

Reduced Affect Display

Subjects: Others

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Reduced affect display, sometimes referred to as emotional blunting, is a condition of reduced emotional reactivity in an individual. It manifests as a failure to express feelings (affect display) either verbally or nonverbally, especially when talking about issues that would normally be expected to engage the emotions. Expressive gestures are rare and there is little animation in facial expression or vocal inflection. Reduced affect can be symptomatic of autism, schizophrenia, depression, posttraumatic stress disorder, depersonalization disorder, schizoid personality disorder or brain damage. It may also be a side effect of certain medications (e.g., antipsychotics and antidepressants). Reduced affect should be distinguished from apathy and anhedonia, which explicitly refer to a lack of emotion, whereas reduced affect is a lack of emotional expression (affect display) regardless of whether emotion (underlying affect) is actually reduced or not.

Keywords: emotional expression ; emotional reactivity ; facial expression

1. Types

1.1. Constricted Affect

A restricted or constricted affect is a reduction in an individual's expressive range and the intensity of emotional responses.^[1]

1.2. Blunted and Flat Affect

Blunted affect is a lack of affect more severe than restricted or constricted affect, but less severe than flat or flattened affect. "The difference between flat and blunted affect is in degree. A person with flat affect has no or nearly no emotional expression. He or she may not react at all to circumstances that usually evoke strong emotions in others. A person with blunted affect, on the other hand, has a significantly reduced intensity in emotional expression".^[2]

1.3. Shallow Affect

Shallow affect has equivalent meaning to blunted affect. Factor 1 of the Psychopathy Checklist identifies shallow affect as a common attribute of psychopathy.^[3]

2. Brain Structures

Individuals with schizophrenia with blunted affect show different regional brain activity in fMRI scans when presented with emotional stimuli compared to individuals with schizophrenia without blunted affect. Individuals with schizophrenia without blunted affect show activation in the following brain areas when shown emotionally negative pictures: midbrain, pons, anterior cingulate cortex, insula, ventrolateral orbitofrontal cortex, anterior temporal pole, amygdala, medial prefrontal cortex, and extrastriate visual cortex. Individuals with schizophrenia with blunted affect show activation in the following brain regions when shown emotionally negative pictures: midbrain, pons, anterior temporal pole, and extrastriate visual cortex.^[4]

2.1. Limbic Structures

Individuals with schizophrenia with flat affect show decreased activation in the limbic system when viewing emotional stimuli. In individuals with schizophrenia with blunted affect neural processes begin in the occipitotemporal region of the brain and go through the ventral visual pathway and the limbic structures until they reach the inferior frontal areas.^[4] Damage to the amygdala of adult rhesus macaques early in life can permanently alter affective processing. Lesioning the amygdala causes blunted affect responses to both positive and negative stimuli. This effect is irreversible in the rhesus macaques; neonatal damage produces the same effect as damage that occurs later in life. The macaques' brain cannot compensate for early amygdala damage even though significant neuronal growth may occur.^[5] There is some evidence

that blunted affect symptoms in schizophrenia patients are not a result of just amygdala responsiveness, but a result of the amygdala not being integrated with other areas of the brain associated with emotional processing, particularly in amygdala-prefrontal cortex coupling.^[6] Damage in the limbic region prevents the amygdala from correctly interpreting emotional stimuli in individuals with schizophrenia by compromising the link between the amygdala and other brain regions associated with emotion.^[4]

2.2. Brainstem

Parts of the brainstem are responsible for passive emotional coping strategies that are characterized by disengagement or withdrawal from the external environment (quiescence, immobility, hyporeactivity), similar to what is seen in blunted affect. Individuals with schizophrenia with blunted affect show activation of the brainstem during fMRI scans, particularly the right medulla and the left pons, when shown "sad" film excerpts.^[7] The bilateral midbrain is also activated in individuals with schizophrenia diagnosed with blunted affect. Activation of the midbrain is thought to be related to autonomic responses associated with perceptual processing of emotional stimuli. This region usually becomes activated in diverse emotional states. When the connectivity between the midbrain and the medial prefrontal cortex is compromised in individuals with schizophrenia with blunted affect an absence of emotional reaction to external stimuli results.^[4]

2.3. Prefrontal Cortex

Individuals with schizophrenia, as well as patients being successfully reconditioned with quetiapine for blunted affect, show activation of the prefrontal cortex (PFC). Failure to activate the PFC is possibly involved in impaired emotional processing in individuals with schizophrenia with blunted affect. The mesial PFC is activated in some individuals in response to external emotional stimuli. This structure possibly receives information from the limbic structures to regulate emotional experiences and behavior. Individuals being reconditioned with quetiapine, who show reduced symptoms, show activation in other areas of the PFC as well, including the right medial prefrontal gyrus and the left orbitofrontal gyrus.^[7]

2.4. Anterior Cingulate Cortex

A positive correlation has been found between activation of the anterior cingulate cortex and the reported magnitude of sad feelings evoked by viewing sad film excerpts. The rostral subdivision of this region is possibly involved in detecting emotional signals. This region is different in individuals with schizophrenia with blunted affect.^[4]

3. Diagnoses

3.1. Schizophrenia

Patients with schizophrenia have long been recognized as showing "flat or inappropriate affect, with splitting of feelings from events ... feelings seem flat instead of being in contact with what is going on".^[8] One study of flat affect in schizophrenia found that "flat affect was more common in men, and was associated with worse current quality of life" as well as having "an adverse effect on course of illness".^[9]

The study also reported a "dissociation between reported experience of emotion and its display"^[9] – supporting the suggestion made elsewhere that "blunted affect, including flattened facial expressiveness and lack of vocal inflection ... often disguises an individual's true feelings."^[10] Thus, feelings may merely be unexpressed, rather than totally lacking. On the other hand, "a lack of emotions which is due not to mere repression but to a real loss of contact with the objective world gives the observer a specific impression of 'queerness' ... the remainders of emotions or the substitutes for emotions usually refer to rage and aggressiveness".^[11] In the most extreme cases, there is a complete "dissociation from affective states".^[12]

Another study found that when speaking, individuals with schizophrenia with flat affect demonstrate less inflection than normal controls and appear to be less fluent. Normal subjects appear to express themselves using more complex syntax, whereas flat affect subjects speak with fewer words, and fewer words per sentence. Flat affect individuals' use of context-appropriate words in both sad and happy narratives are similar to that of controls. It is very likely that flat affect is a result of deficits in motor expression as opposed to emotional processing. The moods of display are compromised, but subjective, autonomic, and contextual aspects of emotion are left intact.^[13]

3.2. Post-Traumatic Stress Disorder

Post-traumatic stress disorder (PTSD) was previously known to cause negative feelings, such as depressed mood, re-experiencing and hyperarousal. However, recently, psychologists have started to focus their attention on the blunted affects and also the decrease in feeling and expressing positive emotions in PTSD patients.^[14] Blunted affect, or

emotional numbness, is considered one of the consequences of PTSD because it causes a diminished interest in activities that produce pleasure (anhedonia) and produces feelings of detachment from others, restricted emotional expression and a reduced tendency to express emotions behaviorally. Blunted affect is often seen in veterans as a consequence of the psychological stressful experiences that caused PTSD.^[14] Blunted affect is a response to PTSD, it is considered one of the central symptoms in post-traumatic stress disorders and it is often seen in veterans who served in combat zones.^[15] In PTSD, blunted affect can be considered a psychological response to PTSD as a way to combat overwhelming anxiety that the patients feel.^[16] In blunted affect, there are abnormalities in circuits that also include the prefrontal cortex.^{[17][18]}

3.3. Assessment

In making assessments of mood and affect the clinician is cautioned that "it is important to keep in mind that demonstrative expression can be influenced by cultural differences, medication, or situational factors";^[19] while the layperson is warned to beware of applying the criterion lightly to "friends, otherwise [he or she] is likely to make false judgments, in view of the prevalence of schizoid and cyclothymic personalities in our 'normal' population, and our [US] tendency to psychological hypochondriasis".^[20]

R. D. Laing in particular stressed that "such 'clinical' categories as schizoid, autistic, 'impoverished' affect ... all presuppose that there are reliable, valid impersonal criteria for making attributions about the other person's relation to [his or her] actions. There are no such reliable or valid criteria".^[21]

3.4. Differential Diagnosis

Blunted affect is very similar to anhedonia, which is the decrease or cessation of all feelings of pleasure (which thus affects enjoyment, happiness, fun, interest, and satisfaction). In the case of anhedonia, emotions relating to pleasure will not be expressed as much or at all because they are literally not experienced or are decreased. Both blunted affect and anhedonia are considered negative symptoms of schizophrenia, meaning that they are indicative of a lack of something. There are some other negative symptoms of schizophrenia which include avolition, alogia and catatonic behaviour.

Closely related is alexithymia – a condition describing people who "lack words for their feelings. They seem to lack feelings altogether, although this may actually be because of their inability to *express* emotion rather than from an absence of emotion altogether".^[22] Alexithymic patients however can provide clues via assessment presentation which may be indicative of emotional arousal.^[23]

"If the amygdala is severed from the rest of the brain, the result is a striking inability to gauge the emotional significance of events; this condition is sometimes called 'affective blindness'".^[24] In some cases, blunted affect can fade, but there is no conclusive evidence of why this can occur.

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