

Disgust as a Protective Emotion of Physical and Mental Health

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Abstract:- Emotions allow humans to interact with their environment and are an important adaptive force. A main emotion is disgust, which is under-treated in specialized literature. This contrasts with its potential function of serving as a health protector through the rejection of potentially offensive or destabilizing elements of the emotional-mental state of individuals. The present is an analysis of what is already known about disgust. To postulate a hypothesis of the mental health protection function of disgust.

Keywords:- Emotions, Neurosciences of Emotions, Disgust, Primordial Disgust, Social Disgust.

I. INTRODUCTION

Basic emotions are an important adaptive force in the human being and form his main mode of interaction with the environment. These become more complex through various mental processes, forming feelings or whole moods.

Antonio Damásio (1996) defines emotions as a series of stereotypical physiological and behavioral responses to external events and depends on a series of activations in brain circuits.

Emotions are considered human; although it is not the only species to have an emotional reaction process, if it is the carrier of the most complex response and regulation between species.

The relationship that establishes the brain stem and limbic system, as main actors in the emotional experience in conjunction with the prefrontal cortex, allows the human to structure emotions, adapting them and giving them meanings and behaviors complex.

The basic emotions are anger, joy, fear, surprise, sadness and disgust. The latter is the one with the lowest analysis in the scientific literature for various reasons (Ekman and Cordaro, 2011).

It is precisely the subject of analysis of this Article. His interest lies in the complexity of emotion with high cultural load, and his possible adaptive functions as a protective emotion to physical and psychological health.

Through a literary review of theoretical and experimental sources, the current division of disgust will be reviewed, finding a dissociation of moral disgust with its predecessor, the core of disgust, to a primary and universal function of it: the protection of health.

II. BASIC PREMISES OF EMOTIONS

Prior to a specific approach to disgust, it is important to know the most basic aspects of human emotions and the physiological processes that underlie it.

Previously mentioned was the definition given by Antonio Damásio of emotions, which contains two important elements:

First; emotions are a result of environmental interaction, that is, the cause that causes them comes from the perception of external events and agents.

This radically differentiates them from feelings, which are not homologous terms, as feelings can occur as a reaction to intrinsic phenomena of the human mind or as a mental internalization of emotions.

Second; stereotyped responses mark the distinction of basic emotions from complex emotions or feelings. The bodily responses to the latter are highly variable between individuals depending on their cultural, social and autobiographical burden.

Facial expressions that occur in microseconds after the person has been exposed to the object causing an emotion, are generalized throughout the planet, independent of culture, age, society or religion (Zerpa, 2009).

That is, facial expressions are a factor that allows to establish the emotion as primary and give it its biological-evolutionary characteristic. And while behavior secondary to emotion may be consciously regulated, the initial expression will be present in whole or in part for milliseconds prior to behavioral regulation.

This characteristic of emotions allows them to be discarded as a product of social coexistence or a learned function.

Like other basic emotions, disgust has a stereotypical facial response, identified in both early and advanced ages.

Finally, another important feature of primary emotions is their observation from early developmental backgrounds, since, being an adaptive and biologically given factor, it is natural to have an early start (Izard, Woodburn and Finlon, 2010).

III. CURRENT APPROACH TO "DISGUST" EMOTION

Disgust, also known as disgust, is phylogenetically born in response to a potential pathogenic hazard that could enter and contaminate the body, thus causing a health condition (Tornchuk and Ellis, 2007).

In most emotions, some cultural influence has been theorized and proven as the subject matures socially; but with disgust this scoop has expanded to consider it an emotion that ceases to be autonomous at a certain moment and becomes a factor learned and socially controlled.

This, for the exclusive case of disgust, lacks experimental sustenance, and the physio-biological evidence contradicts the change in disgust to a learned factor.

Initially, the emotion of disgust or disgust meets the classification characteristics of a basic emotion detached from Damasio's studies and validated on multiple occasions.

It has a brain circuit for processing, where regions such as the insula, the amygdala and certain regions of the frontal lobe are involved, as well as stereotypical facial expressions related to the emotion of disgust in infants and adults alike (Zavadivker, 2014).

It is then known that like the rest of the emotions, disgust begins with the perception of an external event that reaches the limbic system from which the information is distributed to the aforementioned areas, causing a sense of aversion to the cause.

The disgust also features a stereotypical facial expression that as a distinctive is the presence of upper lip lift, slight contraction of the space between the eyebrows and slight elevation of the nose (Ekman and Oster, 2014).

However, through an observational method of uncontrolled groups more common facial features have been noticed, such as tongue exposure or light opening of the mouth, slight retraction of the face or body retraction from the cause. This will be widely exposed later.

To conclude with the validation of disgust as primary emotion, it is considered that it must be present from the first stages of human development, which has been corroborated, finding facial expression of disgust from the infant stage (Iglesias, Loeches and Serrano, 2014).

There are even specific studies such as Ortega and collaborators in 2014, who studied facial expression in congenital blind people finding traits consistent with the stereotypical behavior of disgust. Such studies allow to entrench the disgust as a basic emotion.

A second debate, in the academic field, begins when it is theorized that the emotion of disgust mutates with time and with social influence.

It was explained that disgust begins as the emotion that protects against potential pathogens, that is, harmful to health, but becomes, as social development, a response taught towards elements unwanted by society.

It acquires, in this sense, a moral burden, moving from an element of biological adaptation to an instrument of control of the individual before society to reaffirm morality and to be able to find means of cohesion (Miller, 1998).

It is from these ideas that the importance of disgust is beginning to be relegated as emotion, and a difference is made between two types of disgust, moral disgust and the core of disgust.

IV. THE DISGUST, BETWEEN BIOLOGY AND SOCIETY

When this theoretical division begins to be done, disgust begins to lose importance in research studies, the explanation would seem simple, away from shabby meals and keeps us within moral precepts.

It is then considered the core of disgust as defined by Damasio and becomes a physical health protector.

On the other hand, moral disgust refers to a complex mechanism of rejection of elements considered immoral, and therefore depends on what is understood as moral for the person and society in which he dwells (Pizarro, Inbar and Helion, 2011).

However, Pizarro and collaborators agree in their documentary studies, considering that the empirical basis that allows to say that disgust is a moralizing situation has the least sustenance among several claims of disgust as a moral factor.

The other common claims in literature postulate that disgust is teaching about certain reasons, that is, it abandons the exclusive disgust towards health protection and is socially instructed to generate it on negative elements for the social common (Lion, 2014).

On the physiological elements of emotion, there are no neurological studies that check a difference in brain processing between the core of disgust and moral disgust.

On the contrary, facial expression analysis has been done on stereotyped behaviors.

Specifically, research by Anderson and contributors in 2009, published in the journal *Science*, finds similarities between the facial expression of emotional responses of disgust to pathogenic and socially immoral elements.

There are similarities such as upper lip elevation and considerable elevation of the nose. This is presented to subjects with unhealthy meals, as well as visual elements of morally negative facts.

And despite the lack of studies that replicate the results obtained by Anderson and collaborators, in literature this is often considered an element in favor of the thesis of the culturalization of disgust (Gil, 2008).

But this interpretation has weaknesses, because finding common elements to a greater extent than discordant elements between facial responses, is it really a factor that supports the thesis of a socialization of a primary emotion?

If it is in the presence of a transformed emotion, does this new emotion really depart from the basic function of disgust? How much does the social burden of disgust transform?

V. FUNCTION TO PROTECT THE HEALTH OF SO-CALLED MORAL DISGUST

Based on the analytical review study carried out in this text, the questions referred to above are intended to be resolved.

When the disgust acquires its learned burden, it theorizes, loses its protective function to health and becomes an instrument of social order (Poncela, 2018). This may be based on a social analysis of the fact, however, viewed from a biological perspective, the role of nuclear disgust may remain after meeting the social institution.

If health is seen as a multifactorial element, where physical and psychological homeostasis are involved, that is, the imperturbability of both states in the human being can be understood as still protective of health.

Emotional stability, the conduct of actions according to the core of the personality, their values and moral judgments, in addition to the relationship of the individual with their environment, form important aspects of maintenance, influence in the decrement or valuation of health by the individual (Lester, 2019).

Based on this interrelationship of health factors, it is consistent to claim that the body, especially the nervous system, responds to maintain health at its broadest definition.

Among the many factors that can alter an individual's mental health significantly are traumatic facts, the origin of which is the perception of the medium, but also the

management of behavior in a distant way to basic principles of personality.

Psychotic, dissociative, depressive, chronic stress and recurrent emotional instability are closely related to the individual's exposure to situations considered disruptive to the fundamental core of his personality, whether as an observer or as a participant (Valiente-OTS, Villavicencio and Cantero, 2006).

The fundamental core of personality refers to the characteristics of acting or thinking of a person.

As a result of a synergy between genetic-biological burden and social adaptation, the human being forms his personality and within it there are factors that are shaped according to circumstances and maturity; but there are others that remain.

Estas características que permanecen suelen ser el punto de convergencia de las cinco dimensiones de la personalidad, un punto equilibrado entre la intro-percepción y la exo-percepción (Ter-Laak, 1996)

Therefore, this nucleus constitutes the perceptual axis with respect to the individual with its medium and logically some fact that disturbs the nucleus will cause significant damage to health.

Studies such as Fumero and Navarrete in 2014, using neural networks, demonstrate the correlation between personality disturbance and the overall health of the individual.

Using such knowledge is logical the induction that moral disgust is not a teaching practice to maintain control over individuals in a society through the rejection of immorality.

Like other characteristics adaptive to the environment that advance with development acquiring social aspects, the primary emotion of disgust could be adapted to the increasingly social development of the individual.

This is maintained by maintaining its health protection function. This means that the role of disgust in adults, in addition to protecting physical health, also protects mental health. So, the distinction of disgust in two types is unnecessary, emotion itself and according to the degree of development, causes a rejection of elements that potentially put at risk the elements of the core of the personality.

Since personality is composed of its own elements and learned elements, it is natural that there are common elements causing disgust; but substantial differences remain from individual to individual.

Thus, the person will feel disgusted by things potentially harmful to health, from unhealthy foods to actions or ideologies that are directly contrary to their basic principles.

And this, rather than a mode of control taught is a biological and adaptive response of the nervous system to seek emotional and psychological stability.

This explains that actions contrary to society can cause emotional reactions of anger or sadness; but only those contrary to one's own personality cause disgusting reactions.

Maintain disgust as a unique emotion; but that adapts to the development of the individual and that protects health, explains the few differences in facial expression of emotion found by Anderson and collaborators, mentioned above.

If this displeasure thesis is corroborated as an emotion that evolves while maintaining its protective function, its usefulness and importance increase considerably, as a factor of therapeutic management and education within public health.

VI. CONCLUSION

Disgust has been weakly treated in the literature of emotions; however, it plays an important role in preserving human health at its broadest expression.

The emotion of disgust arises in the individual to cause a rejection and departure from potential sources of bacterial or viral contamination, and emotional and mental disturbance.

Although many studies postulate that disgust exists as basic emotion in the early years of life and late years, it is used by society for control purposes, performing a theoretical divide between a nuclear and a social disgust.

The lack of experimental evidence of significant changes in the stereotypical facial response and difference in the neural mechanisms that process the emotion of disgust, are elements that prevent consolidating the dividing thesis.

On the other hand, if it is considered that disgust continues to fulfil its protective function to health, both physical and mental, through the rejection of the potentially harmful, the few differences in facial response and the immutability of neurofunctional mechanisms find their livelihood.

Thus disgust, as emotion, develops alongside the individual, moving from a rejection to possible sources of infection towards one to that which can cause a serious disturbance in emotional and psychological stability.

Although emotional state is constantly variable, it does not do it drastically or significantly in a healthy subject, so only the elements that go against the core of the personality, with its innate and socially adapted components, would cause a reaction disgust.

By conceiving disgust as a defense mechanism, its therapeutic and health-promoting benefits are more noticeable and with a wide developmental landscape, generating lines of research and experimentation in this regard.

REFERENCES

- [1]. Anderson, A.K. Champan, H.A. Kim, D.A. Susskin, J.M. (2009) "In a bad taste: Evidence for the oral origins of moral disgust" *The American Association for the Advancement of Science. Publication on Science.* Vol.323, Num.5918. Págs.1222-1226
- [2]. Damasio, AR. (1999) "El error de Descartes: la razón de las emociones" Tercera Edición en español. Editorial Andres Bello. Santiago de Chile.
- [3]. Ekman, P. y Cordaro, D. (2011) "What is meant by calling emotions basic" *Sage Journals.* Vol.3 Núm.4. Págs. 364-370. USA. DOI: <https://doi.org/10.1177%2F1754073911410740>
- [4]. Ekman, P. y Cordaro, D. (2011) "What is meant by calling emotions basic" *Sage Journals.* Vol.3 Núm.4. Págs. 364-370. USA. DOI: <https://doi.org/10.1177%2F1754073911410740>
- [5]. Fumero, A. y Navarrete, G. (2014) "Personality en Psychological Distress: Application of a Neural Network Model" *Revista Iberoamericana de Diagnóstico y Evaluación.* Vol.1, Núm41. Págs.28-38. Basil.
- [6]. Gil-Juárez, Adriana. (2008). *El Asco desde la mirada Psicosocial: Emociones y Control Social.* El Alma Pública. *Revista Desdisciplinada de Psicología Social.* 1(1):73-87.
- [7]. Iglesias, J. Loeches, A. y Serrano, J (1989) *Facial expression and emotional recognition in infants, Infancia y Aprendizaje,* 12:48, 93-113, DOI: 10.1080/02103702.1989.10822251.
- [8]. Izard, C.E. Woodburn, E.W. y Finlon, K.J. (2010) "Extending emotion science to the study of discrete emotion in infants". *Sage Journals.* Vol.2, Núm.2. DOI:<https://doi.org/10.1177%2F1754073909355003>
- [9]. León, EA. (2014) "El asco: una emoción entre naturaleza y cultura" *Revista de Estudios Filos.* Vol.15, No.26. Pág.21-39. Bogotá, Colombia.
- [10]. Lester, B. (2019) "A Quantitative Approach to the World Health Organization Definition of Health: Physical, Mental and Social Well-being", *International Journal of Epidemiology,* Volume 1, Issue 4, Pags 347–355, <https://doi.org/10.1093/ije/1.4.347>
- [11]. Miller, WI. (1999) "Anatomía del asco" Edición del Grupo Santilla S.A. Madrid. Pp. 442 // https://www.academia.edu/37984801/William_Jan_Miller_-_Anatomia_a_del_Asco
- [12]. Ortega, JE. Iglesias, J. Fernández J.M y Corraliza, J.E. (1914) *Facial expression in congenitally blind children, Infancia y Aprendizaje,* 6:21, 83-96, DOI: 10.1080/02103702.1983.10821964

- [13]. Pizarro, D. y Helion, C. (2011) "On disgust and moral judgment" Sage Journals. Vol. 3 Num.3. Págs. 267-268
<https://doi.org/10.1177%2F1754073911402394>
- [14]. Poncela, A.M. (2018) "Apuntes sobre el asco psicossocial". Revista Brasileira de Sociología da Emoção. Vol.17, Núm.51. Pág.61-75. Brasil.
- [15]. Ter-Leek, J.F. (1996) "Las cinco grandes dimensiones de la personalidad" Revista de Psicología. Vol.14, No.2. Pág.129-181. España
- [16]. Toronchuk, JA. y Ellis, JF (2007) Disgust: Sensory affect or primary emotional system?, Cognition and Emotion, 21:8, 1799-1818, DOI: 10.1080/02699930701298515
- [17]. Zavadviker, M.A. (2014) "Acerca del valor adaptativo del asco moralizado desde una perspectiva evolucionista" Revista Ideas y Valores. Vol.63, Núm.154. Pág.243-269. Colombia.
- [18]. Zerpa, C. Miguel (2009) "Sistemas emocionales y la tradición evolucionaria en psicología" Summa Pscológica UST. Vol.6, Núm.1. Págs. 113-123