



# Cutaneous body image in psoriasis: The role of attachment style and alexithymia

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## Abstract

The aim of this study was to estimate the contribution of adult attachment style and alexithymia to cutaneous body image in patients with psoriasis while controlling for the confounding effects of disease severity and depressive symptoms. Participants were 107 consecutive patients (60% women) with a diagnosis of plaque-type psoriasis. Cutaneous body dissatisfaction was measured with the Cutaneous Body Image Scale (CBIS) and disease severity with the Psoriasis Area and Severity Index (PASI). Depressive symptoms, attachment style and alexithymia were assessed with the Beck Depression Inventory (BDI), the Attachment Style Questionnaire (ASQ) and the Toronto Alexithymia Scale (TAS-20), respectively. Hierarchical regression analysis showed that, independently from the severity of skin disease and depressive symptoms, patients with an insecure-avoidant attachment style and higher levels of alexithymia reported greater cutaneous body dissatisfaction. Because of the cross-sectional design, the causal relationship between avoidant attachment, alexithymia and cutaneous body image cannot be determined. There was no control group. Clinical assessment of patients with psoriasis should include attachment style and alexithymia among the psychological variables related to cutaneous body dissatisfaction.

**Keywords** Cutaneous body image · Psoriasis · Avoidant attachment · Alexithymia · Cutaneous body dissatisfaction

## Introduction

Chronic skin diseases impact cutaneous body image, defined as the mental perception of the appearance of the skin, hair and nails (Gupta et al., 2004), and this can explain their significant association with high levels of psychosocial burden (Dalgard et al., 2018). A positive body image is important for psychological well-being. Thus, any medical condition associated with body dissatisfaction is expected to involve high levels of psychological distress independently of the objective

severity of symptoms and functional impairment (Hinkley et al., 2020).

Body image schemas reflect one's affect-laden beliefs about the importance and influence of physical appearance in one's personal life and its salience to one's self-worth and sense of self (Cash, 2011; Lakuta et al., 2016). In studying the causes and consequences of a negative body image is important to distinguish between perceptual disturbance (i.e., distortion of body image) and body dissatisfaction (i.e., discontent with one's own physical appearance) (Cash et al., 2004).

Psoriasis is a common, chronic inflammatory skin disease. The raised, scaly, and erythematous plaques associated with psoriasis can be cosmetically disfiguring, which may provoke disgust, fear, and aversion in others. The social stigma of psoriasis can be devastating for patients, evoking feelings of depression and shame about how they are perceived (Feldman et al., 2014). Previous studies aimed at clarifying how and under what conditions psoriasis is related to cutaneous body dissatisfaction focused on demographic factors (Wojtyna et al., 2017), disease-related factors (i.e. severity, clinical symptoms, localization) (Korman et al., 2016), and social factors (i.e. stigmatization, and social support) (Janowski et al., 2012). As for psychological factors, there is evidence that both

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fluctuating and reversible emotional states and relatively stable personality traits can influence the severity of cutaneous body dissatisfaction in patients with psoriasis (Zhang et al., 2019). The present study focused on attachment style and alexithymia.

Traditionally, attachment theory has been a popular theoretical framework for understanding infant-caregiver relationships. More recently, the theory has also become a prominent model for explaining personality processes and close relationships in adulthood (Gillath et al., 2016; Picardi et al., 2020). Basically, adult attachment style (defined as a constellation of knowledge, expectations, and insecurities that people hold about themselves and their close relationships) (Mikulincer & Shaver, 2016) reflects individual differences in attachment security. There are two dimensions of insecurity underlying all self-report measures of adult attachment. The first dimension, attachment-related anxiety, is concerned with a strong desire for closeness and protection, intense worries about abandonment, and use of hyperactivating strategies to deal with attachment-related distress. The second dimension, attachment-related avoidance, is concerned with discomfort with closeness, preference for emotional distance and self-reliance, and use of deactivating strategies to deal with attachment-related distress. Few studies have investigated attachment styles in patients with psoriasis. The findings were consistent in showing a high prevalence of insecure styles of attachment (Picardi et al., 2005a; Jankovic et al., 2009; Szabó et al., 2017) but further research is necessary to define which style (avoidant or anxious) is more common in patients with psoriasis. There is a well-known link between insecure attachment and alexithymia (Picardi et al., 2005b; Taylor et al., 2014; Troisi et al., 2001). Thus, alexithymia was included among the study variables.

Alexithymia is a personality trait describing individuals with deficits in emotion processing and awareness. Classically, alexithymia has been defined to comprise multiple facets including difficulty identifying and distinguishing emotions from bodily sensations, difficulty describing and verbalizing emotions, poverty of fantasy life, externally oriented thinking style, and poor empathizing (Bagby et al., 2020). Unlike attachment style, alexithymia has extensively been studied in patients with psoriasis (e.g., Korkoliakou et al., 2017; Sampogna et al., 2017; Misery, 2019). The observed prevalence of alexithymia in patients with psoriasis is significantly higher than in healthy controls and ranges between 15.6% and 33% (Sampogna et al., 2019). There is evidence that, in patients with psoriasis, alexithymia can increase the psychological distress associated with chronic disease through the harmful effects of increasing physiological arousal, inaccurate perceptions of threats, greater anxiety sensitivity and poorer levels of social support (Founta et al., 2019).

Because of their early development and longitudinal continuity across life stages, both adult attachment style and

alexithymia are considered as relatively stable personality traits (Fraleigh & Shaver, 2008; Karukivi & Saarijärvi, 2014; Bagby et al., 2020).

## The Present Study

The aim of this study was to estimate the contribution of adult attachment style and alexithymia to cutaneous body dissatisfaction in psoriasis. We hypothesized that cutaneous body dissatisfaction was greater in: (1) patients with an insecure style of adult attachment; and (2) patients with more pronounced alexithymic traits. The study hypotheses were suggested by previous studies showing that insecure attachment and alexithymia are associated with negative body image schemas in clinical and general population samples (Franzoni et al., 2013; Frederick et al., 2016; Grenon et al., 2016; Keating et al., 2013; Troisi et al., 2006).

To explore the relationship between attachment, alexithymia, and cutaneous body image it is important to control for the confounding effect of depressive symptoms. Depression is common in patients with psoriasis (Koo et al., 2017), correlates with higher levels of body dissatisfaction (Tomas-Aragones & Marron, 2016), and is consistently associated with insecure attachment (Dagan et al., 2018) and alexithymia (Li et al., 2015). For these reasons, unlike most previous studies, a measure of depression was entered as a covariate into statistical analysis.

## Methods

Table 1 reports socio-demographic, clinical and psychometric data for the entire sample.

## Participants

Participants were 107 consecutive patients (all Caucasian; 60% women) referred to the outpatient clinic of the Department of Dermatology of the University of Rome Tor Vergata. To be included into the sample, they had to have a diagnosis of plaque-type psoriasis since at least 6 months and to sign a written informed consent explaining the aim of the study and the characteristics of the psychometric scales.

Few patients presented a coexistence of typical plaque-type body distribution (i.e. presence of erythematous and scaling plaques, mostly located on trunk, extensor surfaces of limbs and scalp) with localization at special difficult-to-treat regions such as palms and soles (5/107 or 4.7%), face (3/107 or 2.8%) and genital areas (4/107 or 3.7%). Based on physical examination, none of the patients showed different and severe variants of psoriasis including generalized pustular psoriasis and erythrodermic psoriasis. Fifty-two (49%) patients presented a

**Table 1** Socio-demographic, clinical and psychometric data for the entire sample ( $N = 107$ )

	Mean	SD	Range
Age (years)	49.51	9.93	21–71
Education (years)	10.71	3.71	2–18
PASI	6.57	7.65	0–42
BDI	11.16	10.35	0–54
CBIS	5.58	1.97	1–9
CON	34.97	5.34	21–47
RAS	18.39	7.10	7–40
DIS	35.09	8.62	14–60
NFA	19.74	7.16	7–41
PRE	26.40	7.02	11–47
TAS-20	47.82	13.17	24–88

Legend: *PASI* Psoriasis Area and Severity Index, *BDI* Beck Depression Inventory, *CBIS* Cutaneous Body Image Scale, *CON* Confidence scale of the Attachment Style Questionnaire, *RAS* Relationships as secondary scale of the Attachment Style Questionnaire, *DIS* Discomfort with closeness scale of the Attachment Style Questionnaire, *NFA* Need for approval scale of the Attachment Style Questionnaire, *PRE* Preoccupation with relationships scale of the Attachment Style Questionnaire, *TAS-20* Toronto Alexithymia Scale total score

coexistence of psoriatic arthritis while fifty-five (51%) patients presented exclusively skin manifestation of the psoriatic disease. Based on the PASI ( $\geq 10$ ) cutoff score, 21 (20%) patients had moderate/severe psoriasis. Participants with a concurrent diagnosis of other immune-mediated disorders were excluded.

## Ethical Statement

The study was carried out according to the Declaration of Helsinki. The study protocol was approved by the ethical committee of the university hospital. All patients provided written informed consent before participating in study-related activities.

## Severity of Psoriasis and Psychometric Measures

The Cutaneous Body Image Scale (CBIS) has been validated in patients with different dermatologic diseases (Gupta et al., 2004; Higaki et al., 2009). The CBIS includes 7 items which are responded to using a 10-point scale with ratings of "0" denoting "not at all"; a rating of "1", "2" or "3" denoting "mildly", a rating of "4", "5", or "6" denoting "moderately", and a rating of "7", "8" or "9" denoting "a great deal". Sample items are as follows: "I like the overall appearance of my skin", "I like the appearance of the skin of my face", "I like the complexion or the overall color of the skin of my face". A composite CBIS score is derived by calculating an average score

of the 7 ratings, with a possible range of 0 to 9. A lower score on the CBIS denotes greater cutaneous body dissatisfaction, while higher scores indicate greater satisfaction. The English version was *translated* into Italian by one mother-tongue translator and then *translated back* into English by an independent translator who was blinded to the original questionnaire. The measure had good internal consistency reliability in the current study (Cronbach's  $\alpha = 0.89$ ).

A wide variety of scoring systems have been proposed to evaluate severity in psoriasis (Puzenat et al., 2010; Wong et al., 2012). Based on methodological validation and quality criteria, we selected the Psoriasis Area and Severity Index (PASI) (Fredriksson & Pettersson, 1978). The PASI combines assessments of four body areas: the head and neck, the upper limbs, the trunk and the lower limbs. The percentage of skin affected by psoriasis in each area is given a numerical score representing the proportion involved: 1 (0–9%), 2 (10–29%), 3 (30–49%), 4 (50–69%), 5 (70–89%) or 6 (90–100%). Within each area the severity of 3 plaque signs – erythema, thickness/induration and desquamation/scaling – is assessed on a 5-point scale: 0 (none), 1 (mild), 2 (moderate), 3 (severe) or 4 (very severe). The final PASI score ranges from 0 to 72. The PASI has been previously validated (Bozek & Reich, 2017) and showed excellent inter-rater reliability in the current study (Kappa statistics = 0.90).

The Beck Depression Inventory (BDI) (Beck et al., 1988) was used to measure the presence and severity of depressive symptoms. Participants were asked to place a mark next to the statement best describing how they felt over the past week for each of 21 items. Four possible choices, ranging in severity from a score of "0" indicating little distress to a score of "3" indicating much distress, were offered for each item. Scores were summed across all items with a higher overall score signifying higher levels of depression. Normative data have shown that clinically depressed individuals typically score between 15 and 30, ranging from moderate to severe depression (Richter et al., 1998). The measure had good internal consistency reliability in the current study (Cronbach's  $\alpha = 0.84$ ).

As a dimensional measure of adult attachment style, we used the Italian version (Troisi et al., 2001) of the Attachment Style Questionnaire (ASQ; Feneey, et al., 1994). The ASQ is a 40-item self-report questionnaire with individual items being scored on a 6-point scale from 1 (totally disagree) to 6 (totally agree). The ASQ refers to all close relationships with peers (whether romantic or not) and includes five subscales derived from principal-components analysis: confidence (in self and others, reflecting secure attachment), discomfort with closeness (reflecting aversion to intimacy), need for approval (excessive need for others' acceptance and confirmation), preoccupation with relationships (anxious reaching out to others in order to fulfill dependency needs), and relationships as secondary (protecting oneself against hurt

and vulnerability by emphasizing achievement and independence). In this study, the five scales of the ASQ had adequate internal consistency reliability, with Cronbach's alpha coefficients ranging from 0.86 to 0.91.

The Toronto Alexithymia Scale (TAS-20) is a self-rated alexithymia measure that captures three interrelated, core alexithymic features: difficulties identifying feelings (F1), difficulties describing feelings (F2), and concrete thinking (F3) (Bagby et al., 2020). Items are rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), and scores can range from 20 to 100. TAS-20 total score most often is used as continuous measure of alexithymia severity; however, cutoff scores have been established. The original TAS-20 cutoff scores are non-alexithymic,  $\leq 51$ ; intermediate, 52–60; and alexithymic,  $\geq 61$ . The measure had good internal consistency reliability in the current study (Cronbach's alpha = 0.87).

### Statistical Analysis

Statistical analysis was performed on a personal computer using SPSS for Windows, version 25.0 (SPSS, Inc., Chicago, Ill.). Hierarchical multiple regression analysis was used to estimate the contribution of adult attachment style and alexithymia to cutaneous body image over and above the contribution of age, gender, severity of psoriasis, and severity of depressive symptoms. There were no violations of the assumptions required by multiple regression. In particular, we used the Durbin-Watson statistic (value = 2.141) to check that the values of the residuals were independent, and variation inflation factors (VIF) scores (ranging from 1.113 to 2.251) and tolerances scores (ranging from 0.463 to 0.898) to check that there was no multicollinearity among the independent variables.

### Results

Based on the BDI ( $\geq 15$ ) and TAS-20 ( $\geq 61$ ) cutoff scores, 32% of the patients reported the presence of clinically significant depressive symptoms and 18% were alexithymics. Table 2 reports intercorrelations between the variables under investigation. We found significant intercorrelations between the BDI, the TAS-20, and the ASQ.

We carried out hierarchical multiple regression analysis to estimate the contribution of adult attachment style and alexithymia to cutaneous body dissatisfaction. In the first step, gender, age, and the PASI score were entered into the model with the CBIS score as the dependent variable. Cutaneous body dissatisfaction was significantly correlated with gender (higher dissatisfaction in women) and severity of psoriasis. In the second step, the addition of the BDI, ASQ, and TAS-20 scores contributed significantly ( $\Delta R^2 = 0.30$ ,  $p < 0.001$ ,

Cohen's  $f^2 = 0.523$ ) to the variance of the model. The confidence scale of the ASQ emerged as a significant predictor of the CBIS score ( $\beta = 0.37$ ,  $p < 0.001$ ). Patients with lower levels of confidence in attachment relationships reported higher levels of cutaneous body dissatisfaction. To a lesser degree, also the TAS-20 total score ( $\beta = -0.24$ ,  $p = 0.041$ ) and the need for approval scale of the ASQ ( $\beta = 0.22$ ,  $p = 0.037$ ) were correlated with the CBIS score. Patients with more pronounced alexithymic traits and patients who minimized the importance of significant others' acceptance and confirmation reported higher levels of cutaneous body dissatisfaction. The correlation between the BDI and the CBIS was not significant ( $\beta = -0.20$ ,  $p = 0.075$ ). The final model was significant ( $p < 0.001$ ) and explained 37% of the variance in CBIS score (Table 3).

### Discussion

Based on previous studies showing that adult attachment style and alexithymia are associated with negative body image schemas in clinical and general population samples (Franzoni et al., 2013; Frederick et al., 2016; Grenon et al., 2016; Keating et al., 2013; Troisi et al., 2006), we predicted that, in our sample of patients with psoriasis, insecure attachment and higher levels of alexithymia were associated with greater cutaneous body dissatisfaction. The study hypotheses were confirmed by the results of a hierarchical regression analysis controlling for the confounding effects of disease severity and depressive symptoms.

The pattern of insecure attachment style that emerged as a significant predictor of cutaneous body dissatisfaction was dismissive-avoidant attachment, as indicated by the combination of lower scores on the confidence scale of the ASQ and lower scores on the need for approval scale of the ASQ (Feneey, et al., 1994). Our results are in accord with previous studies showing that, in patients with psoriasis, the more prevalent dimension of insecure attachment is avoidance rather than anxiety (Picardi et al., 2005a; Szabò et al., 2017).

The link between avoidant attachment and body dissatisfaction can be explained by the impact of such a pattern of insecure attachment on self-standards, self-criticism, and perfectionism. Compared with secure persons, avoidant people have a strong inclination toward maladaptive perfectionism and experience large discrepancies between their self-image and their self-standards. High levels of cutaneous body dissatisfaction in patients with insecure-avoidant attachment may depend on their tendency to base self-esteem more on their general public image than on close relationship partners' approval of them (see Mikulincer & Shaver, 2007, pp. 165–167).

The association between alexithymia and body dissatisfaction has previously been reported in non-dermatologic

**Table 2** Correlation matrix of the variables entered into hierarchical regression analysis. Pearson’s correlation coefficients in bold are significant at 0.01 level

Variables	CBIS	Age	PASI	BDI	CON	RAS	DIS	NFA	PRE	TAS-20
CBIS	1									
Age	-0.06	1								
PASI	<b>-0.27</b>	0.00	1							
BDI	<b>-0.51</b>	0.03	<b>0.27</b>	1						
CON	<b>0.44</b>	0.16	-0.00	<b>-0.47</b>	1					
RAS	-0.18	0.09	0.21	<b>0.38</b>	<b>-0.25</b>	1				
DIS	<b>-0.25</b>	-0.01	0.12	<b>0.44</b>	<b>-0.34</b>	<b>0.51</b>	1			
NFA	-0.06	0.05	0.19	<b>0.38</b>	<b>-0.27</b>	<b>0.46</b>	<b>0.38</b>	1		
PRE	-0.07	0.10	0.00	<b>0.29</b>	-0.17	<b>0.25</b>	<b>0.40</b>	<b>0.57</b>	1	
TAS-20	<b>-0.37</b>	0.10	0.21	<b>0.57</b>	<b>-0.28</b>	<b>0.65</b>	<b>0.48</b>	<b>0.42</b>	<b>0.32</b>	1

Legend: *PASI* Psoriasis Area and Severity Index, *BDI* Beck Depression Inventory, *CBIS* Cutaneous Body Image Scale, *CON* Confidence scale of the Attachment Style Questionnaire, *RAS* Relationships as secondary scale of the Attachment Style Questionnaire, *DIS* Discomfort with closeness scale of the Attachment Style Questionnaire, *NFA* Need for approval scale of the Attachment Style Questionnaire, *PRE* Preoccupation with relationships scale of the Attachment Style Questionnaire, *TAS-20* Toronto Alexithymia Scale total score

conditions, including eating disorders (Keating et al., 2013) and polycystic ovary syndrome (Scaffuri et al., 2018). In a non-clinical sample of undergraduate women, De Berardis et al. (2007) found that alexithymics had more consistent body checking behaviors and higher body dissatisfaction than non-

alexithymics. According to Keating et al. (2013), patients with difficulty identifying and distinguishing emotions from bodily sensations may become overwhelmed by negative affective experiences and therefore may channel such emotions into negative evaluations of their appearance. It is likely that, in patients with psoriasis, additional mechanisms mediate the association between alexithymia and cutaneous body dissatisfaction. Larsen et al. (2017) found that alexithymic patients with psoriasis reported worse perceived consequences of the disease on their lives and worse illness concern. Thus, cutaneous body dissatisfaction could be just one aspect of a stronger illness identity (i.e. the degree to which a chronic health condition is integrated into someone’s identity). Finally, the combination of alexithymia with avoidant attachment impacts negatively on expressing emotions and seeking social support (Picardi et al., 2005a). Lower levels of social support may reinforce maladaptive beliefs about physical appearance and its salience to one’s self-worth.

In this study, avoidant attachment and alexithymia emerged as independent predictors of cutaneous body dissatisfaction. This is an interesting finding considering that many studies showed that there is a consistent association between insecure attachment (especially the avoidant pattern) and alexithymia (Picardi et al., 2005b; Taylor et al., 2014; Troisi et al., 2001). There is evidence that the link between insecure attachment and alexithymia reflects a developmental pathway consisting of adverse early experiences leading first to insecure attachment and then to alexithymia (De Rick & Vanheule, 2006; Pedrosa et al., 2008). Unlike most previous studies that used bivariate correlations, we carried out multiple regression. Such a methodological difference can explain our finding. Only multivariate analysis can detect the independent effects of variables such as avoidant attachment and

**Table 3** Results of hierarchical regression analysis with cutaneous body dissatisfaction as the dependent variable (N = 107)

Step	Variable	B	SE	p
Step 1	Gender	-0.28	-3.01	0.003
	PASI	-0.22	-2.41	0.018
	Age	-0.11	-4.87	0.231
	<b>Model</b>	<b>R<sup>2</sup> = 0.13</b>	<b>F = 4.94</b>	<b>0.003</b>
Step 2	Gender	-0.20	-2.44	0.016
	PASI	-0.17	-2.04	0.044
	Age	-0.15	-1.82	0.072
	BDI	-0.20	-1.80	0.075
	CON	0.37	3.92	0.000
	RAS	0.09	0.80	0.428
	DIS	-0.02	-0.20	0.844
	NFA	0.22	2.17	0.037
	PRE	0.02	0.21	0.836
	TAS-20	-0.24	-2.07	0.041
	<b>Model</b>	<b>ΔR<sup>2</sup> = 0.30</b>	<b>ΔF = 7.18</b>	<b>0.000</b>
		<b>AdjR<sup>2</sup> = 0.37</b>	<b>F = 7.13</b>	<b>0.000</b>

Legend: *PASI* Psoriasis Area and Severity Index, *BDI* Beck Depression Inventory, *CON* Confidence scale of the Attachment Style Questionnaire, *RAS* Relationships as secondary scale of the Attachment Style Questionnaire, *DIS* Discomfort with closeness scale of the Attachment Style Questionnaire, *NFA* Need for approval scale of the Attachment Style Questionnaire, *PRE* Preoccupation with relationships scale of the Attachment Style Questionnaire, *TAS-20* Toronto Alexithymia Scale total score

alexithymia which tend to covary. However, since the two personality dimensions are not redundant in terms of their impact on cutaneous body dissatisfaction, they should be both measured in the psychological assessment of patients with psoriasis.

Finally, the multiregression model showed that, independently from the effects of other predictors, cutaneous body dissatisfaction was higher in women. This finding is in line with previous research showing that: (1) in the general population, body dissatisfaction and importance of appearance are greater in women than in men (Quittkat et al., 2019); (2) among patients with psoriasis, improvement of cutaneous body image is a treatment goal more important for women than for men (Maul et al., 2019).

## Limitations

This study has three important limitations that must be considered in interpreting the results. First, this study used a clinical sample of patients with psoriasis with no other comparison groups. Thus, it is not known whether the relationship among cutaneous body dissatisfaction, avoidant attachment and alexithymia would also apply to other dermatologic conditions or whether it is specific to psoriasis. Second, because of the cross-sectional design of this study, the causal relationship between avoidant attachment, alexithymia and cutaneous body dissatisfaction cannot be determined. However, we found no significant correlations between the ASQ scales, the TAS-20, and the PASI. These findings suggest that avoidant attachment and alexithymia are fairly stable traits in patients with psoriasis and not a reaction to chronic illness. In accord with our results, both Korkoliakou et al. (2014) and Larsen et al. (2017) found no relationship between alexithymia and disease severity or duration in patients with psoriasis. Third, the sampling was homogeneous in terms of ethnicity and this limits the generalizability of the findings.

## Therapeutic Implications

Cutaneous body image is a major mediator of the relationship between skin disease and mental health (Hinkley et al., 2020). If future prospective studies will confirm that an avoidant style of attachment and alexithymia play a role in the etiology of cutaneous body dissatisfaction, improvement of psoriatic patients' quality of life might be enhanced by focusing greater attention on the assessment and treatment of these dysfunctional personality traits. There is evidence that cognitive behavioral therapy as an adjunct to conventional dermatologic treatments may be particularly beneficial for patients with more severe pre-treatment psychopathology in improving psoriasis severity, anxiety, and depression symptoms (Sijeric

et al., 2019). Although both avoidant attachment (Kealy et al., 2017) and alexithymia (Ogrodniczuk et al., 2011) are negatively associated with openness to personal disclosure in the therapy relationship, patients with these dysfunctional personality traits could benefit from personalized psychological interventions that focus on their negative body image and make them more resilient to social stigma.

## Concluding Remarks

These results have important implications for clinical practice, as this study clearly shows that body dissatisfaction does not automatically follow from the severity of skin lesions, but is contingent upon attachment style and alexithymic features. It is recommended to target avoidant attachment and alexithymic features in patients with psoriasis, particularly in the context of marked body dissatisfaction.

**Author Contributions** Conceived and designed the study: AT and ME. Organized and conducted collection of clinical data: AG, VM, EDD, SC, and LB. Analyzed the data: AT and RCN. Wrote the paper: AT.

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**Data Availability** The data that support the findings of this study are available from the corresponding author upon reasonable request.

## Declarations

**Ethical Approval** All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

The study was carried out according to the Declaration of Helsinki. The study protocol was approved by the ethical committee of the university hospital. All patients provided written informed consent before participating in study-related activities.

**Conflict of Interests** The authors declare they have no conflict of interest to report.

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