

## **The role of physical and behavioural self-disgust in relation to insomnia and suicidal ideation**

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**Title: The Role of Physical and Behavioural Self-Disgust in Relation to Insomnia and Suicidal Ideation: Commentary on Hom et al. A Longitudinal Study of Psychological Factors as Mediators of the Relationship between Insomnia Symptoms and Suicidal Ideation among Young Adults**

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## **Abbreviations**

n/a

Self-disgust refers to a self-conscious emotion of disgust and revulsion directed towards the self in a way which manifests as physical (e.g. I find myself repulsive) and/or behavioural (e.g. I often do things I find revolting) in nature.<sup>1</sup> Theoretically, it is considered to be the result of an interaction between an evolved predisposition to experience disgust, the eventual internalisation of socially comparative processes (e.g. how other people see me) initiated during early developmental stages, and changes in self-concept which occur over time that may activate an individual's notion of disgust.<sup>2-5</sup> It has been related to reduced psychological wellbeing and various psychiatric disorders including depression, social anxiety, obsessive-compulsive disorder, disorders of eating, and more recently insomnia disorder.<sup>6-10</sup>

The recently published work in the *Journal of Clinical Sleep Medicine* by Hom and colleagues<sup>11</sup> highlights the mediating role of both disgust with others and the world when evaluating whether insomnia symptoms predict future (three months) suicidal ideation severity amongst a sample of US undergraduate students. Interestingly, disgust with the world emerges as the only significant mediator when both aspects of disgust were examined together in the same model. Moreover, this work also provides support for the somewhat understudied relationship between self-disgust and insomnia, whilst also shedding light on how the orientation of disgust and co-occurring insomnia symptoms may contribute to suicidal ideation. In particular, whereas baseline insomnia symptoms were related to increased reports of self-disgust at baseline, they did not predict future self-disgust in the month following. In contrast, whilst baseline insomnia symptoms were not associated with disgust with the world, they did predict future disgust with the world in the month following. Interestingly, only baseline self-disgust was related to symptoms of suicidal ideation at both baseline and three-month follow-up. Considering these observations, the main outcome of this study (i.e. disgust with the world as the most prominent mediator between insomnia symptoms and future suicidal ideation) seems somewhat surprising. However, to gain a clearer picture, it would be crucial to report the full data-set from each time point.

The authors suggest that self-disgust may emerge amongst those experiencing insomnia symptoms due to associated distress and daytime impairments, with acute sleep loss in this population contributing to emotion dysregulation and negative self-appraisals (i.e. self-disgust). Indeed, this suggestion would be somewhat in line with recent evidence that individuals with insomnia disorder experience greater levels of self-disgust when compared with normal sleepers.<sup>9</sup> Interestingly however, this previous study evidenced anxiety and depression explained the association between insomnia and self-disgust. With that in mind, existing deficits in emotional processing associated with insomnia<sup>12</sup> may be accentuated by anxious and depressive symptoms, consequently leading to the experience of self-disgust and negative self-appraisal. That said, it is well established that individuals with insomnia and poor sleepers negatively interpret aspects of the physical self, including: cutaneous body image; aspects of facial appearance; skin age; and facial cues of tiredness.<sup>13-16</sup> Therefore, it may be likely that the nature of self-disgust (physical vs. behavioural) differs across the course of insomnia and in what way it serves to influence suicidal ideation. Whilst research has yet to examine this assumption, it is theoretically plausible that physical self-disgust may be higher amongst those with insomnia due to a combination of physiological changes in physical appearance that occur with partial sleep loss and tiredness (i.e. relaxation of facial muscles, skin blood coloration)<sup>17,18</sup> and cognitive factors which alter physical self-appraisal (i.e. selective

attention/negative interpretation of physical cues indicating sleep-loss: wrinkles/fine lines and bags around the eyes, drooped corners of the mouth and heavy eyes)<sup>16, 19-21</sup>. This paired with inadequate strategies (i.e. napping, extra time in bed, going to bed earlier than usual, avoiding social and work commitments)<sup>22</sup> used to cope with the daytime consequences of insomnia (e.g. tiredness, irritability, social and interpersonal difficulties)<sup>23,24</sup> may serve to increase and further internalise behavioural (and physical) self-disgust through the precipitation of depressive symptoms<sup>23</sup> and emotion dysregulation.

Of course, Hom and colleagues<sup>11</sup> were also surprised by the unexpected outcome that disgust with others and the world, rather than the self, emerged as the potential mechanism which may account for the relationship between insomnia symptoms and future suicidal ideation. Considering this, the authors note prior evidence that such outward disgust leads to significant withdrawal from all aspects of life, above just social interaction<sup>25</sup>, A characteristic commonly observed preceding suicide.<sup>26</sup> Consequently suggesting that the negative appraisal of external domains (i.e. disgust with others and the world) may facilitate the transition from insomnia symptoms to suicidal ideation. Indeed, as previously noted, insomnia symptoms predicted future disgust with the world but not the self, whereas baseline cross-sectional data observed the opposite with self-disgust rather than disgust with the world initially related to insomnia symptoms.<sup>11</sup> As such, it is theoretically plausible that the outcomes reflect an eventual shift in the experience of disgust from a more internal to an external focus. A possible conduit for this may be a transition from initial social withdrawal and experience of self-disgust (associated with insomnia)<sup>9,11,27</sup> to eventual total withdrawal (associated with disgust with others and the world)<sup>25</sup> from life. Here, social withdrawal in insomnia likely stems from an interaction between self-disgust, negative self-appraisal (e.g. "I look too tired to go out"), and sacrifice of social commitments due to perceived daytime impairments (e.g. "I should stay in and go to bed earlier to catch up with sleep, otherwise I won't be able to focus at work tomorrow"). Over time, co-occurring psychological factors (i.e. loneliness, depression, thwarted belongingness)<sup>2,4</sup> and increased social isolation may shift the focus of disgust externally to others/the world (as a source of blame) eventually contributing to total withdrawal from life and suicidal ideation.<sup>26</sup> If correct, then self-disgust would also be a worthwhile target for assessment and intervention in preventing the transition from insomnia symptoms to increased suicidal ideation.

In conclusion, the results of the study by Hom and colleagues<sup>11</sup> advance the understanding of psychological factors, particularly disgust, which work to mediate the relationship between insomnia symptoms and future suicidal ideation. Moving forward, it would be important to consider the role of anxious and depressive symptoms which have previously mediated the relationship between insomnia and self-disgust.<sup>9</sup> Further, a more comprehensive examination of self-disgust accounting for both physical and behavioural aspects, as well as the roles of loneliness and social withdrawal could shed light on the unexpected outcomes of this study. Finally, determining whether the observed outcomes can be extrapolated to a more balanced sample of the general population would confirm the benefit of assessing for and targeting specific aspects of disgust (albeit with the self, others and the world) in treatment programmes for insomnia, with the possible benefit of circumventing symptoms of suicidal ideation. We thank Hom and colleagues for their important contribution to the field.

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