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# Emotion and the Affective Sciences

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## disgust

their expectations about obtaining a desirable outcome. The lower one's initial expectation, the smaller the chance that this expectation exceeds an obtained outcome and hence the smaller the chance of being disappointed. Third, people can set very global expectations instead of specific ones. Setting global expectations has an advantage over specific expectations, in that the former are less easily disconfirmed and therefore less likely to lead to disappointment.

It is not always possible to avoid disappointment; and the best thing left to do then is to attempt to reduce the experience. Two basic strategies are applicable to these forms of disappointment regulation (Armor and Taylor 1998, Zeelenberg *et al.* 2000): (1) cognitively changing a negative outcome, and (2) dealing with a negative outcome. For example, people might reinterpret an obtained negative outcome by biasing their thinking about what happened and what might have happened in order to regulate how they feel, thereby mitigating their disappointment. One way of reinterpreting outcomes is by shifting the standard of comparison. First, people may select a worse-off \*social comparison target, enabling them to maintain a belief that their current status is not as bad as other (more objective) standards might suggest. A second way of shifting standards involves the generation of downward counterfactuals. One can feel good about one's current (negative) outcome if one compares the outcome with an even worse situation that could have occurred.

Biasing the recall of what was initially expected might also help in regulating disappointment. Such biasing can be obtained by questioning the validity of one's initial expectation. For example, people may argue that their initial expectation was perhaps too optimistic, and adjust their expectation retrospectively in such a way that the discrepancy between the obtained outcome and their expectation is smaller. Or they may reappraise (see REAPPRAISAL) the decision process and outcomes, and how these match to their preferences, and come to the conclusion that the chosen option is actually the best.

Apart from trying to change or reinterpret a negative outcome people might also try to engage in psychological repair work in order to regulate their feelings of disappointment. For example, one may employ a 'silver lining' strategy (i.e. focusing on the beneficial aspects of a bad situation) in order to take the edge off one's disappointment. Another way of dealing with a negative outcome is putting the outcome into perspective. When confronted with an outcome that was less than expected, one could argue that the outcome was not that important anyway. By derogating the importance of an outcome, any experienced emotion in reaction to this outcome is likely to be less intense.

Many of these strategies are related to processes of dissonance reduction, in the sense that people can experience dissonance between the desired outcome and the outcome that is obtained. These feelings may motivate people to 'distort' their thinking about what happened and what might have been in order to mitigate their negative emotional experiences and thus to regulate the disappointment they feel.

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**disgust** From Darwin (1809-82) onward, disgust has been considered one of the \*basic emotions, along with \*happiness, \*fear, \*anger, and \*sadness. In its more primitive forms, disgust guards the body against dangerous foods and microbial infection. In its more elaborated forms, disgust protects the self or soul from nonphysical threats, such as moral violations. More than other emotions, disgust has been transformed in the evolution of human cultures.

Disgust has three distinctive characteristics: first, a facial expression, including closed nostrils, raised upper lip, and gaping jaw; second, a typical behaviour, which is withdrawal from the object that elicits disgust; and third, an accompanying physiological event, nausea. The presence of nausea and a facial expression involving oral rejection strongly suggest that disgust originated as a food rejection mechanism. Disgust is likely to have evolved from a distaste system, but differs in that disgust responses to food are centred not on their taste, but on their nature or origin. In a classic paper, Andras Angyal (1941) defined disgust as 'Revulsion at the prospect of (oral) incorporation of an offensive object'. As he points out, those offensive substances are almost always of animal origin.

A critical feature of disgusting substances is that they are so powerful that they render any edible food unacceptable if they merely touch it. This phenomenon is called *psychological contamination*, and seems to be universal in adult humans but absent in young children and animals. Contamination involves high-level cognition; it requires sensitivity to the contact history of an object in the absence of any stimulus trace of the contact. A cockroach contaminates a glass of milk without changing the taste.

This food-oriented disgust has been called *core disgust* (Rozin and Fallon 1987, Rozin *et al.* 2000). Elicitors include culturally variable 'bad foods', certain animals,

266. Rozin, P., Haidt, J., & McCauley, C. R. (2009). Disgust. Entry in *Oxford Companion to Affective Sciences*. (D. Sander & K. Scherer, eds.) pp. 121-122.

### disinhibition

often those associated with these foods (maggots, rats), and every bodily product except tears. A disgust response to faeces is virtually universal for adults in every culture, but infants do not show aversion to faeces. Children develop aversion to faeces around toilet training, but, for a few years, faeces is still not contaminating. By about 5 years of age, children show a full disgust response.

There may be three other sets of elicitors of disgust that appear cross-culturally. Elicitors of *animal-nature disgust* include poor hygiene, inappropriate sex, gore or violations of body boundaries, and death. Disgust moves us away from reminders of our mortality, such as dead bodies and the odour of decay. Second, *interpersonal disgust* is elicited by contact with others, especially contact with strangers or other individuals or groups we are averse to. Third, *moral disgust* is elicited by some kinds of especially egregious moral violations (e.g. stealing from a blind person). In this context, disgust seems to function as one of three emotions that involve responses to the moral violations of others, along with anger and \*contempt (see MORAL EMOTIONS).

The elicitors and meanings of disgust seem to have expanded in cultural evolution. The process through which this occurs may be the evolutionary mechanism of *pre-adaptation*, in which a system that evolved for one purpose is used for another (Rozin *et al.* 2008). Thus the mouth, teeth, and tongue evolved for eating, but are used in language expression. Individuals and societies profited by being able to produce a strong rejection of something by making it disgusting.

Within a culture, the Disgust Scale (Haidt *et al.* 1994) shows major individual differences in disgust sensitivity. At one extreme there are Americans who will eat insects and are not revolted by body products or touching dead bodies, and at the other extreme there are those who cannot even touch the doorknob of a public convenience or blow their nose in brand new toilet paper. Women are somewhat more disgust sensitive than men.

Cultures differ markedly in what they find disgusting. In the food domain, some of the animal foods of one culture (insects, cheese) are disgusting to others. Interpersonal and moral disgust are particularly variable across cultures. Psychological contamination plays an important role in the symbolic life of many cultures, especially in religious practices of purity and pollution and in ideas of desecration.

Disgust is an important component of some animal \*phobias, blood/injury/injection phobias, and \*obsessive-compulsive disorder. A few brain areas are particularly active when individuals experience disgust. One, the anterior insula, is closely connected to the taste system.

There remain important issues for future research. Psychologists do not yet understand in any detail the evolution or development of disgust, nor how the various types of disgust (core, animal reminder, interpersonal, moral) are related to one another. Psychologists are just beginning to explore the role of disgust in intergroup hostility. There are also puzzling features of disgust: even though it is a negative emotion, it is sometimes sought out and is often the subject of humour.

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**disinhibition** Inhibition has become a central concept in numerous domains of psychology. In particular, deficient inhibition-related processes (or disinhibition) have been postulated in various psychopathological states and neuropsychological disorders. In addition, changes in inhibition have been hypothesized to explain the development and age-related decline of cognitive abilities. Finally, individual differences in inhibition have been proposed to explain variations in working memory capacity, language comprehension, \*decision-making, long-term memory, emotion regulation, and social appropriateness. Recently, it has been suggested that inhibition should be conceived of as a multidimensional construct rather than a unitary one. Friedman and Miyake (2004), for example, examined the relationships between three inhibition-related functions. They found that prepotent response inhibition and resistance to external distracter interference were closely related and that both were unrelated to resistance to proactive interference. In addition, they showed that a latent variable combining prepotent response inhibition and resistance to external distracter interference was related to everyday cognitive failures while resistance to proactive interference was related to unwanted intrusive thoughts. These results underscore the importance of establishing a taxonomy of inhibition-related mechanisms, a theoretical refinement that should improve our understanding of the role of inhibition in psychological activities, as well as the contribution of disinhibition to psychopathology and neuropsychology. Nevertheless, some researchers have criticized the concept of inhibition, suggesting that many behavioural results could be interpreted just as well without using the concept of cognitive inhibition (Gorfein and MacLeod 2007). On the other hand, the view that an action can be initiated