BRIEF COMMUNICATION

Understanding Trypophobia: The Fear of Holes

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**Abstract**

The sight of clustered holes can bring about uneasiness in people, and the disgust response towards it is called trypophobia. Reactions in humans vary from nausea to severe depression. We explore the possible causes of this unique phenomenon, such as evolutionary adaptation and spectral features. We also uncover the clinical features and its relationship to other psychological conditions for example, obsessive-compulsive disorder.

**Keywords:** Trypophobia, Fear of Holes, Phobia

**Introduction**

Trypophobia is a repulsion of clusters of small holes or objects that are reminiscent of clusters of holes [2]. It is different from other types of phobia in the sense that its discovery was birthed from the rapid advancement of technology. The term was first coined in 2005 in an online forum, stemming from the Greek words τρύπα and φόβος, meaning “hole” and "fear" respectively [3]. Ever since then, its documentation on the Internet has been widely reported compared to other types of phobia [2] with various Internet-based support groups, where people provide testimonials regarding their struggles with trypophobia.

**Proposed etiology**

i. **Evolutionary adaptation towards danger**

“Organisms that fail to adapt to their environment and pass on their gene will fall as a fatality of “the war of nature” [7],” said Charles Darwin. Human beings are built with an innate and perceptive neurobiological system that promotes adaptation to change and provides efficient aversion mechanisms towards danger [6].

Physical signs like scars, sores and spots, as well as spots found on dangerous animals like the blue-ringed octopus, the king cobra and also holes found on a hornets’ nest [2] may induce trypophobia.

ii. **Unique spectral features**

Images that act as a stimulus towards trypophobia, such as a cluster of holes, show a feature of high contrast energy at midrange spatial frequencies [2]. This feature does not reach humans’ conscious awareness, thus can lead to fear in adults [8].

Any images with the same spectral feature will act as a trigger and induce this feeling of disgust as a survival adaptation [2], even though the stimuli are harmless such as the
A study done showed that preschoolers showed discomfort towards tryphobic image due to the unique spectral feature rather than its danger. In this study, the children showed discomfort towards the image of a starfish with spots covering its body. However, after showing another picture of a starfish, only this time the spots were removed, the children do not exhibit any signs of discomfort [8].

**iii. Learned behavior**

Another theory is that this phobia is learned rather than an innate response mechanism towards danger. The primitive discomfort towards holes is heightened through various experiences such as bitten by a snake or a hornet and this lead to adults reporting of being a trypophobe [8]. Interestingly, most of the respondents did not have an upsetting experience involving holes itself that predisposed them to trypophobia [13].

**iv. Overgeneralized emotional response**

It is found that increased emotional functioning that facilitates avoidant behavior with respect to potential threats, results in trypophobia [4]. In this study, The Trypophobia Questionnaire (TQ) was used. TQ consists of predictors of tryphobic proneness, such as core disgust sensitivity, Personal Distress (PD) and proneness to visual discomfort. PD is the proneness to have self-oriented feelings of anxiety and unease [11,12].

Trypophobia is thought to not only be an extension of the feeling of disgust towards holes, tryphobic images may also act as a self-oriented negative stimuli towards individuals who are already has a high proneness to trypophobia [4]. There are no gender differences in trypophobia proneness [9]. However the core disgust sensitivity is higher in female [4]. This explains the reason individuals with trypophobia are predominantly, female [13].

**Why is it unique?**

Despite being a topic that has had quite a following online, it is under-reported in scientific literature. In fact, trypophobia is not recognized as a disorder, neither does it have its own formal definition in DSM-5 [9,16]. In addition to that, those with trypophobia are self-reported or self-diagnosed [17].

With trypophobia, the stimuli might be harmless, such as soap bubbles, honeycomb or the seed head of lotus flowers - making the phenomenon difficult to explain in terms of learning theory [2].

**Clinical features**

Symptoms can be divided into 3 categories: cognitive-related (eg; feelings of uneasiness and aversion), skin-related (eg; skin crawling and itching) and physiological symptoms (eg; nausea, difficulty breathing) [17].

The symptoms are chronic, persistent, and affect mostly women. One can also experience symptoms when not in direct contact with the clusters of holes. Severity varies between individuals; from no anxiety at all to having 25 panic attacks per month. Comorbid psychiatric diagnoses include major depressive disorder and generalized anxiety disorder [13].

Despite the distress and impairment in daily function, a majority of them have never sought treatment [13].
Resemblance to obsessive-compulsive disorder.

A 2017 study suggested that rather than fear, trypophobia is more accurately described as a disgust-based aversion [15]. The association to disgust links trypophobia to obsessive-compulsive disorder (OCD), however it is worth noting that has also been described in specific phobia [14]. The clinical features of trypophobia versus OCD have been assessed, and it was concluded that individuals were more likely to meet the diagnostic criteria for specific phobia than OCD. There are also cases whereby an individual experiences both OCD and trypophobia [13].

**What is the recommended approach in the management of trypophobia?**

There is no specific treatment for trypophobia except by removing the stimuli by progressive spatial filtering of the offensive images [2]. However, trypophobia is associated mostly with common psychiatric diagnoses such as major depressive disorder and generalized anxiety disorder. Hence, treatment should be designed accordingly. Individuals reported significant psychological distress and impairment and among these individuals who seek treatment specifically for trypophobia, only 50% of the patients found it to be helpful, mostly through online support groups [13].

**Conclusion/Suggestion**

Steps need to be taken to first come up with a diagnostic classification. In view of the psychological distress that an individual with trypophobia faces, as well as the low numbers of them seeking professional help, awareness on the topic and effective treatment is called for.

**References**


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