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Exercise Addiction and Alexithymia

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Abstract

Before presenting this investigation on exercise addiction and alexithymia, the topic of addiction is introduced by recalling a few terminological distinctions and some questions on aetiology. The investigation is focused on the relationship between alexithymia and other forms of addiction and between sporting activity and alexithymia. The sample of research consider 137 subjects attending various gyms in the city. The hypothesis are the following: 1 Existence of a correlation between alexithymia and exercise addiction. 2 Propensity of alexithymics and addicteds subjects for individual sports and repetitive exercises. 3: Motivations to practice sport not articulated and without affective quality. The results has confirmed the hypothesis.

Keywords: Exercise addiction, Alexithymia, Addiction, Sport

1. Introduction

In the last 20 years many suffering have found expression in what are called addictive disorders. The wide variety of behavioural addictions that have been identified is very impressive: internet addiction, work addiction, compulsive shopping, sex addiction, pathological gambling, exercise addiction or exercise dependence. The latter is among the several forms of addiction "without substance", less studied than others, because sport is usually associated[3] with a dimension of not only physical but also psychic health (Thompson (2005), Giada, Biffi, Agostoni et al. (2008), Ernest (1998). There is consensus in literature that optimal levels of habitual exercise have beneficial effects on the physical and mental well-being both on the adult population (Warburton, Nicol, and Bredin 2006) and in the developmental stage (Piko, Keresztes 2006). In particular, the psychic aspect highlights the usefulness of physical activity both in terms of depression (Giuliani, Micacchi, Valenti 2005) and in terms of mood; Schulz (1985) in fact notes that sportypeople tend to be somewhat happier than non-sportive people and Biddle (2000) identifies the beneficial effects of jogging on mood. Therefore immediately, it is not evident that sports people could live in difficult conditions.

Exercise addiction was defined in 2002 by Hausenblas and Downs, who established the criteria for the diagnosis of this disorder on the basis of those listed in the DSM-IV-TR for the diagnosis of substance dependence. The six symptoms of addiction may be applied on it, i.e. salience, mood modification, tolerance, withdrawal symptoms, personal conflict and relapse. However some questions still remain open in the overview of this dependence and its clinical significance. Concerning term accuracy we should remember that we talk of exercise dependence when the dependence from exercise is functional to maintain positive physical or chemical changes in the body. However addiction implies a psychological addiction to the activity itself, which seems to give some sense to one's existence though it is combined with maladaptive lifestyles, with a social, emotional and work impoverishment and often, even, with a reduction in health status.

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3 Unless it is secondary to eating disorders or body dis-perceptions (Bember et al., 2000; Klein et al., 2004)

In the past it was thought useful to set a distinction between positive addiction and negative addiction - in 1976 Glasser had actually talked about positive addiction in order to emphasize the beneficial effects of both exercise and Transcendental meditation - but later Morgan in 1979 and Griffith in 1996 highlighted its downside. There is still a debate about the question of contextualizing exercise addiction within the biomedical addiction model and to explain the phenomenon as a physical addiction (Cox, Orford 2004). However, there is a sufficient consensus (Berczik et al. 2012) that the term addiction should refer to a behavioural process, which results inthe provision of pleasure or relief compared with negative internal states, such as anxiety or stress, but is characterized by loss of control (state of powerlessness) and by its maintenance even in the face of negative consequences. The assessment of the intensity of the symptoms in order to distinguish committed exercisers from addicted exercisers (Warner, Griffiths 2006) is however crucial. The relationship with the environment and social factors are also important for understanding the phenomena (Cox, 2004 Oxford). If we adopt a clinical point of view, with which we identify ourselves, it is clear that the understanding of a discomfort cannot be reduced to a symptomatic list or to a descriptive diagnosis. In particular, it seems useful to read through a functional diagnosis, which will highlight the primary and the secondary operation of the subject (Orefice, 2002): in this frame, exercise addiction can be read as a secondary mode to handle the results of the primary operation. Although that diagnostic observation is not commonly used, there are many surveys and researches that have identified several areas of mental suffering in people with exercise addiction.

The subjects at risk for exercise addiction are themselves aware of other areas of difficulty in their lives (Warner, Griffiths 2006) and the issue of comorbidity with other psychiatric disorders is important for scientific investigation (La Cascia, Ferraro, Mulè 2008, Weinstein, Weinstein 2014). Moreover, the study of the (co-) etiological factors of addiction (beyond the possible biological mechanisms (Stimmel. Kreek 2000, Adams, Kirkby 2002, Weinstein, Weinstein 2014) refers, from a psychological point of view, scenarios of severe suffering. Specifically, traumatic situations in the first years of life have been highlighted, which would lead to impotence responses (Krystal 1978) deficit in regulation (Socarides Stolorow 1984) narcissistic injuries (Kouth, Wolf 1978 Wurmser, 1974), loss of control, and anger issues (Lance 2002). McDougall suggests a more detailed reading of the psychic states leading to addiction, identifying three categories: first, the dependence-solution would seek to dismiss neurotic anxieties, in the second, states of severe anxiety or depression, while in the third, psychotic anxieties. The relevance of traumatic aspects in the histories of subject who developed some form of addiction has found further evidence and more current interpretations in recent years (Evren et. al. 2009, Caretti, Craparo, Schimmenti 2010, 2013, Craparo 2013,), because has been set within a more contemporary reading of mental functioning. The structuring of the mind is in fact intended as a progressive constitution and integration of different states, of multiple representations of the Self – another, of readings and re-readings of experiences, and also the unconscious mind is better defined (Moccia, Solano 2009) by identifying, in addition to the dynamic unconscious described by Freud (the present unconscious of Sandler (1987) or the repressed unconscious of Mancia 2006), a past unconscious (Sandler, Sandler, 1987) or not removed (Mancia 2006), into which all non-thinkable emotional contents merge, for which the subject is incapable of developing a mental representation. People who suffer from addiction would have early lived traumatic experiences, non-thinkable and so present in the unremoved unconscious; the alteration of the capacity to symbolize one's affections would lead to a particular vulnerability concerning stress situations, with a reactivation of traumatic emotions. Dissociation, already present as a normal process of our mind, proposes as defence- even through split compulsive behaviour - to escape this pain. Khantzian (1987) had already identified a self-care significance of addiction and McDougall sees a "quality of analgesia, or a mechanism that helps to dissipate the pain" (2003, p. 138).

It is not our purpose to examine these issues, which we believe should merit consideration also concerning the specific object of addiction. In particular as regards exercise addiction, although there is no doubt that psychological dynamics support and lead to this behavioural expression, the hypothesis of different, more or less painful, aetiologies and biographies should be evaluated, also in relation to the types of chosen sports, primarily those with high-risks and strong sensations (Lafoille, The Scanff, 2007) compared with activities in the gym. In the latter case, even if emotional sufferings should be detected in the aetiology of the exercise addiction, it is undeniable that the "self-care" choice would highlight characteristics of minor deterioration and would lead us to think of a better balance. It is also true that a structured diagnostic pathway, which would allow the assessment of concomitant emotional suffering and the evaluation of (co)aetiological clinical data, is only possible with a request from or a convinced consent by the patient. For this reason is necessary to promote a widespread culture in which exercise addiction can be characterized as an expression of mental distress.

In this phase of a research which is not yet so complete and thorough, it also requires precise epidemiological data, differentiated by nationality; questionnaires and self-reports are undoubtedly useful: these would raise awareness of the phenomenon, in any case provide diagnostic indicators and permit a discrimination of the different phases that lead to addiction (Freimuth et al. 2011). Promoting psychodynamic clinical studies in which it is possible to obtain a more accurate picture of the dynamics that characterize individuals who manifest exercise addiction would also be desirable. In our work we have only considered sports present in normal gyms, hypothesizing that a psychic suffering related to an affection dysregulation, particularly alexithymia, is apparent in addicted subjects. Both variables taken into account; i.e. physical activity and alexithymia, have connections with the body, but in seemingly opposite directions: exercise stimulates the physical and mental health as pointed out by several studies (Ernest, 1998, Thompson, 2005; Giuliani, Micacchi, Valenti2005, Giada, Biffi, Agostoni et al. 2008), while for a long time there has been a debate about the possible connection between alexithymia and psychosomatic illnesses (Taylor, Bagby, Parker 1991)

1.2 Addiction and Alexithymia

Before we get into the specifics of the matter, it should be noted that the association between alexithymia and addiction is actually plausible in fact has found amply space in literature. At the last of 20 century, several studies have investigated the association between alexithymia and the dependence from alcohol and other substances (Taylor, Parker, Bagby 1990, Ziólkowski et al. 1995, Loas, Otmani, Fremaux 1996 Loas et al. 2000, Speranza et al. 2004, Farges et al. 2004, De Rick, Vanheule 2007, Evren et al. 2008, De Timary et al. 2008, De Berardis et al. 2009, De Rick etal.2009, Thorbergetal 2009). More recently, especially in the last decade, interest has shifted towards dependencies with no substances. The association with alexithymia has, for example, been verified in pathological gamblers (Lumley, Roby 1995, Parker et al. 2005), especially in slot machine players (Bonnaire, Varescon, Bungener 2010), and in subjects with Internet addiction (De Berardis et al., 2009). However the bond that the various forms of behavioural addictions have with alexithymia is not easy to interpret and the evaluation of the direction of these associations is still open, i.e. if it is alexithymia that creates conditions for the development of an addiction or rather whether these dependent behaviours encourage the development of alexithymia. In this regard, some studies point out that this association is related only to affective components and not to cognitive ones (Laquatara, Clapton, 1994; Loas et al.2000, Guilbaud et al., 2002; Farges et al., 2004); furthermore, Farges et al. (2004) speculate that the emotional component of alexithymia may be thymus-dependent, whilst the cognitive one may be thymus-independent and, therefore, that it may constitute a stable clinical feature. Besides, a major theme is represented by the connections that alexithymia has with depression: various epidemiological studies show an overlap between alexithymia and depression and it is believed that depression contributes to explain the variance of alexithymia in a measure estimated to be between 10 and 20% (Farges et al. 2004). In addition to depression, other factors have been identified that may mediate the relationship between addiction and alexithymia, such as attachment anxiety (Thoberg et al. 2011), poor emotional regulation (Stasiewicz et al. 2012), avoidant attachment style and the lack of warmth in the relationship with one's father (De Rick, Vanheule, 2006).

1.3 Sport Activities and Alexithymia

As far as the sphere of sports activities is concerned, even leaving aside the evaluation of addiction, there are not many studies investigating the presence of an association with alexithymia. We report, for example, the work of Allegre et al. (2007) who detect, from the analysis of verbal behaviour which concerns both the meaning of the expressions used and the expressed emotions, the presence of more pronounced alexithymic characteristics in amateur expert swimmers, who spend 22 hours a week training, compared with amateur swimmers who train 6 hours a week. The presence of alexithymia has also been detected in individuals addicted to skydiving: Woodman, Cazenave, Le Scanff (2008) have pointed out how skydiving represents an effective means for alexithymic women to regulate emotions.

2. Research

The primary objective of this research is to verify the existence of a correlation between alexithymia and exercise addiction. The hypothesis is that the presence of alexithymia features might lead those who practice sport to developing an exercise addiction more than for those who practice sports without alexithymia.

For this reason, the distribution of levels of alexithymia will be assessed in subjects engaged in sporting activities at the gym: these are activities within everyone's reach which, however, can be practiced in different ways, allowing the differentiation of the sample into sub-groups that could be called "normal", i.e. non-dependent asymptomatic subjects, "at risk of dependence" subjects, i.e. not dependent but symptomatic subjects and "addicted to exercise". It is believed that the difficulties in regulating emotions and states of distress related to issues of which awareness is precluded, may in fact find a balance or "compensation" through physical activity which, by increasing the levels of endorphins, also contributes to the achievement of a degree of well-being. The difficulty of alexithymic subjects to access deep interpersonal relationships could direct such persons to choose sports to be practiced in a gym, where there is the opportunity to not feel isolated, as they occur within a social context, but without the need to share deep emotional-affective experiences. We expect that the choice would be on individual activities, in which relationship is at a minimum, as it might be for activities with mechanical aids. This choice of activity, which consists in the repetition of simple exercises, may be supported by another element, characterizing mental function in alexithymia: concrete and operational thinking. Simple, repetitive and not particularly engaging exercises could represent an elective choice. Faced with this cognitive characteristic of alexithymia and the difficulty of accessing affective processing, we can finally assume that the reasons expressed by these individuals in support of their chosen sport may appear rather superficial, non-specific, non-articulated and without emotional implications.

2.1 Method

2.1.1 Procedure

The subjects were recruited from various sports centres in North Italy (Brescia). The experimenter's access was allowed after the presentation of the research and the permission by the management of the sports centres, in which the users were contacted individually. Each subject, after adequate information concerning the study, agreed to a written consent of the processing of data, whose anonymous processing and full respect of its privacy is the responsibility of the authors. The participants completed the test individually, in order to minimize any external influence, and had no time limit. None of the participants refused to complete the test. The data was collected at different times of the day, in several sports centres.

2.1.2 Partecipants

Our sample consisted in 137 individuals, including 81 men (59%) and 56 women (41%), aged between 15 and 64 years old with an average age of 31.92 years. Talking about status 32% are single, 40% has a relationship, 24% are married and 4% separated or divorced. With regard to their study title, 22% of individuals have a lower school diploma, 54% a high school diploma and 24% have graduated.

2.1.3 Materials

The study was conducted using the Toronto Alexithymia Scale 20, as regards the assessment of alexithymia, and Exercise Dependence Scale - 21, in regard to the addiction to sport. In addition, all study participants were asked to complete a questionnaire in order to investigate the type of activity, the time devoted to it and the motivations driving them to attend a gym. The TAS 20 is a self-report scale consisting of 20 items that are grouped around three factors: 1) difficulty in identifying and distinguishing feelings and physical sensations; 2) difficulty in describing feelings; 3) externally oriented thinking. The questionnaire, whose Italian translation was edited by Bressi et al. (1996), is based on a five-point Likert scale. Subjects obtaining scores below 51 are considered non-alexithymic, between 51 to 60 subjects are considered borderline, whereas those obtaining scores greater than or equal to 61 are considered alexithymic subjects. Despite the limitations of this instrument, mainly related to the fact of assessing alexithymia through a self-report scale, which would actually require the skills of psychological insight which by definition are lacking in alexithymic subjects, it remains the most used and, as our research is concerned, the most suitable one for the setting. Regarding the assessment of the exercise addiction, both the Exercise Dependence Scale (EDS-R) and the Exercise Addiction Inventory (EAI) have good validity and reliability and both allow differentiating asymptomatic, symptomatic and exercise addicted. At present, there have been no studies to validate an instrument for the diagnosis of addiction to sports in Italy, so we have chosen to use the EDS because there is at least a confirmatory study on the French-speaking population (Allegre, Therme 2008) more similar to the Italian one because of their common Latin origins. For the Italian translation of this instrument it was necessary to carry out a comprehensibility test on a pilot sample before submitting it to the study participants. The Exercise Dependence Scale (EDS-R) consists of 21 items, for each one is assigned a score based on a six-point Likert scale, where "1" corresponds to never and "6" to always.

Individuals who fall within the range of dependence (scores from 5 to 6) in at least three of the seven criteria are classified as "exercise addicted ". Individuals scoring from 3 to 4 are classified as "non-symptomatic addicted" and can be considered at risk for developing an addiction to sports. Finally, individuals scoring between 1 and 2 are classified as asymptomatic non-addicted.

2.1.4 Statistical Analysis

In respect of the non-parametric nature of the data collected, indices of descriptive statistics, the Fisher's exact test, Pearson's chi-squared test, Kendall' tau coefficient and Kruskal-Wallis one way analysis of variance were used.

2.2 Results

Despite the limited of the sample, the most significant result that emerges from analysis of the data is the existence of a significant association between the two variables measured by the TAS 20 and by the EDS 21(Fischer's test *p* value .001). The percentage of alexithymic subjects increases in the progression of dependency levels measured by EDS 21 ($\chi 2 = 54.47$ a =.01, $\tau = 0.55$ p<.05), as Table 1 shows.

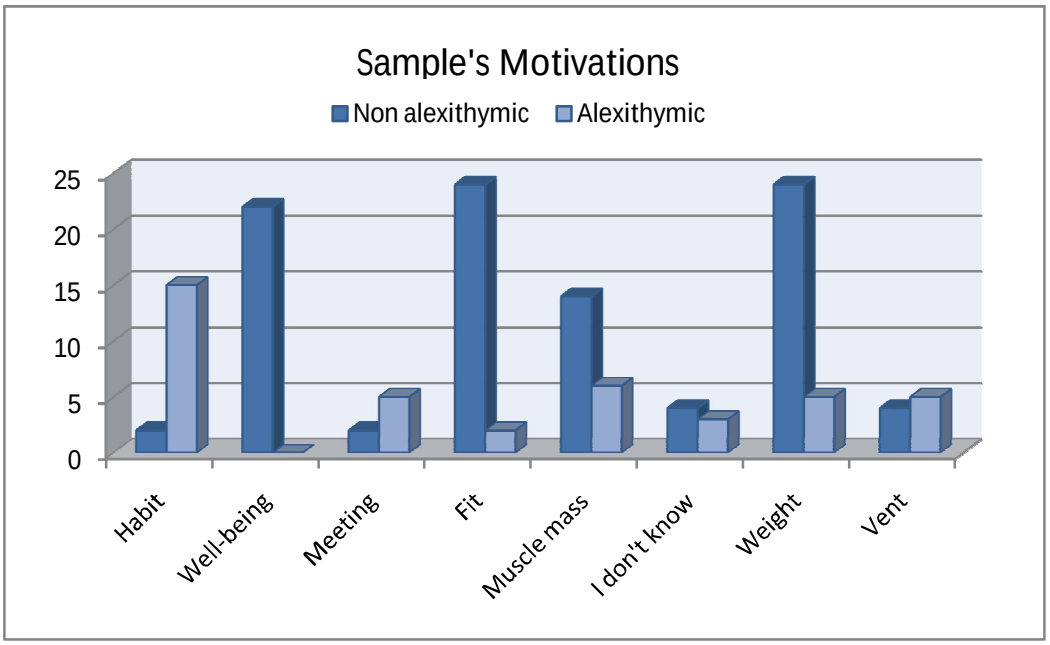
	Non alexithymic subjects	Borderline subjects	Alexithymic subjects	
Asymptomatic subjects	52 (59, 1%)	26 (29, 54%)	10 (11, 36%)	88
Symptomatic subjects	7 (18, 92%)	11 (29, 73%)	19 (51, 35%)	37
Addicted	0	0	12 (100%)	12
	59	37	41	137

Table 1: Relation between EDS21 and TAS20

As regards the results obtained by *EDS-21*, the average score of our sample is 48.01; men achieved on average higher scores than women (*50.1 vs 45; K = 5.33 p.05*), which is in line with findings by several authors (Stannard et al., 2002; La Barbera, Cannizzaro, Monaco, 2008). Significant differences were also detected in relation to educational qualifications, with higher scores in subjects only in possession of a lower school diploma (K=21,82 *p.01*); there are no differences in relation to the age of the participants. Within our sample, we identified 12 addicted persons, amounting to about 8.76% of the study population. The prevalence of addiction to sports in the general population differs from our results, although the epidemiological data is quite varied, in relation to the instrument used for the evaluation and the population target studied. Although meta-analysis assesses 3% in the general population (Sussaman et al. 2011, Berczik et al. 2012) and some studies suggest a frequency ranging from 10% to 80% (Petit, Lejoyeux 2013), solely considering the application of EDS and EAI, the percentages fluctuate among the exercising population between 2.5% and 3.6%, The difference could be explained by the fact that our sample is composed exclusively of individuals who attend a gym, a place where it is probably easier to find those "addicted", moreover the tests were administered at different times of the day, including early in the morning and evening, and this could also have affected the representativeness of the sample. As partial confirmation of our interpretation we may cite the studies by Lejoyeux et al. (2008) and Warner and Griffiths (2006). The first one highlights how out of 300 subjects attending fitness rooms, 42% meets the criteria for exercise addiction, whilst the second how out of a sample of 100 self-selected gym attenders, 8% of the participants were addicted to exercise.

As regards the motivations, the main reasons given by non-asymptomatic subjects are the search for well-being, weight reduction and the desire to be fit are, with slightly different percentages, although among the addicted subjects the main reason is habit, followed by weight loss and the need to vent ($\chi 2 = 55{,}51$ $a = .05$) Almost half of the addicted participants practices sports in the weight-room (46%); on average, our sample practices a sporting activity for 3.56 days a week for an average time of 91.24 minutes for training session. As far as *TAS 20* is concerned, 41 alexithymic subjects (26 male and 15 female subjects), that is 29.93% of the total, were identified within our sample.

By analysing the results obtained by TAS 20 according to demographical variations, there were no significant differences between the scores according to sex, age of participants, marital status; but on the other hand, it was highlighted that subjects with a lower level of education obtained on average the highest results (K =9, 53 *p*.05), in agreement with some data in literature (Kokkonen et al., 2001; Posse et al., 2002). With regards to the hypothesis of the choice of sport and its motivation, these are confirmed both when considering the group of alexithymia addicted subjects, as compared with the previously reported data by EDS, and the group of non-addicted alexithymia subjects. In the choice of the activity we have noticed that alexithymic subjects prefer the weight-room, either on its own (39.02%) or combined with running (12%) and spinning (6%). From a statistical point of view the choice of sporting activities in alexithymic subjects differs from the choices of others ($\chi 2 = 105{,}9$ $\alpha = .01$). Consistent with the psychological characteristics of alexithymia, there is, therefore, a preference for individual sports that require repetitive exercises and even some physical effort, in order to also fulfil the need for venting. Regarding motivations to practice sports, we can see that while alexithymic subjects (54%) identify the main reason for their choice as habit, those who are not offer a greater variety, from the desire to stay fit (18 %), to that of losing weight (18%) or the aim of achieving a state of well-being (16%); between the two groups, there is a statistically significant difference ($\chi 2 = 54{,}44$ $\alpha = .01$), even if habit is not the only reason given by alexithymic subjects and on the other hand this is not entirely absent, although present as a very low percentage (2%) in the remaining sample. It isalso interesting to note that one of the reasons most represented in non-alexithymic subjects, that is the pursuit of well-being, is totally absent in the group of alexithymic subjects.



Tab. 2: Sample's Motivations

3. Discussion

A significant result of this work is the statistical strength between alexithymia and exercise addiction, even if clearly there is not a complete overlap. In purely qualitative terms, we can observe that the highest scores in exercise addiction are given by those who practice running and weight-room's activities: they are alexithymic subjects, even if they are not among those with the highest scores on the TAS 20. On the other hand the sample includes subjects with high scores on the TAS 20, but who are not addicted. As regards the first survey, we could hypothesize that the weight-room presents greater routine, predictability, containment characteristics that make the choice of this sport, for alexithymic subjects with very high scores, preferable rather than running. Understanding why subjects with high level of alexithymia, even if they are attending sports centres, are not addicts would be even more interesting. Such a survey could be significant both on a theoretical and a clinical level. In fact, if we assume that exercise addiction works as a self-care solution for sufferings attributable to the primary operation, why not all individuals with alexithymia who frequent gyms are exercise addicted? Is necessary time, variable for each person, in order to develop an exercise addiction? If this is the case, that "latency period" is related to any other psychological variables?

Is it possible that too high degree of alexithymia precludes this possibility of "self-care"? Should this addiction works by containing alexithymia and therefore reduces the scores on the TAS 20? Vice versa, could there be people who, after an exercise addiction, develop (a possibility not contemplated by our sample, because all the exercise addicted subjects were also affected by alexithymia) or increase their level of alexithymia? In this case, we should distinguish a primary alexithymia from a secondary one and evaluate aetiological differences, as well as different treatment courses. In respect of the choice of sport, in agreement with the study hypothesis, there is a predilection for the weight-room and for running, but there are sports that are not chosen or very little considered. It is interesting to note that no one has chosen to practice exclusively dance or pilates. Dance, although it requires prolonged and intense workouts, is among the various activities, the only one in which, in our sample, has not even a subject affected by alexithymia. If we consider that dancers must be in touch with their emotions to be able to communicate them to their audience it is not surprising that people in whom these abilities are deficient have avoided this practice. Even pilates is not an activity practiced by such persons; it is likely that as it requires an attentive body awareness and an articulated awareness of posture, breathing and contractions, it encourages a body projection away from the mechanical and reified aspects. Perhaps the proposal of this type of sports activity, maybe as a supplement to other sports chosen by the subject, could support a course of treatment which gradually puts the subject in contact with other more self-emotional aspects, in a reassuring and containing frame, both because it is in any case related to the body and because the more affective-emotional aspect would be graduated by the subject. The ability to acquire integration between sensory, bodily aspects and affective and cognitive data represents the core of affective regulation and the basis of health, but there may be multiple paths leading to this target, some more focused on representational and symbolic dimensions whilst others more mediated by other experiences, including bodily ones.

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