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Short communication

Prediction of automatic and focused skin picking based on trait disgust and emotion dysregulation

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ABSTRACT

The predominant symptom of skin picking disorder (SPD) is the repeated picking of ones' own skin, so that the skin is noticeably damaged. Previous research on a community sample found that two subtypes of skin picking (SP), automatic and focused SP, are associated respectively with specific aspects of emotion dysregulation. This study attempted to replicate those findings, and additionally examined whether disgust-related personality traits were able to improve the prediction of the two SP types. The sample consisted of 144 women and 50 men (mean age: 35 years; 51 with a confirmed SPD diagnosis). A strong association was found between focused SP and emotion dysregulation. More specifically, this SP subtype could be predicted based on difficulties in controlling impulsive behaviors, self-disgust (the tendency to feel disgusted by one's own behavior) and disgust proneness (the tendency to experience disgust towards potential transmitters of disease). Lack of emotional clarity was the only predictor of automatic SP. Based on the present findings, the functions of focused SP are firstly, an impulsive behavior that provides temporary relief of intense emotions, and secondly, a form of excessive grooming, and finally, a form of self-harm. These functions differ from those found in non-clinical samples.

1. Introduction

Skin-picking disorder (SPD, also known as excoriation disorder) is an OCD-related disorder characterized by the recurrent picking of one's skin, resulting in skin lesions (American Psychiatric Association, 2013). The repeated picking of skin cannot be effectively controlled (decreased or stopped) and causes clinically significant distress and/or impairment in several areas of psychosocial functioning. Many patients with SPD report negative feelings, such as embarrassment and shame, because of the picking (American Psychiatric Association, 2013; Odlaug & Grant, 2008). SPD is more prevalent in women, with the ratio of men vs. women being 1:3 (American Psychiatric Association, 2013).

Skin picking (SP) is common in the general population. Hayes, Storch and Berlanga (2009) examined the prevalence in a community sample and found that 62.7% of participants reported some levels of SP, with 8.6% of the sample experiencing significant distress related to their behavior. Prevalence estimates of pathological SP are lower, ranging from 1.4% to 5.4% (e.g., Hayes, Storch, & Berlanga, 2009; Keuthen, Koran, Aboujaoude, Large, & Serpe, 2010).

Manifestations of SP can differ in regards to the level of awareness of the behavior. More specifically, individuals can engage in 'automatic SP' that occurs mainly outside of their awareness, or in 'focused SP', which encompasses more intentional behavior, often having the quality of a ritual, and usually occurring following negative emotions or an urge to pick. Many patients show both automatic and focused SP (Pozza, Giaquinta, & Dèttore, 2016; Walther, Flessner, Conelea, & Woods, 2009).

Knowledge surrounding the psychological and neurobiological factors that contribute to the onset and maintenance of SPD is still insufficient. Studies examining SP or other body-focused repetitive behaviors (e.g., trichotillomania) emphasize problems with motor control, high levels of impulsivity, enhanced emotion reactivity and reduced emotion regulation capacity (e.g., Grant et al., 2012; Snorrason, Smári, & Ólafsson, 2010; Roberts, O'Connor, & Bélanger, 2013). In most studies, however, the two SP subtypes are not separately analyzed. This is a significant drawback, since it seems possible that focused and automatic SP are motivated by different psychological factors. In trichotillomania, for example, research suggests that emotion dysregulation is a more important factor in focused hair-pulling than in automatic hair-pulling (Grant, Odlaug, & Kim, 2007). This could also be the case for SPD. A recent study (Pozza et al., 2016) examined how subtypes of SP related to various personality traits and emotion regulation capacities, in a community sample. The authors found that both subtypes were predicted by difficulties engaging in goal-directed behavior when distressed (e.g., 'When I'm upset, I have difficulty concentrating'). However, focused SP was additionally predicted by a lack of strategies for

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regulating negative emotions (e.g., 'When I'm upset, I believe there is nothing I can do to feel better'). Furthermore, the total percentage of the variance explained by the fitted model was higher for focused SP compared to automatic SP. These findings suggest that emotion regulation difficulties play a greater role in focused SP than in automatic SP.

Besides difficulties in emotion regulation, disgust could also be an important factor in SPD. The focused subtype of SP is usually elicited by visual cues (e.g., skin irregularities, moles) which provoke disgust in most people (Schienle, Walter, Stark, & Vaitl, 2002). Disgust has been recognized as an important factor for obsessive-compulsive behaviors; however, research on disgust in OCD-related disorders is limited (e.g., Berle & Phillips, 2006). Disgust has been conceptualized as a disease-avoidance mechanism: it motivates health-protecting behaviors, such as the removal of pathogens (e.g., from the skin) by way of grooming and cleaning (Davey, 2011). Since SPD has been characterized as a 'grooming disorder' (Grant & Stein, 2014), and SP is usually elicited by disgust-inducing stimuli, disgust-related traits could be an important factor in SP manifestations. To our knowledge, this is the first study examining the relationship between disgust-related personality traits and SP subtypes.

The goal of the present investigation was twofold. First, we wanted to replicate the findings of Pozza and colleagues (Pozza et al., 2016), by examining the predictive role of emotion regulation deficits for the two SP subtypes, using a sample that included both subclinical and clinical degrees of SP. Second, we wanted to explore the role of disgust-related personality traits (e.g., disgust sensitivity, disgust proneness and self-disgust; for definitions refer to the Methods section) in skin-picking.

2. Method

2.1. Participants

Potential participants were informed by means of media advertisements (newspaper, radio) that investigators were interested in learning more about those who chronically pick their skin. Those interested in participating were directed to go online, where they gave informed consent and completed the questionnaires. Out of the 194 individuals who completed the survey (mean age = 35.23 years, SD = 15.69, range: 17–85), the majority was female (n = 144).

2.2. Questionnaires

The survey included the following questionnaires:

a) The Milwaukee Inventory for the Dimensions of Adult Skin Picking (MIDAS; Walther et al., 2009) is a self-report measure assessing pathological skin picking. It consists of 12 items rated on a 5-point Likert scale, ranging from 1 (not true for any of my behaviors of skin picking) to 5 (true for all of my behaviors of skin picking). The MIDAS assesses two subtypes of SP: focused skin picking, which occurs in a targeted manner, and automatic skin picking, which occurs outside of awareness (Walther et al., 2009). The internal consistency of the focused subscale in the present sample was good: $\alpha_{focused}$ = .89, whereas the internal consistency of the automatic subscale was satisfactory: $\alpha_{automatic}$ = .75.
b) The Difficulties in Emotion Regulation Scale (DERS; German version; Kaufman et al., 2016) is a 36-item measure that assesses difficulties in emotion regulation across six domains: limited access to emotion regulation strategies, non-acceptance of negative emotions, difficulties controlling impulsive behaviors, inability engaging in goal-directed behaviors when distressed, lack of emotional awareness and lack of emotional clarity. The internal consistency of the subscales ranged from .79 to .90.
c) The Questionnaire for the Assessment of Disgust Proneness (QADP; Schienle et al., 2002) is a 37-item questionnaire used to assess the general tendency of the individual to experience disgust across different situations (e.g., 'You are just about to drink a glass of milk, as you notice that it is spoiled'). The internal consistency of the scale was .91.
d) The Scale for the Assessment of Disgust Sensitivity (SADS; Schienle, Dietmaier, Ille, & Leutgeb, 2010) is a 7-item scale assessing difficulties in regulating one's own feelings of disgust (e.g., 'Experiencing disgust is stressful for me'). The internal consistency of the scale was .91.
e) The Questionnaire for the Assessment of Self-Disgust (QASD; Schienle, Ille, Sommer, & Arendasy, 2014) assesses two subtypes of self-disgust; disgust-related self-concept (e.g., 'I find myself repulsive') and disgust-related behavior (e.g., 'I regret my behavior'). The internal consistency of the two subscales was .92 for personal self-disgust and .85 for behavioral self-disgust.
f) The State-Trait Anxiety-Depression Inventory (STADI; Laux, Hock, Bergner-Köther, Hodapp, & Renner, 2013) is a 40-item questionnaire assessing both trait and state anxiety and depression in adults. In the current study, trait depression and anxiety were assessed. The internal consistencies of the subscales were .94 and .92, respectively.

2.3. Procedure

Based on the results of the survey regarding skin-picking symptoms, we invited 81 participants with MIDAS scores ≥ 13 (on either MIDAS automatic or focused skin picking; Walther et al., 2009) to a clinical interview (Margraf, 1994), which was carried out by a board-certified clinical psychologist. This interview was supplemented by SPD-related questions (e.g., type of scratching, experienced distress/functional impairment). Fifty-one individuals met all criteria for a SPD diagnosis according to DSM-5 (American Psychiatric Association, 2013), while the remaining individuals with 'subclinical SPD' did not meet all criteria (e.g., they displayed symptoms of minor intensity and/or indicated only minor distress/ functional impairment because of the skin picking). Approximately a third of the participants with SPD (n = 18) were diagnosed with comorbid disorders, which included major depression, generalized anxiety disorder, panic disorder, specific phobias (animal), obsessive-compulsive disorder and borderline personality disorder. The participants who had been diagnosed with SPD were transferred to psychotherapy facilities if interested. The study was carried out in accordance with the Declaration of Helsinki and approved by the local ethics committee.

2.4. Statistical analysis

To test the unique contribution of different facets of emotion dysregulation and disgust-related traits, and to determine whether disgust-related traits contributed to SP subtypes over and above what was accounted for by emotion regulation difficulties, a hierarchical multiple regression was conducted (Tabachnick & Fidell, 2013). Gender, age, trait depression (STADI), trait anxiety (STADI) and emotion dysregulation scores (DERS subscales) were entered into the model in the first step. In the second step, disgust traits (QADP, QASD, SADS) were entered. We then removed non-significant predictors by means of backwards elimination, until we had a model which included only significant predictors. The final model was assessed for multicollinearity and residual distribution. The analyses were conducted using SPSS version 24 (IBM Corp, 2016).

3. Results

Means, standard deviations and correlations between the questionnaire scores are presented in Table 1.

Compared to the MIDAS construction sample, the participants of the total sample (n = 194) obtained comparable scores for automatic SP (construction sample: M = 17.09, SD = 4.60, $t(279)$ = .90, p = .362)