

## Summary

# The Mediating Role of Self-Concealment in the Relationship between Self-Disgust and Psychological Symptoms

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Disgust is a basic emotion characterized by adaptive responses to mobilize organisms against unpleasant or harmful stimuli (Ekman, 1992). There is a wide range of disgust eliciting stimuli, including primarily food, animals, body and also moral violations (Rozin & Fallon, 1987; Rozin, Haidt, & McCauley, 1999). Although disgust has a substantial survival value; excessive, distressing and stable disgust related responses have been associated with various psychological problems such as anxiety disorders (Olatunji, Cisler, McKay, & Phillips, 2010), disordered eating patterns (Davey, Buckland, Tantow, & Dallos, 1998; Troop, Treasure, & Serpell, 2002).

Disgust directed toward one's own behavior, body, physical appearance or overall self is conceptualized as self-disgust (Overton, Markland, Taggart, Bagshaw, & Simpson, 2008). However, unlike basic disgust experience, self-disgust reactions tend to be persistent and excessive acting like a personality trait and related to maladaptive self-appraisals (Powell, Simpson, & Overton, 2015). Moreover, the development of self-disgust is more complex involving sociocultural expectations, negative past experiences, also childhood trauma and abuse (Powell et al., 2015a, 2015b). These features of self-directed disgust are similar to those of self-conscious emotions such as shame and guilt (Power & Dalglish, 2008). At the same time, this stable and complex pattern closely related to behavioral and cognitive processing is assumed to be served as an emotional aspect of self-schema (Powell et al., 2015a).

Self-directed disgust is conceptualized initially as a vulnerability factor for depression (Overton et al., 2008) and contemporary studies support this association both in the short and long term (Powell, Simpson, & Overton, 2013; Simpson, Hillman, Crawford, & Overton, 2010). Moreover, there is a growing body of evidence indicating that this maladaptive pattern also predicts self-injury (Smith, Steele, Weitzman, Trueba, & Meuret, 2015), body dissatisfaction (Stasik-O'Brien &

Schmidt, 2018), as well as the eating problems (Palmeira, Pinto-Gouveia, & Cunha, 2019). In addition to its direct role, the indirect effect of self-disgust has been highlighted in the relation between dysfunctional cognition and depression (Overton et al., 2008), between post-traumatic stress and suicidal tendency (Brake, Rojas, Badour, Dutton, & Feldner, 2017), and between loneliness and depression (Ypsilanti, Lazuras, Powell, & Overton, 2019).

Although self-disgust tends to be connected with various psychological problems; there is a need for research to highlight the explanatory mechanisms in these associations. The current study focused on the potential role of self-concealment in the link between self-directed disgust and psychological symptoms. Self-concealment refers to active and deliberate attempts to hide personal information appraised as unpleasant or negative (Larson & Chastain, 1990). Like self-disgust, the persistent tendency to hide private information from other people tends to be increased among individuals with childhood trauma, insecure attachment, and negative social interactions (Larson, Chastain, Hoyt, & Ayzenberg, 2015). Besides, there is a body of literature establishing that self-concealment is related to different emotional and behavioral problems including disordered eating (Masuda, Latner, Barlie, & Sargent, 2018), alcohol-related problems (Hartman et al., 2015), and suicidal tendency (Hogge & Blankenship, 2020). It is plausible to expect the positive association between self-disgust and self-concealment considering the similarity in the development and outcomes of both constructs.

In summary, self-disgust is a novel concept that can contribute to acknowledging the etiology psychological problems; while, the explanatory mechanisms need to be clarified. Therefore, the current study aims to examine the mediator role of self-concealment in the association between self-disgust and psychological symptoms.

## Method

### Sample

The study was carried out with 495 volunteered university students (390 females, 105 males) whose ages were ranged from 18 to 30 ( $M = 21.55$ ,  $SD = 1.98$ ). All participants were recruited from various universities in Turkey by using the convenience sampling method. The majority of participants (91.7%) were undergraduate students, while others (8.3%) were enrolled in higher education or graduate program.

### Measures

**Demographic Information Form.** The form was developed by the authors in order to obtain information about the characteristics of the participants including age, gender, education level, and socioeconomic status.

**Self-Disgust Scale (Revised).** The scale was developed to assess disgust directed one's own physical appearance, behaviors and overall self (Overton et al., 2008). The revised version includes 22 items rated on a 7-point Likert-type scale in which higher scores indicate elevated self-related disgust (Powell et al., 2015a). Turkish version of the scale adapted by Bahtiyar and Yıldırım (2019) contains 21 items with similar factor structure yielding good consistency and validity properties. For the current study, Cronbach's alpha was calculated as .96.

**Self-Concealment Scale.** The instrument has 10 items rated on a 5-point Likert-type scale assessing the overall tendency to hide personal information perceived as unpleasant or negative from others (Larson & Chastain, 1990). Turkish version of the scale also consists 10 items indicating satisfactory internal consistency (Deniz & Çok, 2010). Higher scores indicate greater self-concealment tendency. For the current study, Cronbach's alpha was calculated as .89.

**Brief Symptom Inventory-25.** This self-report inventory has 25 items rated on a 7-point Likert-type scale assessing the intensity of general psychiatric symptoms (Blais et al., 2015). Turkish version of the scale also consists 25 items in which higher scores point to an increase in symptomatology with high consistency and validity features (Gülüm & Volkan, 2019). The internal consistency of the scale was found as .95 in this study.

### Procedure

After the approval of the ethical committee in Maltepe University, self-report questionnaires were administered via an online survey platform. All participants were informed about the aim and the scope of the study and confidentiality through the informed consent. In addition, normality assumptions and outliers were checked. After eliminating 28 cases, the main analyses

were performed with the remaining 495 cases by using the SPSS software program.

## Results

First of all, gender difference (105 females, 105 males) for the mean scores of self-disgust, self-concealment, and psychological symptoms were examined through the independent sample t-test analyses. Randomly selected data of 105 participants among 390 female participants' data were included in the analysis. The results yielded significant difference for only self-concealment [ $t(208) = -2.22$ ,  $p < .05$ ]. Accordingly, males ( $M = 26.61$ ,  $SD = 9.73$ ) showed greater tendency of concealing self from others compared to females ( $M = 23.64$ ,  $SD = 9.69$ ).

Secondly, Pearson correlation coefficients were calculated in order to investigate the relationship among these variables. According to the findings, self-disgust was positively correlated with self-concealment ( $r = .15$ ,  $p < .01$ ) and with psychological symptoms ( $r = .16$ ,  $p < .01$ ). In addition to that, there was a significant and positive correlation between self-concealment and psychological symptoms ( $r = .49$ ,  $p < .001$ ).

Thirdly, the mediating role of self-concealment in the relationship between self-disgust and psychological symptoms was examined. For this examination, regression analysis was performed by using bootstrapping method through the PROCESS macro for SPSS (Hayes, 2013). In this procedure, the sampling distribution of indirect effects was bootstrapped 5000 times and 95% of confidence intervals (CI) were taken into consideration in which no zero "0" value between these intervals indicate significant indirect effect (Preacher & Hayes, 2008). The model also included gender as covariate. The findings revealed that the total effect of self-disgust on psychological symptoms was significant [ $\beta = .15$ ,  $t(492) = 3.46$ ,  $SE = .04$ ,  $p < .001$ ]. Accordingly, self-disgust significantly and positively predicted self-concealment [ $\beta = .14$ ,  $t(492) = 3.20$ ,  $SE = .04$ ,  $p < .01$ ]; and self-concealment was the positive predictor of psychological symptoms [ $\beta = .47$ ,  $t(491) = 11.87$ ,  $SE = .04$ ,  $p < .001$ ]. However, there was significant gender effect on only self-concealment [ $\beta = .11$ ,  $t(492) = 2.46$ ,  $SE = .11$ ,  $p < .05$ ]. In addition, the direct effect of self-disgust on psychological symptoms was found also significant [ $\beta = .09$ ,  $t(492) = 2.19$ ,  $SE = .04$ ,  $p < .05$ ]. Finally, indirect effect of self-concealment was significant as well,  $\beta = .07$ ,  $SE = .02$ , %95 CI [0.24, 0.11]. According to these findings, self-concealment partially mediated the relationship between self-disgust and psychological symptoms. This model explained 24% of total variance,  $F(3,491) = 52.73$ ,  $p < .001$ .

## Discussion

The current study aimed to examine the mediator role of self-concealment in the association between self-disgust and psychological symptoms in a non-clinical sample. Prior to hypothesis testing, the gender differences were examined and the results revealed that men had a higher tendency to conceal themselves from others compared to women. Limited studies about the development of both self-disgust and self-concealment emphasize the negative childhood experiences and toxic social interactions over biological factors (Larson et al., 2015; Powell et al., 2015a, 2015b). Therefore, retrospective research is recommended to achieve more information for individual differences and etiology regarding to these patterns.

The findings of the study also revealed that self-disgust, self-concealment, and psychological factors were positively correlated with each other. Moreover, the mediator role of self-concealment in the relationship between self-disgust and psychological symptoms was also confirmed. Accordingly, self-directed disgust predicted an increase in self-concealment, which in turn led to an increase the intensity of psychological symptoms. These results are in accordance with previous studies indicating that both self-disgust and self-concealment are vulnerability factors for psychopathology (e.g., Brake et al., 2017; Cruddas, Gilbert, & McEwan, 2012; Edmonds, Masuda, & Tully, 2014; Simpson et al., 2020). Besides, the explanatory role of self-concealment in the link between self-directed disgust and psychological symptoms has been highlighted. Therefore, it is reasonable to interpret that experiencing excessive and stable disgust toward self may trigger the attempts to hide self-related information appraised as repulsive from others in order to avoid possible criticism or rejection. As long as individual shows active and stable efforts to keep unpleasant or disgusting self-related information in dark, psychological problems may increase because of the intense feeling of isolation, lack of social support and also lack of corrective responses to challenge maladaptive self-appraisals. Consistent with this assumption, clinical research points out that people with higher self-concealing tendency are more reluctant to seek psychological help (Masuda & Boone, 2011; Nam et al., 2013) or to share private information with professionals even in a therapeutic setting (Love & Farber, 2019). Therefore, the indirect role of self-related disgust on psychological problems through the self-concealment may be considered as both an antecedent and a maintaining factor.

The present study has limitations as well. Firstly, the cross-sectional nature of the study limits to make inferences about the causality in this model. Therefore,

longitudinal research is recommended, to achieve further knowledge about the role of self-concealment in the self-disgust promoted psychological problems. Although the concepts focused on this study are not specific to psychopathology; the lack of clinical sample can be considered as another limitation. For instance, it is important to determine the role of particular concealing strategies used by the patients having eating disorders triggered by disgust toward their bodies (Palmeira et al., 2019) or body dysmorphic disorder associated with disgust toward physical appearance (Stasik-O'Brien & Schmidt, 2018). Therefore, future studies carried out with clinical samples may provide detailed information about these mechanisms that are valuable for effective case conceptualizations and interventions. Finally, the characteristics of the sample composed of primarily young and female adults may limit the generalizability of the findings. Further research working with different demographic characteristics is recommended to validate these associations and also to examine individual differences regarding to self-concealing and self-disgusting tendency.

Despite these limitations, the current study has a good potential to highlight the association between self-disgust and self-concealment. Self-disgust is recently conceptualized as a vulnerability factor for psychopathology; hence, the need for empirical evidence for clarifying mechanisms still maintains. Nevertheless, these findings of the present study revealed the importance of self-concealment in explaining the role of self-disgust on psychological symptoms.