily state without involving an objectification of the body because the first person or subject position of the body is required to cope with situations in the world. This point is of critical relevance in understanding the embodiment disturbance in eating disorders that will be discussed below.

Further, *bodily resonance* plays a crucial role for the emotional bodily experience as it is proposed here. Emotions are experienced through the resonance of the body, including all kinds of local or general bodily sensations such as warmth or coldness, tickling or shivering, tension or relaxation, constriction or expansion, sinking or lifting, flushing or paleness (the face and the gut are particularly rich fields of bodily resonance). They comprise autonomic nervous activity, muscular activation, bodily postures, and related kinesthetic feelings.

It is also considered here that emotions imply two components of bodily resonance: *1*) *a centripetal or 'affective' component* which means to be *affected, moved or touched* by an event, and *2*) *a centrifugal or 'emotive' component* which involves a bodily action readiness, implying specific movement tendencies towards hiding, running away, clenching your fists, preparing to fight, etc. (cf. Fuchs 2013). This could be understood as a *circular interaction* between 'affection,' 'perception,' and 'movement' that it is part of every encounter between the subject and the world: you are 'affected by' a perceived object or situation through your bodily resonance and you feel 'moved to move' with regard to the intentional object accordingly (Fuchs, 2013, Fuchs & Koch, 2014).

Emotional Bodily Experience: A Proposed Conceptualization

Emotional Bodily Experience is conceptualized here as a *multi-dimensional and dynamic phenomenon which includes affective and emotive aspects of bodily resonance along with implicit, explicit, narrative, and functional dimensions, and which conveys coherence and internal consistence to the self* (see figure 1 below).

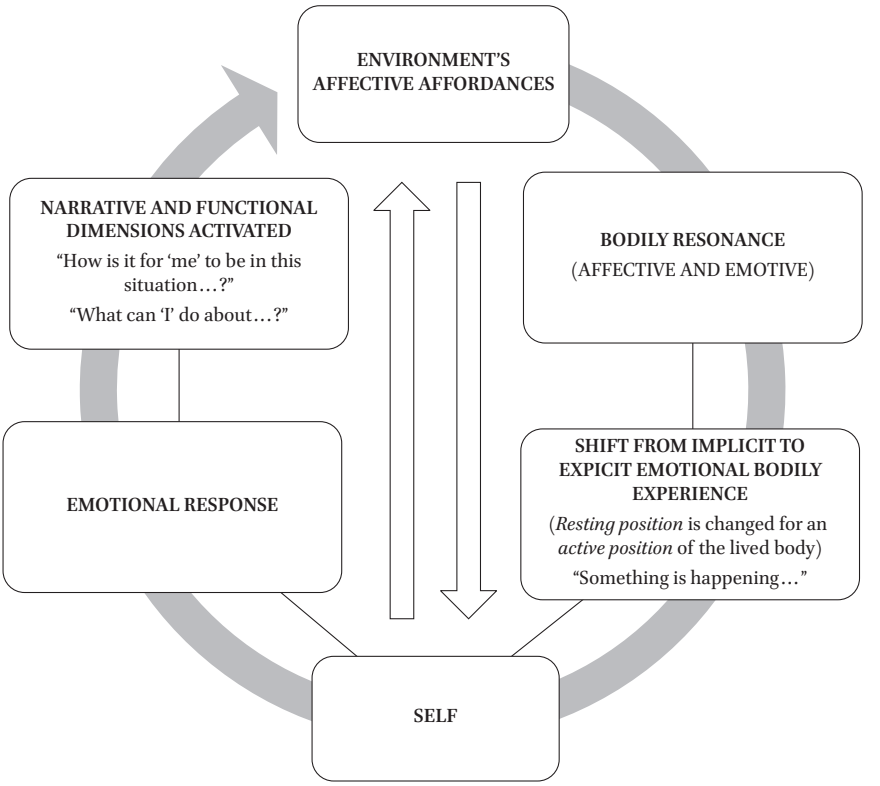

FIGURE 1 *Comprehensive model of emotional bodily experience. Based on the Embodied Affectivity Model developed by Fuchs, T.* (*2013*)*, Chapter: The Phenomenology of Affectivity in Fulford, Davies, Gipps, Graham, Sadler, Stanghellini & Thornton* (*Eds.*). The Oxford Handbook of Philosophy and Psychiatry (*612–631*). *Oxford: Oxford University Press, and Fuchs, T. & Koch, S.* (*2014*). *Embodied Affectivity: on moving and being moved.* Frontiers in Psychology, *5, 1–12.*

Therefore, the dynamic aspect of emotional bodily experience could be understood as the changing configuration of bodily sensations through varying relational contexts that expose the subjects to different relative positions towards themselves, their bodies and the others (e.g. the aggressive approach of someone leads the subject to an awareness of his bodily sensations as a warning signal of fear preparing him to run away). This dynamism may only be accounted for by the bodily experience of the varying intensity of emotions. This changing intensity conveys by itself the triggering stimulus for shifting from an *implicit* emotional bodily experience (or 'resting' position of the body) to an *explicit* emotional bodily experience (or 'active' position

of the body). The threshold can vary from one individual to another and from healthy to disturbed forms of embodiment defining what could be termed 'sensitivity thresholds.' Likewise, well-being bodily states are the dominant state of implicit bodily experience (the bodily signals being in the background of experience), allowing the world to appear closer, more interesting, and accessible, whereas discomforting states such as fatigue or sickness tend to blur the surroundings and to establish a distance between the self and the world (Fuchs, 2013).

Along with the aforementioned *intentionality* and *bodily resonance* (affective and emotive), emotions are also characterized by their *function and significance* which means that they provide us with a basic *orientation* about what really matters to us (Fuchs 2013): they are a bodily felt recognition of a meaningful change in the world that calls the lived body to action. Emotions may be understood as *action readiness* at a basic level (Frijda, 1986). The bodily changes inform us about something appealing or repelling and prefigure potential movement responses. This means that emotions also provide us with a basic orientation about priorities and goals for decision making. Thus, if the bodily resonance is modified, the subject's affective perception and action tendency will consistently change as well which seems a key aspect of the disturbance of embodiment of ED patients. Because of the suppression of the bodily resonance of emotions, they show a detachment from the world and an obsessive focus of attention to their bodies as 'the object' to deal with.

Finally, emotional bodily experience is viewed both as a trait and a state, meaning that it conveys coherence and identity to the self, but that within its consistent functioning there are also cross-situational variations that play an adaptive role. As a trait, emotional bodily experience characterizes individuals by their general emotional bodily awareness, their personal threshold for shifting from implicit to explicit dimensions, and the individual ability to respond accordingly, both in quality, quantity, and opportunity. As a state it defines the active awareness of emotional bodily signals (explicit dimension) that call for attention and the corresponding adaptive response (if one feels bodily sensations of shame, one feels moved to act according to the need of relieving, e.g. through hiding one's face, dropping one's gaze etc.).

Dimensions of Emotional Bodily Experience

(a) *Implicit Bodily Experience*

Implicit bodily experience corresponds to the bodily signals that are continuously informing one about the organism's general state but also convey a sense

of identity, integrity, and existential continuity. It doesn't require any active attention of the subject and could be compared to a movie score which is part of the atmosphere of the story but always remains in the background. Therefore, vitality feelings, mood states, and a variety of affective states are part of this background feeling of the body, as a pre-reflective and undirected bodily awareness which accompanies every intentional feeling, perception, and action (Fuchs, 2013). As Damasio (1994) proposes, these continuous *background feelings* represent a key feature for a healthy sense of self-integrity. Further, implicit bodily experience reflects the body as the means by which subjects live their lives and keep an active relationship with the world. This general background of the lived body is continuously changing, both in the intensity of the sense of vitality as in the coloring of this feeling.

(b) ***Explicit Bodily Experience***

Explicit bodily experience requires an active awareness of the body and appears whenever something novel and relevant, both for physical and psychological integrity, occurs. By means of the bodily resonance you feel affected and moved and the implicit becomes explicit, inducing the subject to notice or formulate what is going on through the bodily signals: life comes to conscious awareness, so to speak. Thus, being aware of the bodily sensations of an emotion (sadness, happiness, rage, etc.) may induce you to explicitly think about and formulate what is happening. It means that the emotion is consciously *experienced* by the self, leading the subject to unfold a conscious meaning and make decisions. It may also be described as the expression of an everyday question—how are you?—a question that brings the passive or pre-reflective awareness of the lived body to an active awareness, but can be hard to answer for ED patients. Think, for example, what happens when you meet a person you love: some identifiable bodily signals arise to call your attention, changing completely the emotional experience of your body—you feel touched by and moved to the other. Thus, the explicit dimension is based on the bodily resonance of emotions and it is through this resonance that the experience of the lived body could be verbalized.

(c) ***Narrative Dimension***

You can realize that something is going on with your bodily signals but can fail to recognize and formulate *what* these signals could mean, as was demonstrated by the aforementioned study with recovered AN patients regarding their subjective and objective response to an upcoming painful stimulus (Strigo et al., 2013). Nevertheless, in healthy conditions, if bodily signals present something novel, strange or intense, the subject will try to find some idea

or notion about what is going on. This notion is one of the adaptive skills of individuals in maintaining both physical and psychological integrity.

The narrative of an emotional bodily experience is the story that the self builds upon the notion of what is going on with its bodily signals. To be able to work out what is happening, and to tell a story built upon the basic resources of *implicit and explicit bodily experiences,* allows the subject to make adaptive decisions especially in the social and relational context that human beings have to deal with. The narrative dimension of emotional bodily experience takes part in what Carr (1986), Schechtman (1996), Zahavi (2010) and others have termed the *narrative self.* When confronted with the question "Who am I?" what you formulate depends upon the story you tell about yourself, that is, an open-ended construction in which the narrative of your emotional bodily experiences takes part.

(d) ***Functional Dimension***

The action readiness of emotions comprises muscular activations that prepare us to run away, to attack, to hide, etc., each person choosing what to do with the bodily information that emotions provide. Rage feelings, for instance, could lead us to act against another or not. Apart from that, the expression of the bodily configuration of anger will also express something to others. Thus, emotional bodily experience has both an *active* and an *expressive* function that is associated with different consequences in the relationship between the subject and the world. Both functions offer basic information about what is going on with us, our bodies, and any others we encounter. This is the *creative aspect* of emotional bodily experiences; there is a degree of freedom for making choices which allow the subject to change circumstances by acting in the world.

An Emotional Bodily Experience Model for Eating Disorders: The Embodied Defense

In accordance with Stanghellini et al. (2012), the present conceptualization assumes that ED psychopathology is strongly based on disturbances of embodiment, specifically a *disturbance of emotional bodily experience* (see below figure 2). It is also assumed that the symptomatology of ED patients reflects an objectification of their bodies, but different from what Stanghellini et al. (2013) propose. The present model of bodily experience in ED posits that the strong and rigid association of self-experience with the body, by means of its objectification, is a *defense mechanism against emotions*. This defense mechanism allows the patient to replace the *self-with-others* dimension of emotions with a

self-body relationship through the suppression of emotional bodily resonance, especially when a negative affect is in the background. Thus, the patients' size, weight, and shape become the most important aspects of their bodily experience to focus on, rather than the always changeable and dynamic manifestations of their emotional bodily experience.

In this regard, Lichtenberg (2001) stressed the need for therapists to be alert to patients putting forward their bodily sensations in a broad spectrum of disorders such as anorexia, bulimia, and other psychosomatic disorders, thereby thwarting the therapist's wish to work with the patient's relationships or transferences. He proposes that the strong and rigid focus on bodily sensations has its origins in the procedural memory traces of infancy in which the attachment aspect, the "self-with-others," is replaced by a focus directed towards inner sensations in highly stressful circumstances. Following Fuchs's (2013) proposal, the bodily counteraction as defense against emotional arousal and its bodily resonance often occurs unconsciously: it probably has its origins in early acquired bodily habits.

Therefore, following the *emotional bodily experience model* explained before, the hypothesis is that the most threatening things for ED patients are emotions. The corresponding assumption would be that the emotional bodily experience as part of any intersubjective exchange shows a hyper-arousal for ED patients. It means that being 'touched' (affective aspect of emotion) and being 'moved' (emotive aspect of emotion) are experienced as an unbearable way of feeling the body. This happens especially in the case of rage because of its kinesthetic sensations of expansive movement which make the patients feel losing control. This feeling in turn is displaced to a fatness sensation which, while also uncomfortable, they feel able to manage or deal with. Further, patients raise *defenses against the implicit and explicit bodily experiences of emotions* (by suppressing their *bodily resonance*). Without bodily resonance, they are unable to build a narrative based on their implicit and explicit emotional bodily experiences. In this regard, Fuchs (2013) posits that if the bodily resonance is modified in specific ways, the affective perception of a given situation will change accordingly. In this case, it shifts to a relieving 'nothing relevant is happening here.' Likewise, the author highlights that without emotions the world becomes something without meaning or significance, having nothing that would attract, repel, or motivate us to act. The affective intentionality of emotions is lost: this sort of 'neutrality' is precisely the state that ED patients seek to achieve. Thus, in replacing the threatening objects in the world, they rigidly focus on their bodies as objects both for controlling and for manipulating. This is what could be called *the tyranny of the self over the body*, implying a *disturbance of emotional bodily experience*.

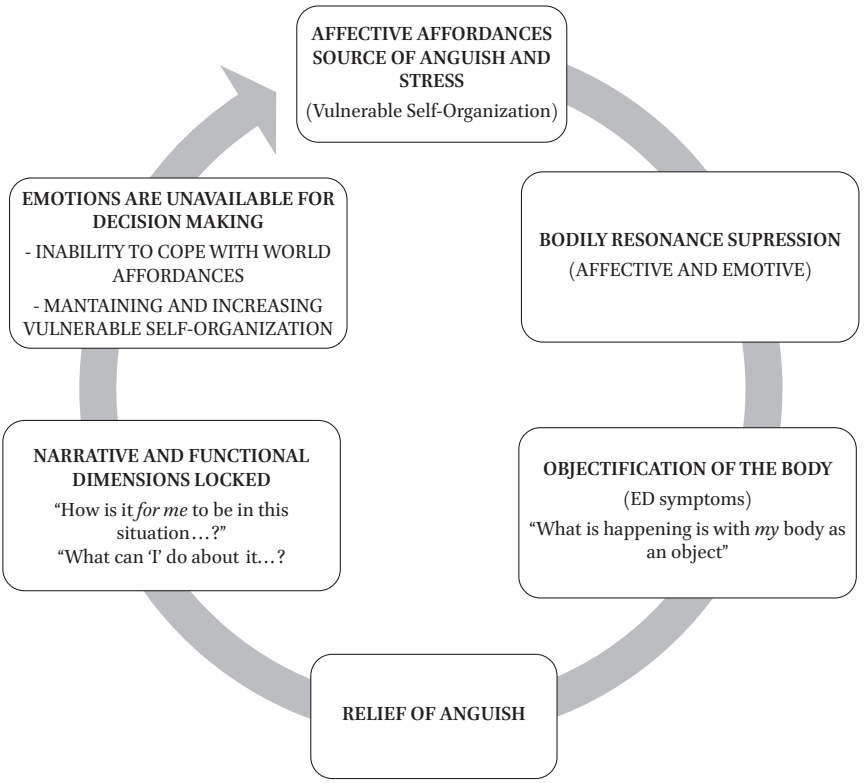

FIGURE 2 *Comprehensive model of emotional bodily experience disturbance in eating disorders: The Embodied Defense Mechanism.*

Likewise, the 'too much' of emotions turns into a 'too much' of food, or a 'too much' of the body felt as heaviness or fatness (the physical sensation of heaviness often reflects being burdened or overwhelmed by negative affects). The relief of vomiting food is an emotional relief, food intake restriction leads to an emotional relief through the sense of power and control. Binge episodes are mostly ways of 'eating emotions' that could be driven out by vomiting, but are not expressed in the real world. Finally, feeling one's skeleton or one's trained muscles represents a source of security and certainty (Skårderud, 2007b). As a coping strategy, which is called here *embodied defense* (see below figure 2), patients use their bodies as the object towards which emotional arousal is directed.

In accordance with Damasio's somatic marker hypothesis (1994), which proposes that bodily signals are the basic resource from which the subject can

make adaptive decisions, this *bodily resonance suppression* leads to a *loss of the functionality of emotional bodily experience*, leaving the patient without tools for acting creatively or, in other words, with a very limited choice of 'being in the world.' As Ratcliffe (2009) remarked, "what we find in psychiatric illness (and more generally) is a wide variety of alterations in the sense of belonging to the world, all of which implicate the feeling body." Both the *expressive* and the *action-inducing function* of emotions are locked. In agreement with what Fuchs (2013) calls *body defenses*, the lack of emotional bodily resonance impedes the perception of corresponding affective affordances in the environment, which represents a huge challenge for psychotherapeutic interventions having almost no emotional material to work with.

Therefore, the latter represents both the consequence and the beginning of the whole vicious circle: the suppression of emotional bodily resonance leads to a lack of awareness of what is at stake for the patient in a given situation which, in turn, leads to a weakness of adaptability to daily life conflicts and difficulties (see figure 2 above). This fragility or lack of adaptive abilities in turn reinforces the tyranny of the self over the body, suppressing needs, increasing the excessive focus on the body as an object and deepening the patient's inability to deal with the challenges of everyday life.

In patients with symptoms of loss of control over eating, this *embodied defense mechanism* leads to an aggressive violation of one's body limits that results in shame and guilt. These feelings are worse if being overweight or vomiting are added to the negative consequences of uncontrolled eating. Again, the objectification of the body seems an appealing solution to safeguard the already impaired self-esteem, completing the circle. For patients with restrictive symptoms, this objectification of their bodies leads them to an aggressive mistreatment of their bodies by disregarding the signals of basic needs. Through controlling their needs they get a sense of security and self-esteem that they cannot get from being creative and proactive in their relation with the world. Thus, what the self feels unable to face the body has to face, providing a more secure and attainable territory than the ominous reality of relationships and emotions.

Thus, as figure 2 illustrates, the aforementioned *embodied defense mechanism* reveals a *vulnerable self-organization* which is a key part of the vicious circle. The patients raise an embodied defense because of their weak self-organization, but just this embodied defense impedes them in strengthening their self-organization. As the onset of eating disorder symptoms often goes back to puberty and adolescence, the identity development process is unavoidably involved in, and limited, by this circle.

Considering that *emotional bodily experience patterns* go back to early attachment experiences, one may assume that for ED patients those experiences did not provide the opportunity to show comprehensible bodily expressions. Thus, the suppression and over-control of emotional bodily signals are induced by neglect, not receiving a sensitive response from one's caregivers, or being overprotected through obsessive and non-connected care. All of these experiences lead to a neglect of internal signals and an effort to control them by treating the body as an object. This early lack of adequate emotional mirroring by attachment figures or poor mentalization (Bateman & Fonagy, 2004; Fonagy, et al. 2002) could explain the difficulties of ED patients to read bodily signals of emotions and to integrate such experiences in a coherent and adaptive manner.

Discussion

As has been advanced in the above review, there have been several theoretical and empirical attempts to enlarge the concept of body image and embrace a new way of understanding the bodily phenomenon. However, there is still a lot of work to do to reach a consensus in the understanding of bodily experience in the context of psychopathology and mental health. A probable reason for this lack of agreement may be the great difficulty of operationalizing the bodily experience construct. As Merleau-Ponty (1945/1962) points out, the problem may lie in the complex relation of the observer with the object of study as subject and object simultaneously. There also seems to be a kind of isomorphism between theory and practice in the field of EDs that leads to reproduce theoretically the same 'objectification' of the body that patients present through their symptoms. The development of concepts and therapeutic strategies that overestimate the body as object (of representation or misrepresentation) shows that it has been difficult, both for clinicians and for theorists, to escape from the eclipse presented by patients through their bodies as the main problem to solve. The present proposal aims at furthering the comprehension of the psychopathology of eating disorders as a disturbance of embodiment. It is grounded on the assumption that many mental disorders which at first sight appear as disturbances of thought, perception or behavior (as it has been proposed for eating disorder symptomatology), are in fact based on unnoticed background feelings that tacitly change the whole experiential field (Fuchs, 2013). In the case of EDs, the changing nature of emotions must be the focus of the psychotherapeutic work. Working only with cognitions, perceptions or behaviors will probably provide patients a sense of control and

coping, but will not necessarily change their disturbed emotional bodily experiences. Thus, considering that there are no 'intense' cognitions as there are more or less 'intense' emotions (Fuchs, 2013, Downing, 2000), the sense of losing control at each arousal of emotions will be preserved.

Clinical observation shows that ED patients rigidly hold onto an active awareness of the body – the implicit or 'resting' position of the body is barely sustained. What requires a subject position of the body for displaying adaptive responses is lived from an object position of the body. Their bodies are no longer a means for experiencing their lives; they do not 'feel at home' within their bodies. Instead their bodies, as objects, give organization and structure to their daily lives. In this regard, a common experience in clinical work with ED patients is being frustrated, session by session, with the effort to move them from this rigid focus on their bodies to a focus on their intersubjective space of experience where it seems that 'nothing is happening.' They show an unconscious but active resistance to live their bodies in a subject position that could lead to a closer and clearer relationship with their environment. It seems that staying in a subject position of their lived bodies is a hurtful and unbearable state. Thus, by means of embodied defense, ED patients disclaim their affective intentionality, leading to a sense of emotional detachment and to an object position because the intentional goal of one's sensations is lacking. It should be considered that this emotional detachment includes the psychotherapeutic setting and the therapist. This is what stops many clinicians working with these kind of patients as they often seem inaccessible.

Therefore, one important therapeutic goal is to enable patients to look at and talk about their difficulties in coping with reality, allowing them to move away from rigidly focusing on their bodies as the most important problem, and helping them to understand and hear their bodily sensations and kinesthetic tendencies as the best signals for making decisions and managing their actions in real life. Of course, this shift of patients' rigid objectification of their bodies to a subject position of their lived bodies, where bodily signals of emotions are the basic tool for understanding themselves and their relationship with the world, can create a high degree of anxiety. Thus, this shift must be carefully managed, grounding it in a very secure therapeutic alliance and setting. The latter could explain the high risk of relapse that ED symptoms show; removing the symptoms (which are indeed their embodied defense) without working therapeutically on the underlying weaknesses of self-organization puts the patient in a new, but unstable body-self-world position that is difficult to sustain. Thus, the comprehension of ED symptoms as a disturbance of emotional bodily experience highlights the need for new therapeutic tools. Some promising approaches that work with pre-reflective embodied

experiences are dance-movement therapies, art-therapy, music-therapy, mindfulness based interventions, etc. Thus, helping patients experiencing their lived bodies as subjects should leave them more prepared to work with their emotional bodily experiences enabling them to act in the world.

References

Atwood, G. E. & Stolorow, R. D. (1984). *Structures of Subjectivity. Explorations in psychoanalytic phenomenology and contextualism*. London, New York: Routledge.

Bateman, A., & Fonagy, P. (2004). *Psychotherapy for borderline personality disorder: mentalization-based treatment*. New York: Oxford University Press.

Beato-Fernández, L., Rodríguez-Cano, T., García-Vilches, I., García-Vicente, A., Poblete-García, V., Soriano, A., Toro, J. (2009). Changes in regional cerebral blood flow alter body image exposure in eating disorders. *Psychiatry Research: Neuroimaging*, Vol. 171, (2), 129–137. doi: 10.1016/j.pscychresns.2008.01.001

Behnke, Elizabeth A. (1997). Ghost Gestures: Phenomenological Investigations of Bodily Micromovements and their Intercorporeal Implications. *Human Studies*, Vol. 20, (2), 181–201.

Brøsted Sørensen, J. (2005). The Alien-Hand Experiment. *Phenomenology and the Cognitive Sciences*, Vol. 4, (1), 73–90. doi: 10.1007/s11097-005-5854-4

Bruch, H. (1973). *Eating disorders: Obesity, anorexia nervosa and the person within*. New York: Basic Books.

Carr, D. (1986) *Time, narrative, and history*. Bloomington: University of Indiana Press.

Cash, T. F., & Pruzinsky, T. Eds. (2002). Body Image. A Handbook of Theory, Research & Clinical Practice. New York, NY: Guilford Press.

Cash, T. F., & Pruzinsky, T. Eds. (1990). Body Images: Development, deviance, and change. New York, US: Guilford Press.

Cash, T. F., & Deagle, E. A. (1997). The Nature and Extent of Body-Image Disturbances in Anorexia Nervosa and Bulimia Nervosa: A Meta-Analysis. *International Journal of Eating Disorders*, Vol. 22 (2), 107–125.

Damasio, A. R. (1994). *El Error de Descartes. La razón de las emociones*. Santiago, Chile: Editorial Andrés Bello.

Delinsky, S. S. & Wilson, G. T. (2006). Mirror exposure for the treatment of body image disturbance. *International Journal of Eating Disorders*, Vol. 39 (2), 108–116.

De Sousa, R. (2010). *Emotion.* Stanford Encyclopedia of Philosophy. Retrieved from http://plato.stanford.edu/archives/spr2010/entries/emotion

Downing, G. (2000). Emotion theory reconsidered. In Wrathall, M., Malpas, J. Wrathall, M., Malpas, J. (Eds), *Heidegger, coping, and cognitive science: Essays in honor of Hubert L. Dreyfus* 2, (pp. 254–270). Cambridge/MA: MIT Press.

Fairburn, C.G. (2008). *Cognitive Behavior Therapy and Eating Disorder*. New York: Guilford Press.

Farrell, C., Shafran, R., & Lee, M. (2006). Empirically Evaluated Treatments for Body Image Disturbance: A Review. *European Eating Disorders Review*, Vol. 14 (5), 289–300. doi: 10.1002/erv.693

Ferrer-García, M., & Gutiérrez-Maldonado, J. (2012). The use of virtual reality in the study, assessment, and treatment of body image in eating disorders and nonclinical samples: a review of the literature. *Body Image*, Vol. 9 (1), 1–11. doi: 10.1016/j.bodyim.2011.10.001

Fischer, S., & Cleveland, S. E. (1958). *Body Image and Personality*. Oxford: Van Nostrand.

Fonagy, P., Gergerly, G., Jurist, E. L., and Target, M. (2002). *Affect regulation, mentalization and the development of the self*. New York: Other Press.

Freud, S. (1925/1976). *Obras completas Sigmund Freud*, Vol. 19, J. Etcheverry (Trans.). Buenos Aires: Amorrortu editores.

Frijda, N. H. (1986). *The emotions*. Cambridge: Cambridge University Press.

Frijda, N. H. (1994). Varieties of affect: Emotions and episodes, moods, and sentiments. In P. Ekman & R. J. Davidson (Eds). *The nature of emotion: Fundamental questions* (pp. 59–67). New York: Oxford University Press.

Fuchs, T. (2012a). The phenomenology of body memory. In S. Koch, T. Fuchs, M. Summa & C. Müller (Eds.) *Body Memory, Metaphor and Movement* (pp. 9–22). Amsterdam: John Benjamins.

Fuchs, T. (2012b). The feeling of being alive. Organic foundations of self-awareness. In J. Fingerhut & S. Marienberg (Eds.), *Feelings of Being Alive* (pp. 149–166). Berlin, New York: De Gruyter.

Fuchs, T. (2013). The phenomenology of affectivity. In K. W. M. Fulford, M. Davies, R. G. T. Gipps, G. Graham, J. Z. Sadler, G. Stanghellini & T. Thornton (Eds.), *Oxford Handbook of the Philosophy of Psychiatry* (pp. 612–631). Oxford: Oxford University Press.

Fuchs, T. & Koch, S. (2014). Embodied Affectivity: on moving and being moved. *Frontiers in Psychology*, Vol. 5, 1–12. doi: 10.3389/fpsyg.2014.00508

Fuchs, T. & Schlimme, J. (2009). Embodiment and psychopathology: a phenomenological perspective. *Current Opinion in Psychiatry*, Vol. 22, (6), 570–575. doi:10.1097/YCO.0b013e3283318e5c

Gallagher, Shaun. (2001). Dimensions of embodiment: Body Image and Body schema in medical contexts. In S. K. Toombs (Eds.), *Handbook of phenomenology and medicine* (147–175). Dordrecht, the Netherlands: Kluwer Academic Publishers.

Garner, D. M. & Garfinkel, P.E. (Eds.) (1997). Handbook of Treatment for Eating Disorders. New York: Guilford Press.

Gibson, J. (1979). *The ecological approach to visual perception*. Boston: Houghton Mifflin.

Harrison, K., & Hefner, V. (2006). Media Exposure, Current and Future Body Ideals and Disordered Eating Among Preadolescent Girls: A Longitudinal Panel Study. *Journal of Youth and Adolescence*, Vol. 35, no. 2: 153–163. doi: 10.1007/s10964-005-9008-3

Herbert, B., & Pollatos, O. (2012). The Body in the Mind: On the Relationship between Interoception and Embodiment. *Topics in Cognitive Science*, Vol. 4, (4), 1–13. doi: 10.1111/j.1756-8765.2012.01189.x

Hsu, L. K. & Sobkiewicz, T. A. (1991). Body Image Disturbance: Time to Abandon the Concept for Eating Disorders? *International Journal of Eating Disorders*, Vol. 10, (1), 15–30.

James, William. (1890). *The principles of psychology, vol. 1*. New York: Dover.

Jansen, A., Smeets, T., Martijn, C., & Nederkoorn. (2006). I see what you see: The lack of a self-serving body-image bias in eating disorders. *British Journal of Clinical Psychology*, Vol. 45 (1), 123–135.

Jeppson, J. E., Richards, P.S., Hardman, R. K., & Mac Granley H. (2003). Binge and Purge Processes in Bulimia Nervosa: A Qualitative Investigation. *Eating Disorders*, Vol. 11, (2), 115–128. doi: 10.1080/10640260390199307

Johnson, M. (1987). *The body in the mind: The bodily basis of meaning, imagination and reason*. Chicago: University of Chicago Press.

Knauss, Ch., Paxton, S. J., & Alsaker, F. D. (2008). Body Dissatisfaction in Adolescent Boys and Girls: Objectified Body Consciousness, Internalization of the Media Body Ideal and Perceived Pressure from Media. *Sex Roles*, Vol. 59, 633–643. doi: 10.1007/s11199-008-9474-7

Krueger, D. W. (2002). Psychodynamic Perspectives on Body Image. In T. Cash, & T. Pruzinsky (Eds), *Body Image, A Handbook of Theory, Research, and Clinical Practice*, (pp. 30–37). New York, NY: Guilford Press.

Lakoff, G., and Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to western thought*. New York: Basic Books.

Lichtenberg, J. D. (2001). Motivational Systems and Model Scenes with Special References to Bodily Experience. *Psychoanalitic Inquiry*, Vol. 21 (3), 430–447.

Marco, J. H., Perpiñá, C., Botella, C. (2013). Tratamiento de la Imagen Corporal en los Trastornos Alimentarios: Diferencias en la respuesta al tratamiento según el diagnóstico. *Behavioral Psychology*, Vol. 21 (3), 491–509.

Mask, L., & Blanchard, C.M. (2011). The effects of "thin ideal" media on women's body image concerns and eating related intentions: The beneficial role of an autonomous regulation of eating behaviors. *Body Image*, Vol. 8 (4), 357–365. doi: 10.1016/j.bodyim.2011.06.003

Merino Madrid, H., Pombo, G., & Godás Otero, A. (2001). Evaluación de las actitudes alimentarias y la satisfacción corporal en una muestra de adolescentes. *Psicothema*, Vol. 13 (4), 539–545.

Merleau Ponty. (1945/1965). *Phenomenology of Perception*, translated by C. Smith. London: Routledge.

Probst, M., Pieters, G. & Vanderlinden, J. (2008). Evaluation of Body Experience Questionnaires in Eating Disorders in Female Patients (AN/BN) and Nonclinical Participants. *International Journal of Eating Disorders*, Vol. 41 (7), 657–665. doi: 10.1002/eat.20531

Ratcliffe, M. (2009). Belonging to the World through the Feeling Body. *Philosophy, Psychiatry, & Psychology*, Vol. 16 (2), 205–211

Rodríguez-Cano, T., Beato-Fernández, L. & Belmonte, A. (2006). Body dissatisfaction as a predictor of self-reported suicide attempts in adolescents: A Spanish community prospective study. *Journal of Adolescent Health*, Vol. 38 (6), 684–688. doi: 10.1016/j.jadohealth.2005.08.003

Rosen, J. (1997). Cognitive-Behavioral Body Image Therapy. In D. Garner & P. Garfinkel (Eds.), *Handbook of Treatment for Eating Disorders*, (pp. 188–204). NY: Guilford Press.

Roth, D., & Armstrong, J. (1993). Feelings of Fatness Questionnaire: A Measure of the Cross-Situational Variability of Body Experience. *International Journal of Eating Disorders*, Vol. 14 (3), 349–358.

Sands, R. (2000). Reconceptualization of Body Image and Drive for thinness. *International Journal of Eating Disorders*, Vol. 28 (4), 397–407.

Sartre, J. P. (1943/1966). *Being and Nothingness*. Trans. Hazel E. Barnes. New York: Washington Square.

Schechtman, M. (1996). *The constitution of selves*. Cornell University Press.

Schilder, P. (1950/2000). *The Image and Appearance of the human body*. Abingdon, OX (Oxon): Routledge.

Scott Mizes, J., Heffner, M., Madison, J. K. & Varnado-Sullivan, P. (2004). The validity of subjective measures of body image disturbance. *Eating Behaviors*, Vol. 5 (1), 55–66. doi: 10.1016/S14710153(03)00056–4

Sinton, M., & Birch, L. (2006). Individual and Sociocultural Influences on Pre-Adolescent Girls' Appearance Schemas and Body Dissatisfaction. *Journal of Youth and Adolescence*, Vol. 35 (2), 165–175. doi: 10.1007/s10964–005–9007–4

Skårderud, F. (2007a). Shame and Pride in Anorexia Nervosa: A Qualitative Descriptive Study. *European Eating Disorders Review*, Vol 15, 81–97. doi: 10.1002/erv.774

Skårderud, F. (2007b). Eating One's Words, Part I: 'Concretised Metaphors' and Reflective Function in Anorexia Nervosa—An Interview Study. *European Eating Disorders Review*, Vol. 15: 163–174. doi: 10.1002/erv.777

Skårderud, Finn. (2007c). Eating One's Words, Part II: The Embodied Mind and Reflective Function in Anorexia Nervosa-Theory. *European Eating Disorders Review*, Vol. 15 (4), 243–252. doi: 10.1002/erv.778.

Skrzypek, S., Wehmeier, P.M., & Remschmidt, H. (2001). Body image assessment using body size estimation in recent studies on anorexia nervosa. A brief review. *European Child and Adolescent Psychiatry*, Vol. 10 (4), 215–221.

Slade, P. D. (1994). What is body image? *Behaviour Research and Therapy*, Vol. 32 (5), 497–502.

Stanghellini, G., Castellini, G., Brogna, P., Fravelli, C. & Ricca, V. (2012). Identity and Eating Disorders (IDEA): A Questionnaire Evaluating Identity and Embodiment in Eating Disorder Patients. *Psychopathology* Vol. 45, 147–158. doi: 10.1159/000330258

Stice, E., & Whitenton, K. (2002). Risk Factors for Body Dissatisfaction in Adolescent Girls: A longitudinal Investigation. *Developmental Psychology*, Vol. 38 (5), 669–678. doi: 10.1002/eat.20045

Stice, Eric & Bearman, S. K. (2001). Body-Image and Eating Disturbances Prospectively Predict Increases in Depressive Symptoms in Adolescent Girls: A Growth Curve Analysis. *Developmental Psychology* Vol. 37 (5), 597–607.

Strigo, I., Matthews, S., Simmons, A., Oberndorfer, T., Klabunde, M., Reinhardt, L., & Kaye, W. (2013). Altered Insula Activation during Pain Anticipation in Individuals Recovered from Anorexia Nervosa: Evidence of Interoceptive Dysregulation. *International Journal of Eating Disorders* Vol. 46 (1), 23–33. doi: 10.1002/eat.22045

Thompson, J. K.; Heinberg, L., J., Altabe & M. Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance.* Washington, DC, US: American Psychological Association.

Thörnborg, U., Nordholm, L., Wallström, A. & Svantesson, U. (2005). Quality of life assessment for patients with eating disorders. *Eating Weight Disorders*, Vol. 10, 56–60.

Trentowska, M., Bender, C., & Tuschen-Caffier, B. (2013). Mirror exposure in women with bulimic symptoms: How do thoughts and emotions change in body image treatment? *Behaviour research and therapy*, Vol. 51 (1), 1–6.

Túry, F., Güleç, H., & Kohls, E. (2010). Assessment methods for eating disorders and body image disorders. *Journal of Psychosomatic Research*, Vol. 69 (6), 601–611. doi: 10.1016/j.psychores.2009.05.012

Zahavi, D. (2012). A Distinction in Need of Refinement. In Fuchs, Sattel, Henningsen (Eds.), *The Embodied Self. Dimensions, Coherence and Disorders*, (pp. 3–12). Stuttgart: Schattauer.