

the same emotional reaction (e.g., fear or excitement) in everyone, as well as recognizing that multiple emotions (e.g., joy, sadness) may be experienced at the same time, for example, mixed feelings at the end of a school year. With increases in cognitive development and social experiences across childhood, children begin to integrate the facial, behavioral, and situational cues around them to infer what emotions others might be feeling.

In summary, emotional development is a complex psychological process that develops in conjunction with cognitive and social development. It is a particularly important psychological process, in that the ability to experience, express, and convey emotion has implications for people's functioning in multiple domains, including self-regulatory behaviors and social interactions with others.

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See also: Affective Development; Cognitive Development; Emotion Regulation; Emotions

EMOTIONAL DISTURBANCES

Emotional disturbances are found in nearly all disorders in the current version of the *Diagnostic and Statistical Manual* (DSM-IV-TR; American Psychiatric Association, 2000), the official diagnostic system used by mental health professionals. These disturbances span positive and negative emotions and include excesses of emotion (e.g., too much anxiety), deficits in emotion (e.g., lack of self-conscious emotions like embarrassment), disconnections among emotion response components (e.g., strong feelings without outward expression), emotion understanding problems (e.g., misinterpreting the emotional intent of others), and regulation problems (e.g., uncontrollable anger outbursts). Not only are emotion disturbances pervasive, but also many of these disturbances cut across traditional diagnostic boundaries.

For example, excessive irritability can be observed in disorders as diverse as attention-deficit/hyperactivity disorder (ADHD), generalized anxiety disorder (GAD), substance withdrawal, and bipolar disorder. Anhedonia, which refers to a loss of interest or pleasure, can be observed in depression, schizophrenia, posttraumatic stress disorder (PTSD), and Alzheimer's disease. Thus, many emotional disturbances may be transdiagnostic, which suggests the exciting possibility that these disturbances may be similarly treated, even though they are embedded within different disorders (Kring, 2008). Not only are emotional disturbances observed across disorders but also more than one disturbance may be observed in a specific disorder. For example, frontotemporal lobar dementia (FTLD) is characterized by deficits in the experience of certain emotions, such as embarrassment, as well as impairment in the ability to understand others' emotions. In this article, we provide examples of different transdiagnostic emotional disturbances.

In order to more clearly understand emotional disturbances, it is important to first define *emotion*. Broadly speaking, emotions are complex systems that have developed through the course of human evolutionary history to prepare us to respond to a number of environmental stimuli and challenges. Contrary to conventional wisdom that emotions get in the way of rational behavior, contemporary research confirms that under most circumstances, emotions favorably impact our individual functioning and interactions with other people (e.g., Keltner & Kring, 1998). Unfortunately, emotional disturbances can interfere with these helpful functions. For example, the absence of facial expressions in people with schizophrenia may evoke negative responses from others, thus adversely affecting their relationships and interactions.

Typically, emotions are considered to have multiple components, including (but not limited to) expression, experience, and physiological response. The extent to which these components correspond or cohere with one another is a current debate in the field. Thus,

although it would make sense that vigorous laughter would correspond to strong feelings of amusement in most situations, there are nevertheless circumstances in which outward expressions may not correspond with our feelings. For example, Olympic athletes may weep upon receiving a gold medal, even though they are probably experiencing great pride and joy. Of course, there are also situations where it is adaptive for us to hide or amplify our emotional expressions, even if they do not correspond to our feelings. For example, if you feel amused in church, it would be in service of polite behavior to suppress the corresponding laughter. Hiding or amplifying our emotions falls under the rubric of emotion regulation (Gross, 1998). Recent affective neuroscience research has greatly advanced our understanding of how the brain is involved in emotion (e.g., Wager et al., 2008).

Types of Emotional Disturbances

Emotional disturbances that reflect too much emotion, or excesses, are exemplified by feeling or showing strong emotions that are not helpful or needed in a particular situation. Although emotions are fundamentally adaptive, at excessive levels, they may interfere with their own adaptive functions. For example, panic disorder involves the extreme experience and expression of fear and its attendant physiological responses (e.g., racing heart rate) in the absence of any life-threatening situation. Similarly, a person with social anxiety can be paralyzed by intense anxiety feelings and physiological responses in a social situation, such as speaking in front of others. Excesses of positive emotions can also have deleterious consequences. For example, an individual with bipolar disorder (formerly called manic depression) may feel intense amounts of euphoria. Although this might seem pleasant, this intense euphoria is often associated with risky behaviors (e.g., excessive spending or sexual behavior), and it can quickly turn into intense negative emotions, such as extreme irritability.

Other emotional disturbances are characterized by too little, or *deficits* in, emotion that may have disadvantageous or damaging consequences. For example, antisocial personality disorder is characterized by little remorse for actions that harm others; however, this does not fully characterize the negative emotional impoverishment believed to be central to this disorder. In the early 1940s, Hervey Cleckley provided a rich description of psychopathy—the precursor to the current diagnostic system's category of antisocial personality disorder—that emphasized diminished emotional reactions and a lack of anxiety. Contemporary research has confirmed that individuals with psychopathy fail to marshal the experiential and physiological responses to negative emotional stimuli (pictures, sounds, cues of imminent punishment) that other people do. Perhaps surprisingly, major depressive disorder can also be characterized by too little emotion. Even though a

key symptom of this disorder is persistent sadness, recent research supports the view that individuals with major depressive disorder exhibit dampened positive and *negative* emotional responses that are not consistent with the level of response indicated by the situation (Rottenberg, 2005). Furthermore, apathy, which has been conceptualized as a lack of emotion, commonly occurs in diverse neurodegenerative disorders, such as FTLD and Alzheimer's disease.

Schizophrenia is an example of a disorder that involves disconnections among emotion components. Individuals with this disorder experience strong feelings, much the same as individuals without schizophrenia, yet they do not outwardly display these feelings. Thus, to an observer, individuals with schizophrenia may appear to be emotionless. Studies that assess multiple components of emotion have shown, however, that individuals with schizophrenia do not have a disturbance in the experience or physiology components of emotion. Rather, the disturbance is largely confined to the expression of emotion (Kring & Moran, 2008).

Being able to perceive and understand others' emotions is critical for social interactions. Deficits in emotion understanding are observed in many disorders. For example, individuals with schizophrenia have difficulty perceiving emotion in the faces and voices of others. Individuals with FTLD have difficulty recognizing some (e.g., fearful, sad), but not other (e.g., happy) emotions. Individuals with generalized anxiety disorder or major depressive disorder tend to see negative emotion in other people even when it is not present. Children with autism have difficulty understanding complex social emotions, such as embarrassment or pride, but not other emotions, such as happiness and sadness.

Many current diagnostic criteria explicitly refer to emotion regulation difficulties. For example, difficulty with controlling anger in borderline personality disorder, efforts to avoid feelings in PTSD, difficulty with controlling worry in generalized anxiety disorder, and rapidly shifting expressions of emotion in histrionic personality disorder all point to difficulties in regulating emotions. An important component of emotion regulation is the ability to modulate the time course of emotional responses. Not only are many of the anxiety disorders characterized by too much emotion (anxiety, fear) but also they are associated with a relative inability to regulate or stop these feelings. Appropriate timing of emotional responses also includes the anticipation of things to come, and it appears that individuals with schizophrenia and major depressive disorder have difficulty anticipating situations that will lead to positive emotions.

Frontotemporal lobar dementia is a common type of dementia that impacts areas of the brain known to be involved in emotion, including amygdalae and orbitofrontal cortex, and it appears that individuals with FTLD have difficulties in emotion regulation, but only in situations that are fairly complex (Levenson & Miller,

2008). For example, individuals with FTLD can regulate their feelings when instructed to do so, but they have trouble doing so spontaneously, even when it would be most helpful to implement a regulation strategy (e.g., to dampen the effects of a loud, startling noise; Goodkind, Guryek, & Levenson, 2008).

Treating Emotional Disturbances

There are effective psychosocial and pharmacological treatments for emotional disturbances, some of which hold promise as transdiagnostic treatments. For example, David Barlow and colleagues have developed a unified psychosocial treatment for the mood and anxiety disorders (Moses & Barlow, 2006). The treatment has three main components: (1) altering cognitive reappraisals, a key component in emotion regulation processes; (2) preventing emotional avoidance; and (3) changing emotion action tendencies, or replacing emotion behavior associated with fear and anxiety with behavior related to positive emotions.

Medication is another commonly used form of treatment for emotional disturbances, particularly antidepressant medications. Many medications that were originally approved by the Food and Drug Administration for the treatment of depression have since received approval for the treatment of other disorders. Studies have found that antidepressant medications are effective at reducing the symptoms of several disorders, including specific and social phobia, panic disorder, GAD, obsessive-compulsive disorder, PTSD, some of the personality disorders, and eating disorders.

In summary, emotional disturbances are common yet treatable. In order to clearly identify and treat these disturbances, it is important to specify the nature of the disturbance by indicating which component(s) of emotion are disrupted. An equally important consideration is whether the emotional disturbance is an antecedent, a concomitant, or a consequence of the disorder(s) within which it is embedded. Locating the emotional disturbance in the developmental course of disorders will ultimately help us better pinpoint the causes of such disturbances, identify those disturbances that cut across different disorders, and develop treatments that will help those who struggle with these emotion-related difficulties.

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EMOTIONAL INTELLIGENCE

Interest in emotional intelligence (EI) and related concepts has a long history in psychology. However, the earliest intelligence quotient (IQ) tests focused on cognitive abilities, and research on the social and emotional skills necessary for successful functioning continued to lag behind work on the purely cognitive ones. Then in the early 1980s psychologists like Gardner (1983) and Sternberg (1985) proposed that there are other kinds of intelligences, and in 1990 Salovey and Mayer began publishing on a new form of intelligence that they called emotional intelligence (Salovey & Mayer, 1990).

Current interest in EI has been fueled in part by the realization that the mental qualities measured by IQ tests do not necessarily ensure positive life outcomes.