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# Cognitive Theories of Emotion: Conceptualizing Pain and Suffering

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## **ABSTRACT**

This paper discusses two major cognitive theories of emotion, the conceptual act theory (CAT) and the basic emotion theory (BET). According to CAT, emotions are conceptual categories, and particular experiences of these emotions are tailored to the environment. BET suggests that an emotion like sadness arises from an innate brain network that is similar in all people, though there is some variability in emotional states that fall under the umbrella of sadness. The objective of this paper is to argue that CAT is better suited to conceptualize pain and suffering, because it recognizes that environmental cultural factors play an important role in creating emotional experiences. CAT asserts that memories and cultural norms significantly influence individuals' experience of an emotion like sadness. This idea implies that two individuals' experiences of sadness and other emotions might be very different from one another. Therefore, the proper way to conceptualize pain and suffering is as an individual-specific emotional state, which is strongly influenced by events from the individual's past and his or her cultural context. Pursuing CAT with further studies may yield evidence for a neurological basis for subjective character of experience. CAT may also have implications for how professionals approach treatment of mental illnesses that deal with emotions of pain and suffering, such as depression and anxiety.

## **KEYWORDS**

Conceptual Act Theory, Basic Emotions, Subjective Character of Experience, Nativism, Empiricism

There are two major contemporary cognitive theories of emotion, both of which have a large base of support in the scientific community. The fundamental philosophical argument between the Basic Emotions theory (BET) and the Conceptual Act theory (CAT) is one between nativism and empiricism of emotions respectively. Nativism is the belief that knowledge, in this case, much of individuals' capacity to experience emotion, is wired in from birth and is only somewhat shaped by experience (Markie 2015). Empiricism is the view that concepts originate in experience, in this case that individuals' capacity to feel emotions is built through their experiences and changes over time (Markie 2015). This paper will argue the more established BET is not as helpful for conceptualizing pain and suffering in the human experience as the newer CAT.

### **INTRODUCTION TO BET**

BET asserts that there is a small number of basic emotions, and all people have a very similar physical, neurological, and psychological experience of these emotions. On this basis, scientists search for corresponding "distinctive features of each emotion," including changes in expression (Ekman 1999, 50). BET posits that these distinctive features are evidence "there must be *unique* physiological patterns for each emotion, and these CNS patterns should be specific to these emotions not found in other mental activity" (Ekman 1999, 50). The goal of BET is to identify physical events that distinguish one emotion from another. In this view, emotions are thought to be basic mental faculties that are, to a degree, biologically and psychologically primitive, as they primarily serve "to mobilize the organism to deal with important interpersonal encounters" based largely on "what has been adaptive in the past history of our species" (Ekman 1999, 46). BET "emphasizes the past history of the species" over the past history of the individual in shaping neural circuitry involved in emotion-related behavior (Ekman 1999, 49). BET theorists have attempted, with limited success, to find emotion-specific activity in the autonomic nervous system across individuals, which would imply that emotions innately lead to consistent patterns of motor activity in different individuals (Ekman 1999, 49).

The BET approach assumes emotions to be universal neurological and physical states with minor individual variations. On the other hand, CAT treats emotions as abstract categories that are populated with variable instances (Barrett, Wilson-Mendenhall, and Barsalou 2014, 86). Each instance is the experience of an

emotion at a specific time. The experience of an emotion includes a mental state and physical response.

### **INTRODUCTION TO CAT**

CAT asserts that emotional experiences are variable, because physical responses that accompany a mental state are dependent on the context, culture, and past learning or experience of the individual. The role of this conceptual information in the formation of emotion is emphasized more in CAT than in BET, because of BET's focus on the evolutionary origin of emotions (Ekman 1999, 49). According to CAT, the brain is a mental state generator, producing individual brain states of neural activity that correspond to each individual experience of an emotion (Barrett, Wilson-Mendenhall, and Barsalou 2014, 86). In this theory, the specific emotional experiences within each category of emotions, for example all experiences of sadness, do not necessarily share one neural network. Rather, CAT argues that emotional experiences arise from the interaction of core systems in the brain (Barrett, Wilson-Mendenhall, and Barsalou 2014, 86). These core systems are not solely dedicated to the processing of emotions, which makes them different from the hypothesized neural systems in BET. These core systems are brain networks and also psychological systems (Barrett, Wilson-Mendenhall, and Barsalou 2014, 86).

### **COMPARISON OF THEORIES**

BET seeks to reduce emotions to specific, consistent neural and physiological reactions to stimuli. CAT seeks to analyze how mental states emerge from the interaction of core systems during an individual instance and does not seek to reduce emotional experiences into specific patterns of neural activity. Like BET, CAT acknowledges that emotions serve a function. While BET focuses on an evolved response, adaptive because it drives the individual towards or away from various stimuli in ways that influence survival and reproduction, CAT acknowledges a lot more general adaptiveness in the emotional system. Under CAT, emotional experiences are more specific to an individual's environment, culture, and past. CAT offers a more detailed explanation of culture's ability to shape behavioral responses to emotions and possibly the experiences of emotions themselves. Because CAT takes an individual's past experiences into account in the formation of emotion to a greater degree than BET, it is better able to account for variation

in complex social emotions, given that social emotions cannot exist without experience of knowing other people.

Shame, for example, is a social emotion that depends on experience and culture. Individuals must be informed by past experience to know whether or not their circumstances would elicit a negative reaction from the surrounding community and to experience shame as a result. Much of the evidence behind BET is based on cross-cultural studies of facial expressions. Many proponents of BET claim that since people of virtually all cultures smile when happy, they must have a common neural network creating a common mental state and emotional experience every time any person experiences happiness. What BET fails to address, as the name implies, are complex emotions, some of which have facial expressions that are not so consistent cross-culturally. This is particularly true of social emotions. According to the Stanford Encyclopedia of Philosophy, "new [facial] expressions can be cultivated culturally" (Prinz 2011). For example, "There is evidence that tongue biting is used by women to express shame in parts of India," however that is not a facial expression one would use to express shame in the United States (Prinz 2011). Culturally coded expressions of emotion can be much better explained by CAT, which includes past experience as a component in creating an individual's emotional experiences. As a reminder, emotional experiences include both the mental state and physical response of the individual to a situation. So in this example, it includes the psychological feeling of shame and the physical response of the tongue-biting facial expression.

Another shortcoming of BET is that it does not acknowledge any neural basis for subjective differences in an individual's emotional experiences, and writes subjective experience off as "no easy matter to assess" in any manner beyond questionnaires (Ekman 1999, 55). BET leaves unanswered the question of what neural mechanism causes the difference between sadness an individual feels after watching a sad movie and following the loss of a family pet, and fails to acknowledge tangible subjective difference beyond "simply the amount of positive or negative emotion" (Ekman 1999, 55). One possible way in which BET attempts to address this subjectivity is through the idea of emotion families (Ekman 1999, 55). Each family is an emotional "theme" guided by evolution, and the individual affective states within each theme reflect learning (Ekman 1999, 55). While this is possible, there is no known neural evidence for how many emotion families there are let alone whether or not they are consistently similar neural networks

in individuals cross-culturally (Ekman 1999, 55). CAT employs a similar idea but regards emotions as abstract categories rather than anatomically-constrained general pathways (Barrett, Wilson-Mendenhall, and Barsalou 2014, 86). This approach allows for more flexibility and potential for difference in the patterns of neural activity and resulting experience of emotions between individuals.

### **PHILOSOPHICAL IMPLICATIONS**

Recall that nativism in this case is the belief that capacity to feel emotions is determined at birth and is unchangeable and that empiricism is the belief that emotional capacity is dependent on experience. Using BET to conceptualize pain and suffering is a very nativist argument, suggesting that people are all born with the capacity to feel pain in the same way as other people and that this capacity does not change significantly throughout life, regardless of life experiences. The basic emotion theory treats emotional knowledge and capacity as largely *a priori*.

This is flawed, because if people were only able to feel pain and sadness in one way, given that BET does not provide basis for subjective differences in emotional experiences, there would be no different types of pain. The emotions accompanying physical injury would be the same as those that arise when someone opens a rejection letter or a disappointing birthday present. Additionally, many components of pain and sadness are social emotions, which cannot be truly understood without acknowledging a role for past social experience in the construction of emotional experiences. For example, pain from receiving a rejection letter may be accompanied by jealousy towards people accepted to the same program. BET accounts for jealousy not as an emotional state, but as an emotional plot, which is a specific context in which more than one basic emotion can be expected to occur (Ekman 1999, 55). In this same example, the CAT approach would assert that multiple core systems are working together to create a unique emotional experience rather than multiple concurrent other emotions (Barrett, Wilson-Mendenhall, and Barsalou 2014, 86). These core systems would take into account individual-specific experiences, such as memories of the individual's experiences that constituted their qualifications for the program as well as memories of interactions with the people who were accepted to the program. This better expresses the human experience, because it acknowledges the full range of possible emotional states experienced in the realm of pain and suffering.

Using CAT to conceptualize pain and suffering is a more empiricist viewpoint. It argues for emotional intelligence building *a posteriori*, meaning that it integrates learning from experience into our abilities to experience emotions. This is preferable for conceptualizing pain and suffering, because it acknowledges the different situations of pain, betrayal, and loss people encounter in their individual lives and respects the uniqueness of each individual's experience. It allows for expressions of unique emotions through storytelling, which has been observed cross-culturally in oral tradition and telling of fables.

Today, authors, movie directors, and other artists tell stories of emotions, often of pain and loss. In BET, those stories and emotions lose all of their subjective character. This theory does not acknowledge the difference in emotion that a reader would feel for the death of a well-developed and relatable character in a novel over the emotion one would feel for a minor character meeting the same fate. Thus BET fails to explain why people relate well to main characters of novels and movies and grow emotionally attached to them. In pop culture, this phenomenon is evidenced by fan clubs and fan fiction centered on specific characters.

Adopting the CAT's construction of emotional experiences, which are experience-inclusive and individual-specific, opens up discussions about the subjective nature of experience and the uniqueness of different individuals' realities in the arena of cognitive science. CAT is the closest thing we have to a neural basis for the "subjective character" of experience, as Thomas Nagel defined it in "What is it Like to be a Bat?". Nagel argues that reductionism, reducing subjective human experiences to neural events, does not recognize the subjective character, or what it is like to be an individual having an experience (Nagel 1974, 435). For example, what it is like to be a person when they are experiencing an emotion of sadness or pain is the subjective character of their experience. While Nagel argues that this subjective character is completely separate from brain activity (Nagel 1974, 438), the conceptual act approach shows that subjective experience can be understood through brain activity: by the holistic interaction of different core systems of the brain that are involved in all aspects of experience (Barrett, Wilson-Mendenhall, and Barsalou 2014, 86). CAT does not restrict emotional processing to domain-specific areas of the brain, meaning brain areas solely dedicated to processing of emotions, so it opens up the possibility of neurological backing for the subjective character of experiences.

This cognitive theory argues that there is something unique about being an individual experiencing pain and suffering as compared to another individual experiencing those emotions. The idea of experience being subjective person-to-person allows for a much more developed concept of self with neurological backing than BET does. While Nagel argues that a subjective experience is separate from the corresponding neural events that accompany it, CAT can actually provide evidence that subjective experience and neural activity are intertwined. CAT brings together these two disparate ideas by showing that the subjective character of experiences has a unique pattern of neural activation in each instance.

An easy way to think about this is to think of two people in a brain scanner. Each is eating a piece of strawberry cake. One person has strong fond memories of eating strawberries with their family while the other does not. CAT would anticipate that networks in the hypothalamus associated with hunger satiation would be active in both brains. However, activity would be different in the brain of the person with the strawberry-related memories, because brain areas involving those memories would be active and play a role in how the person feels while eating the cake in the scanner.

That means that according to CAT, when a person has an emotional experience, for example sadness, it is not just a specific center in the brain that lights up a similar way every time they experience sadness. Instead, there are interacting pathways in the brain that are connected to memories and learned cultural norms that create unique patterns of neural activity each time an individual experiences sadness. The uniqueness of these patterns implies a unique subjective experience for each individual, which builds upon itself as memories of past emotional experiences are added to the interacting networks that create new emotional experiences. Further, it is highly likely that some of the memories and norms involved in creating each emotional experience provide a sense of self or identity when individuals make decisions based on a foundation of experiences unique to them. This could imply a unique consciousness in each person.

CAT also opens up discussion on qualia, the introspectively accessible, phenomenal aspects of our mental lives. Philosophers use the term qualia to describe what it is *like* to subjectively experience something (Tye 1997). According to the Stanford Encyclopedia of Philosophy, disagreement typically centers on which mental states have qualia and how qualia relate to the physical world

inside and outside the head (Tye 1997). CAT provides the first neurological basis for qualia. This may provide a scientific basis for researching qualia using brain imaging, though such research will likely only take place far in the future.

CAT also supports David Hume's idea of knowledge being grounded in experience. Hume argues that experiences create our knowledge in the form of thoughts or ideas. These ideas come from the recollection of impressions, which are an individual's affective responses to his or her environment (Hume (1888) 1966, I.V.IV). According to CAT, emotional experiences are like impressions in that they can be uniquely experienced but not necessarily articulated by the individual. These form memories, which inform future emotions.

### **SUMMARY AND PRACTICAL IMPLICATIONS**

There are practical implications for CAT in patient care, especially for people struggling with mental illnesses. CAT points to a different neural basis of negative emotional experiences in different people. This means that psychiatric drugs that target specific brain regions or networks may not be effective for all people or could only address part of the problem. This could help explain why the most effective treatment for depression and anxiety is often a combination of psychiatric drugs and psychotherapy (Martensson and Spigset 1999, 102). The psychotherapy can help address subjective negative emotional experiences, which are not the same in all patients but could be having a neurological effect. More widespread support for CAT would likely help psychiatric care to move even further away from a one-size-fits-all method.

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