Body esteem and its relationship with early maladaptive schemas in borderline personality disorder and major depression

Dorottya Szily  
Semmelweis University

Zita S. Nagy  
Semmelweis University

Dominik Szabó  
Semmelweis University

Zsolt Szabolcs Unoka  
unoka.zsolt@semmelweis.hu

Semmelweis University

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Abstract

Background: The disruption of body esteem is associated with distress and may be linked to psychiatric disorders such as Borderline Personality Disorder (BPD) and Major Depression (MD). Existing studies have primarily focused on body satisfaction as a unified concept, without delving into specific body areas or functions. Early Maladaptive Schemas (EMSs) are observed in individuals with BPD and MD. So far little is known about their potential influence on body esteem, particularly within the context of MD or BPD. This study aims to investigate the satisfaction levels pertaining to different body areas and the influence of EMSs on body esteem BPD patients and MD patients.

Methods: Our study included 31 patients diagnosed with BPD (25 women), 27 diagnosed with MD (17 women) and 25 healthy individuals (HC, 16 women) (M\text{age} was between 29 and 33 for each groups). The SCID-5-PD and MINI was used to assess psychiatric disorders. Body esteem was measured by using an extended version of Body Esteem Scale. EMSs were measured by using Young Schema Questionnaire. Short Form 2.

Results: Regarding EMS domains and general body esteem, all groups differed significantly from each other, except in Overvigilance, where BPD differed from MD and HC. Regarding body functions, BPD group differed from MD and HC groups. For the head, BPD patients and HCs differed from each other. Regarding the upper body HCs differed from the psychiatric patients.

Following the identification of schema domains and their correlation with body variables, significant findings emerge within the BPD and MD groups. In the BPD group, Enmeshment exhibits a notable inverse association with general body esteem and body functions. Conversely, within the MD group, Entitlement displays a marked positive correlation with general body esteem. Furthermore, Vulnerability to Harm in the BPD group and Failure to Achieve in the MD group potentially contribute to disturbances in body esteem.

Conclusions: Our study suggests that both BPD and MD patients experience disturbances in body esteem. Specifically, in patients with BPD, perceptions of body functions are significantly affected. Furthermore, within both disorders, specific EMSs can be identified, which are related to impairments in body esteem.

1. Introduction

1.1. General introduction.

Body esteem encompasses the self-assessment of one's physical form or appearance and integrates cognitive, affective, and behavioral components (1, 2). Body image, including satisfaction with the body, can be disturbed in individuals with different psychiatric diseases (3, 4). Major depression (MD) and borderline personality disorder (BPD) are two complex and demanding psychiatric disorders that affect not only mood, cognition, or even quality of life (5–8) but also body image and satisfaction (9–11). The
presence of cognitive distortions and maladaptive schematic thoughts in BPD (12) and MD (13) patients is well established. However, very little is known about how different components of these disorders, such as body esteem and negative cognitive patterns, relate to each other and potentially act as risk factors in these conditions.

1.2. Body esteem in BPD and MD patients

Body esteem is primarily studied as the satisfaction aspect of body image. As a fundamental component of these disorders, most studies have investigated body image and satisfaction in individuals with eating disorders (14, 15) and body dysmorphic disorders (BDD,16). However, lower satisfaction with one’s body and general appearance can be observed in individuals with major depression (17) and BPD (10). Most studies concentrated solely on the overarching facets of body image and discontentment without delineating specific areas of dissatisfaction. We identified only one study that specifically investigated areas of dissatisfaction among individuals with depression, revealing heightened dissatisfaction with "facial" and "physique" aspects in depressed Chinese-American females (18). The etiology of body image disorders might arise from therapeutic experiences and may be elucidated by distorted patterns of thinking, including negative automatic thoughts about one’s and others (19–21). In recent decades, alternative cognitive-behavioral theory has been proposed to incorporate core beliefs related to attachment to others, autonomy, competence, and sense of identity (22, 23) and has a potential role in body image disturbances.

1.3. Early Maladaptive Schemas in BPD, MD and body esteem

Early maladaptive schema (EMS) are negative, dysfunctional, emotional, and cognitive patterns that develop mainly during early childhood and throughout one’s lifetime and affect interpretations and relationships (23, 24). The creator of this concept, Jeffrey Young, identified 18 EMSs that were systematically organized into five distinct domains (22, 23). These dysfunctional cognitive patterns occur in both BPD patients (12) and MD patients (13). In patients with BPD, the predominant manifestation is the schema domain of Disconnection and Rejection (12, 25), whereas in individuals experiencing MD, in addition to Disconnection and Rejection, Impaired Autonomy and Performance and Other-directedness are observed with greater prominence (26). However, there is limited knowledge regarding the comparison of these two diseases among EMSs. Only one study has been conducted on this topic thus far. In that study, after controlling for concurrent stress, 14 of the 18 EMSs did not exhibit significant differences between individuals with chronic depression and those with BPD (27). Recent studies suggest that EMSs might play a potential role in body image disturbances (28, 29). Furthermore, an elevated level of early maladaptive schemas manifests in conditions impacting body image, such as eating disorders (30) or BDD.

1.4. Aim of the study

Body esteem can be a critical component of body image and self-esteem (31, 32). Its disruption can lead to considerable distress and impact quality of life (33). The presence of body esteem disturbances in BPD
and MD patients might suggest that they are risk factors for these psychiatric disorders. Most studies have investigated body image disturbances or dissatisfaction as a general term without specifying areas or functions of the body. Despite our comprehensive understanding of the role of EMSs in psychiatric disorders, little is known about their influence on body esteem, particularly within the context of psychiatric disorders such as MD or BPD. Taking all the aforementioned factors into account, we hypothesized that our examined groups (MD, BPD, and healthy controls (HC)) would exhibit differences in EMS and various body esteem variables, including general body esteem, body functions, head, upper, and lower body. Considering cognitive theory as a potential explanation for body image disruption, we also hypothesized that EMSs would play a predictive role in body esteem within the examined psychiatric disorders.

2. Method

2.1. Procedures

Participants with BPD and patients with MD were recruited from the Department of Psychiatry and Psychotherapy inpatient unit at Semmelweis University, Budapest, Hungary. These patients participated in a psychotherapy program lasting four weeks. Diagnostic interviews were conducted by trained diagnosticians at the time of departure prior to the commencement of the therapy program. The healthy control group was recruited through availability sampling. We matched the experimental and control groups on age. Prior to the initiation of therapy, the mental health screening of each participant was performed by psychologists and physicians. The professionals carried out this investigation using the Structured Clinical Interview for DSM-5-Personality Disorder (SCID-5-PD; 34) and Mini International Neuropsychiatric Interview (MINI; 35, 36). Participants, both patients and controls, did not receive compensation for their involvement in the study. All participants provided written informed consent, and the study protocol was approved by the Medical Research Council National Scientific and Research Ethics Committee.

2.2. Participants

The study included a total of 83 participants. The BPD group comprised 31 individuals, the MD group consisted of 27 participants, and there were 25 healthy controls.

In the BPD group, participants were required to meet the diagnostic criteria for BPD according to the SCID-5-PD. The inclusion criteria for the MD group were meeting the diagnostic criteria for current major depression episodes according to the MINI and the absence of borderline personality disorder according to the SCID-5-PD. For healthy controls, the inclusion criterion involved the absence of current or previous psychiatric or neurological disorders. Healthy participants who did not complete the questionnaires were excluded. The BPD group included 6 males (19.4%) and 25 females (80.6%). The mean age of the participants was 28.38 years ($SD = 8.853$). The MD group included 10 males (37%) and 17 females (63%). The mean age of the participants was 33.44 years ($SD = 10.786$). The control group included 9 males (36%) and 16 females (64%). The mean age was 27.92 years ($SD = 9.193$). The data relating to
participants’ education levels are presented in Table 1. The Mann–Whitney test was performed to examine the differences between the examined groups. There were no significant differences between BPD patients and MD patients \((z=-.737, p = .461)\). Both the BPD group and healthy controls \((z=-3.183, p = .001)\) and the MD group and healthy controls \((z=-2.549, p = .011)\) were included. differed from each other in the case of the highest level of education.

<table>
<thead>
<tr>
<th>Level of highest education</th>
<th>Frequency (percentage)</th>
<th>BPD group</th>
<th>MD group</th>
<th>Healthy controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N(%)</td>
<td>N(%)</td>
<td>N(%)</td>
</tr>
<tr>
<td>Primary school</td>
<td>5(16.1)</td>
<td>2(7.4)</td>
<td>0(0)</td>
<td></td>
</tr>
<tr>
<td>Secondary school</td>
<td>0 (0)</td>
<td>2(7.4)</td>
<td>0(0)</td>
<td></td>
</tr>
<tr>
<td>Graduation in secondary high school</td>
<td>15(48.4)</td>
<td>10(37)</td>
<td>5(20)</td>
<td></td>
</tr>
<tr>
<td>Collage</td>
<td>3(9.7)</td>
<td>5(18.2)</td>
<td>3(12)</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>6(19.4)</td>
<td>6(33.2)</td>
<td>17(68)</td>
<td></td>
</tr>
<tr>
<td>Postgraduate</td>
<td>2(6.5)</td>
<td>2(7.4)</td>
<td>0(0)</td>
<td></td>
</tr>
</tbody>
</table>

In addition to the primary diagnosis, the majority of participants in both the BPD and MD groups exhibited one or more comorbid psychiatric disorders, as outlined in Table 2.
Table 2
Comorbid diagnoses in the examined groups

<table>
<thead>
<tr>
<th>Diagnosed mental disorder</th>
<th>Frequency (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BPD (N = 31)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidant personality disorder</td>
<td>4 (12.9)</td>
</tr>
<tr>
<td>Dependent personality disorder</td>
<td>1 (3.2)</td>
</tr>
<tr>
<td>Obsessive-compulsive personality disorder</td>
<td>5 (16.1)</td>
</tr>
<tr>
<td>Histrionic personality disorder</td>
<td>1 (3.2)</td>
</tr>
<tr>
<td>Narcissistic personality disorder</td>
<td>3 (9.7)</td>
</tr>
<tr>
<td>Paranoid personality disorder</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Borderline personality disorder</td>
<td>31 (100)</td>
</tr>
<tr>
<td>Major depressive disorder</td>
<td>15 (48.4)</td>
</tr>
<tr>
<td>Anxiety disorders</td>
<td>11 (35.5)</td>
</tr>
<tr>
<td>PTSD</td>
<td>4 (12.9)</td>
</tr>
<tr>
<td>OCD</td>
<td>3 (9.7)</td>
</tr>
<tr>
<td>Eating disorders</td>
<td>4 (12.9)</td>
</tr>
<tr>
<td>BDD</td>
<td>3 (9.7)</td>
</tr>
<tr>
<td>Alcohol/substance abuse/dependence</td>
<td>7 (22.6)</td>
</tr>
<tr>
<td></td>
<td>2 (7.4)</td>
</tr>
</tbody>
</table>

2.3. Materials

2.3.1. Body Esteem Scale (BES)-extended version

We used an extended version of the Body-Esteem Scale (BES; 37) to measure the degree of satisfaction or dissatisfaction with various parts or processes of one’s body. The BES comprises a list of 35 items addressing different body parts and body functions for which participants are required to assess their feelings on a 5-point Likert scale. (5 = very positive feelings, 4 = positive feelings, 3 = neutral, 2 = negative feelings, 1 = very negative feelings). A higher score indicates greater body esteem, reflecting greater satisfaction with one’s body. The original questionnaire has six factors, three for women and three for men. Our research group extended the questionnaire with 11 items, resulting in a 46-item survey. We created 5 variables for the questionnaire. General body esteem included all 46 items and had good reliability, with a Cronbach's alpha of .909. Body functions included items related to the functions of the body (body scent, appetite, smelling, physical stamina, reflexes, muscle strength, energy level, physical coordination, agility, health, physical condition and sex drive and sexuality) and demonstrated good
reliability, with Cronbach's alpha values of .818. The head variable covered aspects related to one's head, including lips, ears, chin, appearance of eyes, cheeks/cheekbones, face, hair, and nose. It displayed good reliability with Cronbach's alpha values (\(\alpha = .664\)). The upper body variable contains items related to the upper body (biceps, width of shoulders, arms, chest or breast, hips, waist, appearance of stomach, spine, neck, hand) and had good reliability, with a Cronbach's alpha value of .754. The lower body variable encompassed items related to the lower body, including the thigh, buttocks, legs, sex organs, shin, ankle, knee, and foot. The scale exhibited good reliability, with Cronbach's alpha values of \(\alpha = .795\). Other variables included unclassifiable items such as figure of physique, body build, body hair, weight, skin, scars, and injuries. The scale demonstrated good reliability, with Cronbach's alpha values of .706.

### 2.3.2. Young Schema Questionnaire. Short Form 2

Jeffrey Young created the concept of early maladaptive schemas, which are dysfunctional and stable patterns of experiences associated with specific thoughts and emotional states and dysfunctional behavior (22, 23). These schemas are formed during early childhood, during the development of personality, and become a stable part of one's personality. A self-report assessment instrument (Young Schema Questionnaire) was developed to measure one's early maladaptive schemas. The original material used 205 items to assess 16 maladaptive schemas (factors). Several revisions of the questionnaire have recently been published (38, 39). In this study, we used the Hungarian version of the short form of the Young Schema Questionnaire (40, 41). The questionnaire measures 5 domains (Disconnection and Rejection, Impaired Autonomy, Impaired Limits, Other-directedness, and Overvigilance) and 19 maladaptive schemas (Abandonment/instability, Mistrust/abuse, Emotional Deprivation, Defectiveness/shame, Social Isolation; Dependence, Vulnerability to Harm, Enmeshment, Failure to Achieve; Social Undesirability, Entitlement, Insufficient Self-control, Subjugation, Self-sacrifice, Approval-seeking, Negativity/pessimism, Emotional Inhibition, Unrelenting Standards, Punitiveness). through 95 items. The EMS domains demonstrated good reliability, with Cronbach's \(\alpha\) values between \(\alpha = .865\) and \(\alpha = .964\).

### 2.4. Data Analysis

All statistical analyses were conducted using IBM SPSS Statistics 26.0 (IBM Corp., 2019). First, to assess group differences in body esteem variables and EMS domains, analysis of variance (ANOVA) was employed. Second, to investigate interactions between body esteem variables and EMS domains across the examined groups (BPD, MD, HC), an analysis of covariance (ANCOVA) was performed. To delve deeper into the factors responsible for the associations identified in the initial ANCOVA analysis, further ANCOVA analyses were conducted. At last, to model the relationship between body-esteem variables and EMS factors, we applied a linear regression analysis to each group.

The Regional and Institutional Committee of Science and Research Ethics of Semmelweis University approved the research procedure (Nr. 80/2019).

### 3. Results
3.1. Group differences between EMS domains and body esteem variables

ANOVA was conducted to examine the differences among the three groups (BPD, MD, HC) in the EMS domains and body esteem variables (see Table 3). The results revealed a significant effect of group on each EMS domain, general body esteem, body functions, head, upper body, lower body and others variables. Post hoc comparisons using the LSD test indicated that, in the case of EMS domains and body esteem, all groups differed significantly from each other, except in Overvigilance, where BPD differed from MD and HC, respectively. Regarding body functions, significant differences were found between the BPD and MD groups as well as between the BPD and HC group. For the head, only BPD patients and HCs differed from each other. Regarding the upper body, we found significant differences between BPD patients and HCs and between MD patients and HCs. In case of others BPD patients differed from the MD patients and HCs. However, there was no significant difference in the lower body between the groups.
### Table 3
Group differences between EMS domains and body esteem variables

<table>
<thead>
<tr>
<th>Measure</th>
<th>Examined groups</th>
<th>Group differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BPD</td>
<td>MD</td>
</tr>
<tr>
<td>Disconnection and Rejection</td>
<td>3.79</td>
<td>.99</td>
</tr>
<tr>
<td>Impaired Autonomy &amp; Performance</td>
<td>3.2</td>
<td>1.01</td>
</tr>
<tr>
<td>Impaired Limits</td>
<td>75.54</td>
<td>.95</td>
</tr>
<tr>
<td>Other-Directedness</td>
<td>3.77</td>
<td>.99</td>
</tr>
<tr>
<td>Overvigilance &amp; Inhibition</td>
<td>3.81</td>
<td>.98</td>
</tr>
<tr>
<td>General body esteem</td>
<td>2.7</td>
<td>.43</td>
</tr>
<tr>
<td>Body functions</td>
<td>2.67</td>
<td>.57</td>
</tr>
<tr>
<td>Head</td>
<td>3.25</td>
<td>.47</td>
</tr>
<tr>
<td>Upper body</td>
<td>2.63</td>
<td>.57</td>
</tr>
<tr>
<td>Lower body</td>
<td>2.82</td>
<td>.67</td>
</tr>
<tr>
<td>Others</td>
<td>2.2</td>
<td>.61</td>
</tr>
</tbody>
</table>

Note: NS indicates not significant; A, post hoc analyses indicated that BPD was significantly different ($p < .05$) between the MD and HC groups; B, post hoc analyses indicated a significant difference ($P < .05$) between the BPD and HC groups and between the MD and HC groups; C, post hoc analyses indicated a significant difference ($P < .05$) between the BPD and HC groups; D, post hoc analyses indicated a significant difference ($P < .05$) between the BPD and MD groups and between the BPD and HC groups.

### 3.2. ANCOVA for EMS domains

The associations between body esteem variables and EMS domains were investigated using ANCOVA. In our analysis, body esteem variables were designated as dependent variables, the group variable served as the independent variable, and EMS domains were included as covariates. For general body esteem, a
significant effect of group was observed (F(2) = 6.599, p = .002), along with significant effects of Impaired Autonomy and Performance (F(1) = 7.476, p = .008) and Impaired Limits (F(1) = 10.012). Similarly, body function exhibited a significant group effect (F(2) = 4.311, p = .017), with significant findings for Impaired Autonomy and Performance (F(1) = 5.233, p = .025), as well as Impaired Limits (F(1) = 10.012).

Concerning head, only Impaired Limits (F(1) = 6.806, p = .011) had a significant effect on the dependent variable. In the case of the upper body, significant effects of group (F(2) = 5.941, p = .004) and Impaired Limits (F(1) = 4.593, p = .035) were detected. However, no significant model was observed for the lower body. Regarding others, significant effects of group (F(2) = 8.235, p = .001) and Impaired Limits (F(1) = 4.224, p = .043) were detected.

3.3. ANCOVA for EMS factors

To further examine which of the factors were responsible for the associations, we performed additional ANCOVAs for the factors that included Impaired Autonomy and Performance and Impaired Limits. Similarly, to the previous ANCOVA, body esteem variables were used as dependent variables, the group variable served as the independent variable, and EMS factors were included as covariates. In the case of general body esteem, Enmeshment (F(1) = 7.094, p = .010) and Entitlement (F(1) = 8.477, p = .005) exhibited statistically significant effects. Similarly, for body functions, Enmeshment (F(1) = 5.948, p = .010) and Entitlement (F(1) = 5.357, p = .024) demonstrated significant effects, as observed for the previous variable. Interestingly, neither the head nor the upper body had a significant effect on any factors of Impaired Limits on the dependent variable. Regarding Others, Vulnerability to Harm (F(1) = 5.669, p = .02) and Failure to Achieve (F(1) = 4, p = .049) demonstrated statistical significance.

3.4. Linear regression between EMS factors and body variables

Post hoc analyses were conducted to further investigate the effect of grouping variables, and a separate regression analysis was performed between each body variable and the most influential EMSs in all three examined groups.

In the BPD group, Enmeshment (t=-2.803, beta=-.47, p = .009) exhibited a significant negative relationship with general body esteem. Conversely, in the MD group, Entitlement (t = 2.514, beta = .446, p = .019) revealed a significant positive relationship with this body variable. No connection was found in the HC group. Concerning body functions, in the BPD group, Enmeshment (t=-2.185, beta=-.393, p = .037) demonstrated a significant negative association with the dependent variable, while no significant associations were found in the other two groups. For others, in the BPD group, Vulnerability to Harm (t=-2.115, beta=-.380, p = .043), and in the MD group, Failure to Achieve (F(1) = 2.099, Beta = -.398, p = .046) exhibited significant negative associations with the dependent variable. In the HC group, no significant association was observed.

4. Discussion
4.1. Differences between EMS domains and body esteem variables between the examined groups

We conducted a comparative analysis among the BPD, MD, and HC groups across the 5 domains of EMSs. In Disconnection and Rejection, Impaired Autonomy and Performance, Impaired Limits and Other-Directedness significant differences emerged among the groups under examination. The BPD group attained the highest score, followed by the MD group and finally the HC group. Regarding Overvigilance, only the psychiatric groups differed from the HC group. These findings partially corroborate prior studies indicating a positive association between elevated levels of EMSs and increased depression severity (13). Furthermore, a greater level of EMS was found in BPD patients than in HCs (42). To date, only one study has compared MD and BPD in terms of EMS, and contrary to our results, in the majority of the studies, no significant difference was found between the examined groups (27). Nevertheless, researchers obtained this result after adjusting for the level of distress. Both the previous study and our findings affirm the hypothesis that EMSs play a significant role in both mental disorders. Simultaneously, discerning any distinction between the two psychiatric groups regarding schemas undoubtedly necessitates considering numerous factors and warrants further investigation.

Regarding body esteem variables in the case of general body esteem, all the examined groups differed from each other. These findings are in line with previous findings where higher levels of body dissatisfaction and disturbed body image were found in BPD (9, 10) and MD (11, 17) patients. However, previous studies did not compare these two psychiatric disorders. The lower level of body esteem in BPD patients suggests that disturbances in identity, which are characteristic of BPD (43) and in which the body is an essential component, may have a more pronounced impact on body satisfaction than the negative self-esteem which was observed in individuals with MD (44). Significant differences in body function were found between the BPD and HC groups. Previously, no study has explored satisfaction with body functions in this context. One possible explanation is that borderline symptoms affect one's overall functioning, often including dissociative experiences (45). These symptoms might result not only in lower body esteem but also in a general perception of one's body as dysfunctional. Significant differences in head and upper body parameters were detected between the psychiatric patients and the control group. Notably, these variables have not been previously explored in psychiatric disorders. These findings suggest that dissatisfaction with these areas may be attributed to dysfunction in these specific regions, particularly the face. Consequently, our results support the notion of dysfunctional facial expression in patients with BPD (46) and MD (47) patients.

The variable others encompasses various anatomical features and characteristics that resist classification into distinct categories, thus contributing to a variable perspective concerning the entire body. These attributes include e.g. body defects, body hair, skin, and scars. The analysis of others revealed significant group disparities, particularly between the BPD group and the remaining groups. This finding suggests that individuals diagnosed with BPD may exhibit heightened sensitivity to bodily attributes such as weight or skin condition. These results are in line with previous studies in which higher
body weight (48) and more severe and maladaptive eating patterns were found in BPD patients (49). Our findings are also in line with those studies in which a greater prevalence of skin-related body modifications (50) and scars (51) were found, supporting a lower level of satisfaction with these areas.

4.3. Effect of EMSs on body esteem variables in the BPD, MD and HC groups

The initial ANCOVA revealed a significant impact of Impaired Autonomy and Performance, as well as Impaired Limits, on general body esteem, alongside a significant group effect. These findings align with prior research indicating the substantial predictive value of these domains concerning body image (28). However, further examination identified the schema of Entitlement within Impaired Autonomy and Performance and the schema of Enmeshment within Impaired Limits as the contributing factors. In the post hoc analysis, within the BPD group, Enmeshment displayed a negative correlation, while within the MD group, Enmeshment exhibited a positive association with general body esteem. The relationship between general body esteem and Enmeshment in BPD suggests that although enmeshment is not typically associated with BPD symptoms (12), patients with a greater inclination toward attachment or enmeshment with another individual exhibit greater levels of dissatisfaction with their bodies, indicating a greater psychological distance from their own bodies. These findings provide an additional perspective on why patients with BPD may experience a poorer body image (10) and a diminished connection with their bodies, resulting a lower body ownership (52). Greater Entitlement was associated with better body esteem in the MD group, which is partially in line with Schwartz and Tylk's study (53), where a positive relationship between self-assurance factor of Entitlement and body esteem was found among men. In comparison to this finding, our results indicate that an overestimation of the self and one's own rights is strongly associated with an overestimation of the body. Furthermore, it appears that these relationships are most pronounced in MD patients, possibly due to previous research identifying co-occurrences between vulnerable narcissists and depressive symptoms (54, 55).

Similar to general body esteem, initial ANCOVA revealed a significant impact of Impaired Autonomy and Performance, as well as Impaired Limits, on body function in addition to a significant group effect. Further examination identified the schema of Entitlement within Impaired Autonomy and Performance and the schema of Enmeshment within Impaired Limits as the contributing factors. According to the post hoc analysis, schema Enmeshment exhibited a significant negative correlation with body functions only within the BPD group. Currently, limited understanding exists regarding body functioning and its associated satisfaction in BPD patients. However, our findings align with prior research indicating impaired motor function and coordination in individuals with BPD (56). Given that our variable "body functions" encompass various aspects, including appetite and olfaction, in addition to motoric functioning, our results suggest the presence of nervous system impairments in BPD (57). Furthermore, these effects appear to be most pronounced in conjunction with features such as self-boundary instability and the inclination toward enmeshment with others.
ANCOVA revealed a significant effect of Impaired Autonomy on others, in addition to the effect of group. Further examination revealed that Vulnerability to Harm and Failure to Achieve were statistically significant. Post hoc analysis revealed that, in the BPD group, Vulnerability to Harm and in the MD group, Failure to Achieve exhibited significant negative associations with the dependent variable. These findings imply that within individuals diagnosed with BPD, perceptions of vulnerability are predominantly linked to discontent surrounding specific bodily characteristics such as weight, skin, or scars. Our results suggest that the fear of harm among BPD patients is associated with heightened dissatisfaction regarding weight or skin condition, potentially serving as a contributing factor to impulsive eating patterns (58), self-harming (e.g., skin scaring) behaviors (59), or body modification practices (50), all of which are typically observed in individuals with BPD. In the MD group, failure associated with the aforementioned body parts, which partially supports previous studies linking failure to achieve remission with higher weight, suggests that feelings of failure in performance are associated with feelings of failure in attaining an ideal body.

Although the upper body and head did not reveal a significant association in the post hoc analysis, the relationship with Impaired Limits of these variables highlights and strengthens the importance of this schema domain in body esteem disturbances.

5. Conclusion

The aim of our study was to gain a deeper understanding of potential differences between individuals with BPD and patients with MD concerning EMSs and body esteem. We sought to investigate the role of EMSs in body esteem disturbances among patients with BPD and patients with MD.

Our results indicate that individuals with BPD may exhibit higher levels of EMSs and lower levels of body esteem, impacting not only general body esteem but also specific body functions. Moreover, our study suggests that previously observed dysfunctional facial expressions in individuals with MD and patients with BPD may correlate with lower levels of satisfaction with facial and surrounding areas.

Furthermore, our findings suggest that in individuals with BPD, characteristics such as a greater inclination toward attachment or enmeshment with another individual, and beliefs of vulnerability, may significantly influence body satisfaction as part of cognitive patterns. Conversely, in MD, entitlement may serve as a potential protective factor, while perceptions of failure may pose a risk to body esteem disturbances.

Our findings highlight the significant impairment in body-related processes observed in individuals with BPD and individuals with MD, characterized by the presence of specific maladaptive schemas. These results hold promise for informing more nuanced therapeutic approaches aimed at addressing the multifaceted needs of patients diagnosed with BPD and patients with MD.

4.5. Limitations
Increasing sample size might be essential in the future to strengthen our results. Improving our sample's homogeneity with decreasing the number of comorbid disorders might be also important. Our study highlights a particularly important difference between patients and healthy people, however not able to explore causal relationship. For future research must be exceptionally important aim to clarify causal factors of the differences between the examined groups.

Declarations

Ethics Approval and Consent to participate

The studies involving humans were approved by the Regional and Institutional Committee of Science and Research Ethics of Semmelweis University approved the research procedure (Nr. 80/2019). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Consent for publication

Not applicable.

Availability of Data and Materials

All data generated or analysed during this study are included in this published article and its supplementary information files.

Competing interest

The authors declare that they have no competing interest.

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Author contributions

ZU, ZN, and DSzi contributed to conception and design of the study. DSzi organized the database. DSza performed the statistical analysis. DSzi wrote the first draft of the manuscript. All authors contributed to manuscript revision, read, and approved the submitted version.

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References


