

## PARENTAL AND ROMANTIC ATTACHMENT: IMPLICATIONS FOR SOMATIC SYMPTOM DISORDER

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### Abstract

Numerous studies have examined the relationship between attachment and psychosomatic disorders, yet recent theoretical and clinical developments call for further investigation. This study explored adult attachment to mother, father, and romantic partner in relation to Somatic Symptom Disorder (SSD), as well as differences between individuals with and without the disorder. The sample included 120 participants (60 with SSD) who completed the *Attachment Multiple Model Interview* (AMMI), the *Patient Health Questionnaire-15* (PHQ-15), and the *Somatic Symptom Disorder – B Criteria Scale* (SSD-12). Attachment to mother was associated with both somatic and psychological symptoms of SSD, whereas attachment to father correlated only with somatic symptoms. For the mother relationship, *Security* explained 8% of somatic and 7% of psychological symptoms variance, while *Inhibition* explained 9% of psychological symptoms. For the father relationship, *Security* explained 10% of somatic symptoms. Overall, findings highlight the relevance of attachment-focused interventions in SSD.

**Keywords:** adult attachment, relationship with parents, romantic partner, Somatic Symptom Disorder.

Attachment theory, developed by John Bowlby (1973, 1980, 1982), provides a fundamental framework for understanding the development of psychological and somatic pathology (Levy *et al.*, 2015; McWilliams & Bailey, 2010; Mikulincer & Shaver, 2016), including psychosomatic disorders (Maunder & Hunter, 2001). According to Bowlby, attachment represents an innate biological tendency of the child to seek proximity to a specific figure – typically the caregiver – in order to obtain protection and a sense of safety (Bowlby, 1982). He described the defining characteristics of attachment relationships, emphasizing their distinctive emotional intensity. The early relationship with the mother plays a crucial role in the individual's psychological development and shapes the way future attachment relationships with others are formed (Bowlby, 1982). Through repeated interactions with the attachment figure and through that figure's responsiveness to the child's needs, mental representations of the self and others are constructed, known as internal working models. These models encompass both the individual's perceptions of

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their own worthiness and lovability, and their beliefs regarding the availability and supportiveness of attachment figures (Bowlby, 1982). Later, Bowlby (1973) proposed the hypothesis of multiple working models, suggesting that individuals may simultaneously operate with different representations of the self and the world, which vary depending on their source, degree of influence, and level of conscious accessibility.

Attachment theory was later tested and expanded by Mary Ainsworth, who proposed a three-category classification of childhood attachment: secure, ambivalent, and avoidant (Salter Ainsworth *et al.*, 2015). Mary Main and Judith Solomon (1986) subsequently added a fourth pattern: disorganized attachment. Further research extended the analysis of attachment into adulthood, demonstrating that romantic relationships function as attachment relationships and that the emotional bonds between romantic partners resemble those formed between children and their parents (Hazan & Shaver, 1987). As individuals mature, the number of attachment figures becomes more diverse, including parents, romantic partners, friends, teachers, mentors, supervisors, or one's own children (Mikulincer & Shaver, 2007). At this stage, individuals may develop multiple attachment relationships, and their hierarchy is dynamic, shaped by developmental stage, personal needs, and the characteristics of each relationship (Mikulincer & Shaver, 2016).

Regarding adult attachment styles, research has long relied on a categorical approach, either with three categories – secure, anxious/ambivalent, and avoidant (Hazan & Shaver, 1987) – or four categories – secure, preoccupied, dismissing, and fearful (Bartholomew, 1990). More recent studies, however, indicate that a dimensional approach is more appropriate for assessing adult attachment (Fraley *et al.*, 2015). The most widely used conceptualization currently includes two dimensions: anxiety, defined by fear of separation and abandonment, and avoidance, defined by discomfort with intimacy and dependence (Brennan, Clark, & Shaver, 1998). A more recent perspective proposes four fundamental dimensions: security, inhibition, hyperactivation, and disorganization (Miljkovitch *et al.*, 2015). The level of security within a relationship increases proportionally with the consistency of appropriate responses received by the individual to their attachment needs. In the absence of availability or adequate support from the attachment figure, individuals rely on secondary strategies: inhibition (suppressing or minimizing needs), hyperactivation (excessive focus on the attachment figure and repeated efforts to achieve closeness), or disorganization (the simultaneous use of opposing strategies of inhibition and hyperactivation) (Miljkovitch *et al.*, 2015).

In the classical literature, internal working models were conceptualized as broad, relatively stable structures, comparable to personality traits. However, recent research highlights that individuals' representations vary depending on the specific relationship in which they are engaged (Fraley *et al.*, 2011; Miljkovitch *et al.*, 2015). From this perspective, a rigorous assessment of adult attachment requires examining its dimensions in relation to significant relationships, particularly those with parents and romantic partners.

The clinical relevance of attachment is well documented, with extensive literature emphasizing its impact on both physical and psychological health (Dagan *et al.*, 2018; Fossati *et al.*, 2012; Lewczuk *et al.*, 2021). A distinct line of research focuses on psychosomatic disorders, where insecure adult attachment has been shown to be a predictive factor for the development of these conditions (Falahatdoost *et al.*, 2020; Nacak *et al.*, 2017). Moreover, studies indicate that individuals diagnosed with psychosomatic disorders exhibit higher levels of insecurity and lower levels of security compared to healthy individuals (Agostini *et al.*, 2016; Dieris-Hirche *et al.*, 2012).

Although the literature has highlighted the relationship between attachment and psychosomatic disorders, most research has relied on traditional terminology and classifications, without systematically integrating recent conceptual and nosological perspectives. Long categorized under “somatoform disorders” with “somatization disorder” as the central diagnosis (APA, 2000), these conditions were redefined in DSM-5 as “Somatic Symptom Disorder and related disorders,” shifting the focus from the negative criterion of lacking medical explanations to positive criteria centered on disproportionate thoughts, emotions, and behaviors associated with somatic symptoms (APA, 2013). The diagnosis requires the presence of somatic symptoms that cause distress and functional impairment, a duration of at least six months, and cognitive, affective, and behavioral manifestations that are disproportionate to symptom severity. This reconceptualization more accurately captures the interaction between body and mind and provides clearer operational criteria, relevant for both clinical practice and empirical research (APA, 2013).

To achieve a deeper understanding of how adult attachment influences Somatic Symptom Disorder within the context of these updated nosological frameworks, a systematic investigation of the relationship between these variables is necessary, using instruments aligned with the most recent theoretical and clinical models. The relevance of such research extends beyond the national context and holds international significance, as many studies continue to rely on traditional approaches to attachment (viewed as a stable individual trait) and to psychosomatic conditions (defined by the absence of medical explanations for somatic symptoms). Thus, the present study aims to contribute to the updating and refinement of the understanding of these relationships, offering a conceptual and methodological framework aligned with recent developments in the field and opening new directions for empirical research and clinical practice.

The primary objective of the study is to examine the relationship between adult attachment (to mother, father, and romantic partner) and the level of symptomatology specific to Somatic Symptom Disorder. The secondary objective is to compare attachment across these three significant adult relationships between individuals with and without Somatic Symptom Disorder.

Based on the theories and empirical findings outlined above, the following hypotheses were formulated:

*Hypothesis 1:* There is a significant relationship between the dimensions of adult attachment (to mother, father, and romantic partner) and Somatic Symptom Disorder.

*Hypothesis 2:* Attachment to the mother is a significant predictor of Somatic Symptom Disorder.

*Hypothesis 3:* Attachment to the father is a significant predictor of Somatic Symptom disorder.

*Hypothesis 4:* Attachment to the romantic partner is a significant predictor of Somatic Symptom Disorder.

*Hypothesis 5:* The dimensions of attachment to the mother, father, and romantic partner differ significantly between individuals with Somatic Symptom Disorder and those without the disorder.

## METHOD

### PARTICIPANTS AND PROCEDURE

The study was conducted on a total of 120 participants, distributed as follows: 60 individuals (7 men, 53 women) diagnosed with Somatic Symptom Disorder, aged between 19 and 56 years ( $M=34.53$ ;  $SD=10.01$ ), and 60 individuals (11 men, 49 women) without Somatic symptom disorder, aged between 19 and 56 years ( $M=34.42$ ;  $SD=9.71$ ).

The sample size for the group with Somatic Symptom Disorder was determined based on a statistical power analysis using the G\*Power software (Faul, Erdfelder, Buchner, Lang, 2009), version 3.1.9.7, available free of charge online. To detect a medium effect size in linear regression, with a statistical power of 0.80 and an  $\alpha$  level (significance threshold) of 0.05, the minimum required sample size is 55 participants. Additionally, according to the power analysis for independent-samples comparisons, the minimum required sample size for each group is 51 participants, assuming a medium effect size, a statistical power of 0.80, and an  $\alpha$  level of 0.05. Considering these criteria, an additional sample of equal size was used for the control group.

Participants were recruited from organizations, companies, and online groups. They received full information regarding the aims and procedures of the study and signed informed consent prior to inclusion. Afterward, they completed a socio-demographic data form and two questionnaires assessing Somatic Symptom Disorder. Subsequently, participants took part in an interview evaluating attachment within three significant relationships: with the mother, the father, and the romantic partner. Participation was voluntary and without financial compensation. However, participants had the option to receive a personalized report that included an interpretation of their questionnaire results and a brief theoretical overview of the

assessed constructs. The study was conducted in accordance with current ethical standards for data collection in Romania and with the ethical principles established by the American Psychological Association (APA, 2017).

#### METHODS

For this cross-sectional study, three instruments assessing attachment and Somatic Symptom Disorder were used: the Attachment Multiple Model Interview (AMMI), the Patient Health Questionnaire-15 (PHQ-15), and the Somatic Symptom Disorder – B Criteria Scale (SSD-12). The selection of these instruments was based on their strong psychometric properties and their relevance to contemporary conceptualizations of adult attachment and psychosomatic disorders. In addition, the AMMI was chosen because it allows for the assessment of attachment in relation to each significant relationship (mother, father, romantic partner) and because of its capacity to capture unconscious dimensions that are inaccessible through self-report questionnaires. All three instruments had previously been translated and adapted for the Romanian population by the author of the present study as part of the doctoral research and published in academic journals and specialized books (Constantinescu, 2022a; Constantinescu, 2022b; Constantinescu, 2024; Constantinescu, 2025).

The *Attachment Multiple Model Interview* (AMMI), developed by Miljkovitch (2009, cited in Miljkovitch *et al.*, 2015), explores four attachment dimensions within each significant adult relationship: *Security* – considered the primary attachment strategy – and *Inhibition*, *Hyperactivation*, and *Disorganization*, conceptualized as secondary strategies. These dimensions are evaluated at both the representational and behavioral levels. *Security* is reflected in the coherence of the narrative and in the examples provided regarding the quality of the relationship with the attachment figure. *Inhibition* may manifest behaviorally and/or mentally through the non-expression of emotional needs, the minimization, or the lack of awareness of attachment needs. *Hyperactivation* is characterized by excessive focus on the attachment figure and efforts to elicit attention. *Disorganization* involves the combination of opposing strategies (inhibition and hyperactivation) within the same relationship. The interview consists of 23 questions referring to childhood experiences and romantic relationships, targeting how participants perceived and reacted in situations of distress or vulnerability. Scoring is performed on a continuous 9-point scale (0–8), except for the *Disorganization* subscale, which is calculated based on the *Inhibition* and *Hyperactivation* scores (0–16). Low scores indicate a reduced presence of the respective dimension, whereas high scores reflect its predominance in the attachment style. The scoring process is complex and regulated by a detailed manual, which required specialized training for the author of the present study. The AMMI was validated by Miljkovitch *et al.* (2015) on a sample of 53 adults, demonstrating high inter-rater reliability (0.93 for *Security*, 0.89 for *Inhibition*, 0.86 for *Hyperactivation*), as well as internal, convergent, and construct validity.

The *Patient Health Questionnaire-15* (PHQ-15), developed by Kroenke, Spitzer, and Williams (2002), is a 15-item self-report instrument used to assess the severity of somatic symptoms in adults (corresponding to Criterion A of Somatic Symptom Disorder in DSM-5). Responses are rated on a three-point Likert scale, and total scores indicate minimal (0–4), low (5–9), moderate (10–14), or high (15–30) levels of symptom severity. The instrument has demonstrated adequate internal consistency ( $\alpha=0.80$ ) and construct validity (Kroenke *et al.*, 2002), and it has been validated and used in both clinical and general populations across diverse cultural contexts.

The *Somatic Symptom Disorder – B Criteria Scale* (SSD-12), developed by Toussaint *et al.*, (2016), is a 12-item self-report measure assessing the cognitive, affective, and behavioral dimensions associated with somatic symptoms (corresponding to Criterion B of Somatic Symptom Disorder in DSM-5). Responses are provided on a five-point Likert scale, with higher scores indicating greater symptom intensity. The scale has been translated and applied in various clinical and non-clinical settings, demonstrating high reliability ( $\alpha=0.95$ ) and convergent validity (De Vroege *et al.*, 2017; Toussaint *et al.*, 2017).

#### OPERATIONALIZATION CRITERIA FOR SOMATIC SYMPTOM DISORDER

In the specialized literature, there is no universally accepted standard for diagnosing Somatic Symptom Disorder solely on the basis of PHQ-15 and SSD-12 scores. In this study, the criteria were operationalized based on the DSM-5 diagnostic guidelines (APA, 2013) and previous empirical findings. Thus, individuals included in the group with clinical scores suggestive of Somatic Symptom Disorder met all of the following conditions:

(a) PHQ-15 scores including at least one item rated as “bothered a lot” (Wolfe *et al.*, 2014; Wollburg *et al.*, 2013; Xiong *et al.*, 2017) and a total score  $\geq 10$  (Lee *et al.*, 2015; Toussaint *et al.*, 2020; Wolfe *et al.*, 2014);

(b) SSD-12 scores  $\geq 20$  (Toussaint *et al.*, 2020) or partial scores  $\geq 7$  on one of the three dimensions (cognitive, affective, behavioral);

(c) presence of somatic symptoms for a duration longer than six months.

#### STATISTICAL ANALYSIS

The statistical analyses were conducted using the JASP software (version 0.95.4.0), which is freely available for research purposes. Of the 120 questionnaires, three were incomplete (one missing item), and the missing data were imputed by replacing them with the arithmetic mean of the remaining scores corresponding to the entire questionnaire (PHQ-15) or the respective subscale (SSD-12). The normality of the data was assessed through graphical inspection of histograms and by calculating skewness and kurtosis indices. Descriptive statistics were reported as mean  $\pm$  standard deviation. The socio-demographic similarity of the two groups was examined using the Mann-Whitney U test for numerical variables, Fisher’s exact test (FET) for binary categorical variables, and the  $\chi^2$  test for multinomial

categorical variables (Kim, 2017). Hypotheses concerning correlations and regressions were tested on the subsample of participants with clinical scores suggestive of somatic symptom disorder ( $N = 60$ ), whereas group comparisons were conducted on the full sample ( $N = 120$ ).

Spearman's rank correlation coefficient ( $r_s$ ) was used to investigate associations, as the data did not meet the assumptions required for Pearson's coefficient. Effect size was reported using the coefficient of determination ( $r^2$ ), interpreted according to the following benchmarks: 0.01 – small effect, 0.06 – medium effect, 0.14 – large effect (Sava, 2011). To examine the predictive role of attachment in Somatic Symptom Disorder, the analysis began with simple regressions, each attachment dimension being tested separately to identify its unique contribution. Subsequently, multiple regressions were performed, including all attachment dimensions simultaneously, in order to control for conceptual and statistical overlap and to obtain more precise estimates of the specific effect of each attachment strategy. Group differences were examined using the Mann-Whitney U test, and effect size was expressed through the rank-biserial correlation ( $r_B$ ), interpreted according to the following benchmarks: 0.1 – small effect, 0.3 – medium effect, 0.5 – large effect (Goss-Sampson, 2020).

## RESULTS

### DESCRIPTIVE STATISTICS

Table 1 presents the socio-demographic characteristics of the participants, reported as absolute numbers and percentages (with the exception of age, for which the mean and standard deviation were used). Comparisons between the research group and the control group did not reveal statistically significant differences, indicating that the two groups were socio-demographically comparable.

*Table 1*  
Socio-demographic characteristics of the participants

| Socio-demographic variables | Research group | Control group | Total participants | Comparisons between the two groups |
|-----------------------------|----------------|---------------|--------------------|------------------------------------|
| Gender                      |                |               |                    | FET; $p=0.444$                     |
| Men                         | 7 (12%)        | 11 (18%)      | 18 (15%)           |                                    |
| Women                       | 53 (88%)       | 49 (82%)      | 102 (85%)          |                                    |
| Age (M, SD)                 | 34.53 (10.01)  | 34.42 (9.71)  | 34.48 (9.82)       | U=1769; $p=0.873$                  |
| Area                        |                |               |                    | FET; $p=1.00$                      |
| Urban                       | 52 (87%)       | 51 (85%)      | 103 (86%)          |                                    |
| Rural                       | 8 (13%)        | 9 (15%)       | 17 (14%)           |                                    |
| Educational level           |                |               |                    | FET; $p=0.670$                     |
| Secondary education         | 16 (27%)       | 13 (22%)      | 29 (24%)           |                                    |
| Higher education            | 44 (73%)       | 47 (78%)      | 91 (76%)           |                                    |
| Income                      |                |               |                    | $\chi^2(2)=5.601$ ; $p=0.061$      |
| Low                         | 20 (33%)       | 17 (29%)      | 37 (31%)           |                                    |
| Medium                      | 31 (52%)       | 23 (38%)      | 54 (45%)           |                                    |
| High                        | 9 (15%)        | 20 (33%)      | 29 (24%)           |                                    |

Note. FET=Fisher's exact test; U=Mann-Whitney test.

Appendix A presents the means and standard deviations, as well as the skewness and kurtosis indicators for the subscales and total scores of the three instruments used. The data distribution was considered normal if the Z-scores (calculated as the ratio between the absolute value and the standard error) for skewness and kurtosis fell within the interval (-3.29, 3.29), a criterion appropriate for samples of 50-300 participants and a 95% confidence level (Kim, 2013). The Z-score values shown in Appendix A indicate that not all subscales or total scores follow a normal distribution, a finding also confirmed through graphical inspection of the histograms.

#### CORRELATIONS AMONG THE STUDY VARIABLES

Table 2 presents the correlations between the attachment dimensions related to the mother, father, and romantic partner and the scores obtained on the instruments assessing somatic symptoms (PHQ-15) and psychological symptoms (SSD-12) of Somatic Symptom Disorder.

Table 2

Correlations between attachment and Somatic Symptom Disorder

| Attachment dimensions | Somatic Symptoms Disorder         |              |                                         |              |
|-----------------------|-----------------------------------|--------------|-----------------------------------------|--------------|
|                       | Somatic symptoms<br>(criterion A) |              | Psychological symptoms<br>(criterion B) |              |
|                       | $r_s$                             | p            | $r_s$                                   | P            |
| S (mother)            | <b>- 0.261</b>                    | <b>0.044</b> | <b>- 0.348</b>                          | <b>0.006</b> |
| I (mother)            | 0.145                             | 0.271        | <b>0.339</b>                            | <b>0.008</b> |
| H (mother)            | 0.178                             | 0.174        | - 0.064                                 | 0.627        |
| D (mother)            | 0.039                             | 0.769        | 0.104                                   | 0.428        |
| S (father)            | <b>- 0.358</b>                    | <b>0.005</b> | - 0.177                                 | 0.177        |
| I (father)            | 0.163                             | 0.215        | 0.111                                   | 0.397        |
| H (father)            | 0.217                             | 0.096        | - 0.051                                 | 0.701        |
| D (father)            | 0.101                             | 0.445        | - 0.003                                 | 0.985        |
| S (partner)           | - 0.185                           | 0.158        | - 0.205                                 | 0.117        |
| I (partner)           | 0.046                             | 0.728        | 0.026                                   | 0.842        |
| H (partner)           | 0.238                             | 0.067        | 0.150                                   | 0.252        |
| D (partner)           | 0.163                             | 0.213        | 0.056                                   | 0.670        |

Note. Statistically significant correlations are bolded.

S=Security, I=Inhibition, H=Hyperactivation, D=Disorganization.

Statistically significant correlations were found between somatic symptoms (Criterion A, assessed with the PHQ-15) and the attachment dimensions *Security* to the mother ( $r_s = -0.261$ ,  $r_s^2 = 0.07$ ,  $p = 0.044$ , medium effect) and *Security* to the father ( $r_s = -0.358$ ,  $r_s^2 = 0.13$ ,  $p = 0.005$ , large effect). For the remaining attachment dimensions, correlations with somatic symptoms were not statistically significant.

Significant correlations, with medium-to-large effect sizes, were also identified between psychological symptoms (Criterion B, assessed with the SSD-12) and the dimensions *Security* to the mother ( $r_s = -0.348$ ,  $r_s^2 = 0.12$ ,  $p = 0.006$ ) and *Inhibition* to the mother ( $r_s = 0.339$ ,  $r_s^2 = 0.11$ ,  $p = 0.008$ ). For the other attachment dimensions, correlations with psychological symptoms were not statistically significant.

Considering these results, it can be concluded that Hypothesis 1, regarding the relationship between attachment and Somatic Symptom Disorder, was partially confirmed.

#### THE PREDICTIVE ROLE OF ATTACHMENT IN SOMATIC SYMPTOM DISORDER

The results of the simple and multiple regression analyses are presented below.

##### a) *Attachment to the mother*

Given the significant correlations between the attachment dimensions to the mother and somatic symptoms (Criterion A of Somatic Symptom Disorder), a simple regression analysis was conducted in which maternal attachment *Security* acted as a negative predictor of somatic symptoms. The results indicated a significant predictive role of *Security* ( $F(1) = 4.843$ ,  $p = 0.032$ ), with this dimension explaining approximately 8% of the variance in somatic symptoms ( $r^2 = 0.080$ , adjusted  $r^2 = 0.063$ ).

Before performing the multiple regression, correlations among the maternal attachment dimensions were examined to assess the degree of association between predictors and to control for multicollinearity risk. The results are presented in Table 3.

Table 3

Correlations between the dimensions of attachment to the mother

|            | S (mother) | I (mother) | H (mother) | D (mother) |
|------------|------------|------------|------------|------------|
| S (mother) | –          |            |            |            |
| I (mother) | – 0.911*   | –          |            |            |
| H (mother) | – 0.198    | 0.026      | –          |            |
| D (mother) | – 0.430*   | 0.428*     | 0.743*     | –          |

Note. \* $p < .001$ .

S=Security, I=Inhibition, H=Hyperactivation, D=Disorganization.

A high correlation was identified between the *Security* and *Inhibition* dimensions, which required the exclusion of one of these variables to avoid multicollinearity. Given that *Inhibition* is already used in calculating the *Disorganization* score, it was excluded from the multiple regression analysis.

Table 4 presents the results of the multiple regression analysis, in which the attachment dimensions to the mother (*Security*, *Hyperactivation*, and *Disorganization*) were included as simultaneous predictors of somatic symptoms.

Table 4

Results of the multiple regression analysis between the dimensions of attachment to the mother and somatic symptoms (criterion A of Somatic Symptom Disorder)

| Predictors | Unstandardized coefficients (B) | Standard error (SE B) | Standardized coefficients ( $\beta$ ) | t       | p     |
|------------|---------------------------------|-----------------------|---------------------------------------|---------|-------|
| S (mother) | - 0.761                         | 0.335                 | - 0.327                               | - 2.273 | 0.027 |
| H (mother) | 1.532                           | 0.597                 | 0.431                                 | 2.566   | 0.013 |
| D (mother) | - 0.694                         | 0.244                 | - 0.521                               | - 2.840 | 0.006 |

Note. S=Security, H=Hyperactivation, D=Disorganization.

The analysis showed that the attachment dimensions to the mother, considered simultaneously, acted as predictors of somatic symptoms ( $F(3, 56)=4.101$ ,  $p=0.011$ ), explaining 18% of their variance ( $r^2=0.180$ , adjusted  $r^2=0.136$ ). All three dimensions were significant predictors: *Security* ( $\beta = -0.327$ ,  $t = -2.273$ ,  $p=0.027$ ), *Hyperactivation* ( $\beta=0.431$ ,  $t=2.566$ ,  $p=0.013$ ), and *Disorganization* ( $\beta = -0.521$ ,  $t = -2.840$ ,  $p=0.006$ ).

Subsequently, two simple regressions were conducted for psychological symptoms (Criterion B), with *Security* and *Inhibition* as single predictors. The results showed that *Security* was a negative predictor ( $F(1)=4.332$ ,  $p=0.042$ ), explaining 7% of the variance in psychological symptoms ( $r^2=0.070$ , adjusted  $r^2=0.053$ ), whereas *Inhibition* was a positive predictor ( $F(1)=5.363$ ,  $p=0.024$ ), explaining 9% of the variance ( $r^2=0.085$ , adjusted  $r^2=0.069$ ).

Table 5 presents the results of the multiple regression analysis in which the attachment dimensions to the mother (*Security*, *Hyperactivation*, and *Disorganization*) were included as simultaneous predictors of psychological symptoms.

Table 5

Results of the multiple regression analysis between the dimensions of attachment to the mother and psychological symptoms (criterion B of Somatic Symptom Disorder)

| Predictors | Unstandardized coefficients (B) | Standard error (SE B) | Standardized coefficients ( $\beta$ ) | t       | p     |
|------------|---------------------------------|-----------------------|---------------------------------------|---------|-------|
| S (mother) | - 0.947                         | 0.623                 | - 0.229                               | - 1.519 | 0.134 |
| H (mother) | - 1.458                         | 1.111                 | - 0.231                               | - 1.313 | 0.194 |
| D (mother) | 0.554                           | 0.454                 | 0.234                                 | 1.219   | 0.228 |

Note. S=Security, H=Hyperactivation, D=Disorganization.

The analysis showed that the attachment dimensions to the mother, considered simultaneously, did not have a significant predictive value for psychological symptoms ( $F(3, 56)=2.107$ ,  $p=0.110$ ), with the overall model not reaching statistical significance.

Given these results, it can be concluded that Hypothesis 2, concerning the predictive role of maternal attachment in Somatic Symptom Disorder, was partially confirmed.

*b) Attachment to the father*

Given the significant correlations between the attachment dimensions to the father and somatic symptoms (Criterion A of Somatic Symptom Disorder), a simple regression analysis was conducted in which paternal attachment *Security* acted as a negative predictor of somatic symptoms. The results indicated a significant predictive role of *Security* ( $F(1)=6.675$ ,  $p=0.012$ ), with this dimension explaining approximately 10% of the variance in somatic symptoms ( $r^2=0.103$ , adjusted  $r^2=0.088$ ).

Before performing the multiple regression, correlations among the paternal attachment dimensions were examined to assess the degree of association between predictors and to control for multicollinearity risk. The results are presented in Table 6.

Table 6

Correlations between the dimensions of attachment to the father

|            | S (father) | I (father) | H (father) | D (father) |
|------------|------------|------------|------------|------------|
| S (father) | –          |            |            |            |
| I (father) | – 0.805*** | –          |            |            |
| H (father) | – 0.309*   | 0.014      | –          |            |
| D (father) | – 0.378**  | 0.280*     | 0.809***   | –          |

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

S=Security, I=Inhibition, H=Hyperactivation, D=Disorganization.

A high correlation was identified between *Security* and *Inhibition*, as well as between *Hyperactivation* and *Disorganization*, which required the exclusion of one variable from each pair to avoid multicollinearity. Since *Inhibition* and *Hyperactivation* are already used in calculating the *Disorganization* score, they were excluded from the multiple regression analysis.

Table 7 presents the results of the multiple regression analysis in which the attachment dimensions to the father (*Security* and *Disorganization*) were included as simultaneous predictors of somatic symptoms.

Table 7

Results of the multiple regression analysis between the dimensions of attachment to the father and somatic symptoms (criterion A of Somatic Symptom Disorder)

| Predictors | Unstandardized coefficients (B) | Standard error (SE B) | Standardized coefficients ( $\beta$ ) | t       | p     |
|------------|---------------------------------|-----------------------|---------------------------------------|---------|-------|
| S (father) | - 0.835                         | 0.306                 | - 0.379                               | - 2.732 | 0.008 |
| D (father) | - 0.169                         | 0.179                 | - 0.131                               | - 0.943 | 0.349 |

Note. S=Security, D=Disorganization.

The analysis showed that the attachment dimensions to the father, considered simultaneously, acted as predictors of somatic symptoms ( $F(2, 57)=3.776$ ,  $p=0.029$ ), explaining approximately 12% of their variance ( $r^2=0.117$ , adjusted  $r^2=0.086$ ). Among the two dimensions, only *Security* had a significant predictive value for somatic symptoms ( $\beta = -0.379$ ,  $t = -2.732$ ,  $p=0.008$ ).

Given these results, it can be concluded that Hypothesis 3, concerning the predictive role of paternal attachment in Somatic Symptom Disorder, was partially confirmed.

#### c) Attachment to the romantic partner

The absence of significant correlations indicates that the attachment dimensions to the romantic partner did not demonstrate predictive value for Somatic Symptom Disorder in the analyzed sample. Consequently, no additional regression analyses were conducted.

Considering these aspects, it can be concluded that Hypothesis 4, regarding the predictive role of attachment to the romantic partner in Somatic Symptom Disorder, was not confirmed.

#### COMPARISONS OF ATTACHMENT IN INDIVIDUALS WITH AND WITHOUT SOMATIC SYMPTOM DISORDER

The analysis revealed statistically significant differences, with a medium effect size, between individuals with Somatic Symptom Disorder and those without this disorder regarding attachment to the mother. The results are presented in Table 8.

The levels of *Security* in the relationship with the mother were significantly lower in individuals with Somatic Symptom Disorder compared to those without the disorder. In contrast, the levels of *Inhibition*, *Hyperactivation*, and *Disorganization* in the relationship with the mother were significantly higher in individuals with Somatic Symptom Disorder.

Table 8

Group comparisons based on the dimensions of attachment to the mother

| Attachment dimensions | Median | Differences between groups | Effect size |
|-----------------------|--------|----------------------------|-------------|
| S (mother)            |        | U=1261.5; p=0.004          | – 0.299     |
| Research group        | 3.00   |                            |             |
| Control group         | 4.00   |                            |             |
| I (mother)            |        | U=2291; p=0.009            | 0.273       |
| Research group        | 6.00   |                            |             |
| Control group         | 4.00   |                            |             |
| H (mother)            |        | U=2258.5; p=0.012          | 0.255       |
| Research group        | 4.00   |                            |             |
| Control group         | 4.00   |                            |             |
| D (mother)            |        | U=2379; p=0.002            | 0.322       |
| Research group        | 8.00   |                            |             |
| Control group         | 4.00   |                            |             |

Note. The Mann-Whitney U test was used.

S=Security, I=Inhibition, H=Hyperactivation, D=Disorganization.

The analysis also revealed statistically significant differences, with a medium-to-large effect size, between individuals with and without the disorder regarding attachment to the father. The results are presented in Table 9.

Table 9

Group comparisons based on the dimensions of attachment to the father

| Attachment dimensions | Median | Differences between groups | Effect size |
|-----------------------|--------|----------------------------|-------------|
| S (father)            |        | U=1099.5; p<0.001          | – 0.389     |
| Research group        | 2.00   |                            |             |
| Control group         | 4.00   |                            |             |
| I (father)            |        | U=2396.5; p=0.001          | 0.331       |
| Research group        | 6.00   |                            |             |
| Control group         | 4.75   |                            |             |
| H (father)            |        | U=2484; p<0.001            | 0.380       |
| Research group        | 4.00   |                            |             |
| Control group         | 2.50   |                            |             |
| D (father)            |        | U=2526; p<0.001            | 0.403       |
| Research group        | 8.00   |                            |             |
| Control group         | 4.00   |                            |             |

Note. The Mann-Whitney U test was used.

S=Security, I=Inhibition, H=Hyperactivation, D=Disorganization.

The levels of *Security* in the relationship with the father were significantly lower in individuals with Somatic Symptom Disorder compared to those without the disorder. In contrast, the levels of *Inhibition*, *Hyperactivation*, and *Disorganization* in the relationship with the father were significantly higher in individuals with Somatic Symptom Disorder.

The analysis revealed statistically significant differences, with a medium effect size, between individuals with and without the disorder regarding attachment to the romantic partner. The results are presented in Table 10. Levels of *Security* in the relationship with the romantic partner were significantly lower in individuals with Somatic Symptom Disorder, whereas levels of *Inhibition*, *Hyperactivation*, and *Disorganization* were significantly higher compared to those without the disorder.

Table 10

Group comparisons based on the dimensions of attachment to the romantic partner

| Attachment dimensions | Median | Differences between groups | Effect size |
|-----------------------|--------|----------------------------|-------------|
| S (partner)           |        | U=1290; p=0.006            | – 0.283     |
| Research group        | 4.00   |                            |             |
| Control group         | 5.50   |                            |             |
| I (partner)           |        | U=2390; p=0.001            | 0.328       |
| Research group        | 4.00   |                            |             |
| Control group         | 2.00   |                            |             |
| H (partner)           |        | U=2365; p=0.002            | 0.314       |
| Research group        | 5.00   |                            |             |
| Control group         | 3.00   |                            |             |
| D (partner)           |        | U=2450.5; p<0.001          | 0.361       |
| Research group        | 6.00   |                            |             |
| Control group         | 4.00   |                            |             |

Note. The Mann-Whitney U test was used.

S=Security, I=Inhibition, H=Hyperactivation, D=Disorganization.

The results obtained confirm Hypothesis 5, according to which the attachment dimensions to the mother, father, and romantic partner differ significantly between individuals with Somatic Symptom Disorder and those without this disorder.

## DISCUSSION

The results of this study indicate a strong connection between adult attachment and Somatic Symptom Disorder. The study makes an important contribution to the field by examining attachment through the lens of specificity – an innovative approach that considers the social context and the variability of attachment style across different relationships. Moreover, the interview used to assess attachment captures unconscious aspects as well, which adds greater rigor to the evaluation.

Significant correlations were identified between parental attachment and Somatic Symptom Disorder: the *Security* dimension (mother) correlated negatively with both somatic and psychological symptoms; the *Inhibition* dimension (mother) correlated positively with psychological symptoms; and the *Security* dimension (father) correlated negatively with somatic symptoms. These findings align with

existing literature showing a positive association between attachment insecurity and psychosomatic disorders and a negative association between attachment security and these disorders (Fasakhoudi *et al.*, 2022; Heenan *et al.*, 2020; Lewczuk *et al.*, 2021; McWilliams & Asmundson, 2007; McWilliams & Bailey, 2010; Sherry *et al.*, 2014; Stanton & Campbell, 2014). According to the present data, no significant relationships were found between attachment to the romantic partner and Somatic Symptom Disorder. This discrepancy may be explained by the relatively small sample size (N=60), but also by the fact that, although the romantic relationship is considered the primary attachment relationship in adulthood, attachment to parents has long-lasting effects on both mental and physical health – an aspect confirmed by longitudinal studies (Farrell *et al.*, 2019; Puig *et al.*, 2013).

The findings of the present study also indicated the predictive effect of attachment on the symptomatology of Somatic Symptom Disorder. Regarding maternal attachment, the *Security* dimension explained 8% of the variance in somatic symptoms, while the overall model (including primary and secondary strategies) explained 18%. For psychological symptoms, *Security* explained 7%, and *Inhibition* explained 9% of the variance. Regarding paternal attachment, the *Security* dimension explained 10% of the variance in somatic symptoms, while the overall model explained 12%. Although no studies have directly examined the predictive effect of adult attachment dimensions on Somatic Symptom Disorder, previous research has highlighted the predictive role of attachment in psychosomatic conditions (Fasakhoudi *et al.*, 2022; Heenan *et al.*, 2020; Lewczuk *et al.*, 2021; Stanton & Campbell, 2014; McWilliams & Bailey, 2010).

Comparisons between individuals with and without Somatic Symptom Disorder revealed statistically significant differences: individuals with the disorder showed lower levels of *Security* and higher levels of secondary strategies (*Inhibition*, *Hyperactivation*, *Disorganization*). These differences were not influenced by socio-demographic characteristics, as the groups were similar in this regard. The results are consistent with previous research indicating lower attachment security and higher attachment insecurity in individuals with psychosomatic conditions (Agostini *et al.*, 2016; Dieris-Hirche *et al.*, 2012).

Considering these aspects, it can be concluded that the present study makes a significant contribution to the field of attachment and psychosomatics. One of its strengths lies in the use of modern approaches and rigorous instruments, aligned with current clinical conceptualizations. The assessment of attachment integrated both representational and behavioral dimensions, taking into account the three significant adult relationships: with the mother, the father, and the romantic partner. By examining these relationships, the study offers a more nuanced understanding of the role of attachment in the symptomatology of Somatic Symptom Disorder. Beyond its theoretical impact, the findings have practical relevance, suggesting the need for a holistic treatment approach that includes, in addition to classical interventions, an attachment-focused therapeutic component.

However, certain methodological limitations must be acknowledged. First, as a cross-sectional study, it does not allow for conclusions regarding causal relationships between the variables investigated. Second, the sample size was relatively small and included only adults, which limits the generalizability of the findings to other age groups. Additionally, Somatic Symptom Disorder was assessed solely through self-report, without the use of a standardized clinical interview to confirm the diagnosis.

Future research directions could include longitudinal studies, which would allow for the investigation of causal relationships, as well as larger and more age-diverse samples. The use of standardized clinical assessments would contribute to a more accurate identification of the disorder. Furthermore, future studies could integrate psychotherapeutic interventions aimed at increasing attachment security, with subsequent evaluation of changes in attachment patterns and Somatic Symptom Disorder symptomatology following therapy.

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## APPENDICES

### APPENDIX A

*Descriptive statistics for the subscales or total scores of the AMMI,  
PHQ -15, and SSD -12 instruments*

| Subscales/Total score | M    | SD   | Skewness<br>(Standard error) | Kurtosis<br>(Standard error) |
|-----------------------|------|------|------------------------------|------------------------------|
| <b>AMMI</b>           |      |      |                              |                              |
| <i>S (mother)</i>     |      |      |                              |                              |
| Research group        | 3.13 | 1.81 | 0.437 (0.309)                | – 0.125 (0.608)              |
| Control group         | 4.15 | 1.84 | 0.109 (0.309)                | – 0.946 (0.608)              |
| <i>I (mother)</i>     |      |      |                              |                              |
| Research group        | 4.90 | 2.31 | – 0.922 (0.309)              | – 0.165 (0.608)              |
| Control group         | 3.83 | 2.25 | – 0.035 (0.309)              | – 1.339 (0.608)              |
| <i>H (mother)</i>     |      |      |                              |                              |
| Research group        | 4.06 | 1.19 | – 1.443 (0.309)              | 2.348 (0.608)                |
| Control group         | 3.36 | 1.53 | – 0.690 (0.309)              | – 0.315 (0.608)              |
| <i>D (mother)</i>     |      |      |                              |                              |
| Research group        | 7.12 | 3.16 | – 1.171 (0.309)              | 0.398 (0.608)                |
| Control group         | 5.42 | 3.16 | – 0.214 (0.309)              | – 0.790 (0.608)              |
| <i>S (father)</i>     |      |      |                              |                              |
| Research group        | 2.47 | 1.91 | 0.718 (0.309)                | – 0.567 (0.608)              |
| Control group         | 3.73 | 1.75 | 0.026 (0.309)                | – 1.413 (0.608)              |
| <i>I (father)</i>     |      |      |                              |                              |
| Research group        | 5.50 | 2.15 | – 1.199 (0.309)              | 0.478 (0.608)                |
| Control group         | 4.24 | 2.33 | – 0.370 (0.309)              | – 1.245 (0.608)              |
| <i>H (father)</i>     |      |      |                              |                              |
| Research group        | 3.70 | 1.58 | – 0.149 (0.309)              | – 0.026 (0.608)              |
| Control group         | 2.63 | 1.40 | – 0.188 (0.309)              | – 0.602 (0.608)              |

## Appendix A (continued)

| <b>Subscales/Total score</b> | <b>M</b> | <b>SD</b> | <b>Skewness<br/>(Standard error)</b> | <b>Kurtosis<br/>(Standard error)</b> |
|------------------------------|----------|-----------|--------------------------------------|--------------------------------------|
| <i>D (father)</i>            |          |           |                                      |                                      |
| Research group               | 6.73     | 3.27      | – 0.508 (0.309)                      | – 0.596 (0.608)                      |
| Control group                | 4.43     | 2.93      | – 0.020 (0.309)                      | – 0.942 (0.608)                      |
| <i>S (partner)</i>           |          |           |                                      |                                      |
| Research group               | 3.83     | 1.92      | – 0.059 (0.309)                      | – 1.130 (0.608)                      |
| Control group                | 4.79     | 1.78      | – 0.490 (0.309)                      | – 0.765 (0.608)                      |
| <i>I (partner)</i>           |          |           |                                      |                                      |
| Research group               | 3.39     | 2.13      | 0.004 (0.309)                        | – 1.055 (0.608)                      |
| Control group                | 2.19     | 1.98      | 0.949 (0.309)                        | 0.264 (0.608)                        |
| <i>H (partner)</i>           |          |           |                                      |                                      |
| Research group               | 4.33     | 1.81      | 0.101 (0.309)                        | – 1.139 (0.608)                      |
| Control group                | 3.30     | 1.79      | 0.008 (0.309)                        | – 0.881 (0.608)                      |
| <i>D (partner)</i>           |          |           |                                      |                                      |
| Research group               | 5.88     | 3.47      | – 0.124 (0.309)                      | – 0.883 (0.608)                      |
| Control group                | 3.67     | 3.11      | 0.400 (0.309)                        | – 0.808 (0.608)                      |
| <b>PHQ-15</b>                |          |           |                                      |                                      |
| <i>Total score</i>           |          |           |                                      |                                      |
| Research group               | 15.2     | 4.21      | 0.907 (0.309)                        | 0.645 (0.608)                        |
| Control group                | 3.03     | 1.83      | 0.035 (0.309)                        | – 0.853 (0.608)                      |
| <b>SSD-12</b>                |          |           |                                      |                                      |
| <i>Total score</i>           |          |           |                                      |                                      |
| Research group               | 20.3     | 7.49      | 1.238 (0.309)                        | 0.919 (0.608)                        |
| Control group                | 2.18     | 2.26      | 0.823 (0.309)                        | – 0.519 (0.608)                      |

Note. S=Security, I=Inhibition, H=Hyperactivation, D=Disorganization.