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Is There Any Relationship Between Emotions And Decision Making

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ABSTRACT : Everyone has to make decisions in his/her personal and professional life. Decision making is a cognitive process where outcome is a choice among multiple alternatives. Making decisions cannot be constituted merely by rational modality but it is rather powerfully influenced by emotions. Emotion is the vital component of human mental processes by which one can "wilfully" make a decision, intensely manifest a feeling, automatically react to an unexpected stimulus, and constructively or destructively participate in one's reasoning. Having such important roles in human mental life, emotion was regrettably ignored as a scientific topic throughout twentieth century both in the field of psychology and neuroscience. But nowadays, many neuroscientists, including Antonio Demasio, have also endorsed emotion, arguing that "emotions not only regulate our social encounters, but they also influence our cognition, perception and decision-making through a series of interactions with our intentions and motivations (Damasio 1994; Scherer, 2001). Emotions are the centre of many areas of psychology therefore psychologists spend their time to help people to control their negative emotions, and sometime they have to explain that why people make some decisions.

***Keywords** : Emotion, Decision Making, Motivation, Feeling*

1.0 INTRODUCTION

Everybody has to make many decisions in his/her personal and professional life. Decision making cannot be constituted merely by rational modality but it is rather influenced by emotions powerfully. There is an increasing positive acceptance in the field of cognitive science that emotion is an essential part of decision making (Bechara, Damasio, & Damasio, 2000, 2003), and also frequent experience proposes that emotions are inputs and outputs of decision making. The process of decision making can produce some forms of emotions such as anxiety or relief. Postulating some neurological relationships between an emotionally charged decision and its physiological changes are consistent with physiological theories that consider emotions as reactions to somatic changes (Damasio, 1994; James, 1884).

The neurologists confirm the idea of how emotions are both cognitive and physiological, showing a number of interconnections among the relevant brain areas of their patients. Moreover decision making is a cognitive process where result is a choice among various alternatives and the recent theories suppose that decisions obtain from type of cost–benefit analyses. Some of these theories have underlined emotion as a factor in decision making, but more than a consequence of a decision, reactions that arising directly from the decision can impact on deliberation. "The somatic markers" hypothesis suggests that individuals make judgment not only by evaluating outcomes and their possibility of occurrence, but also in terms of their emotional quality.

What is emotion and why does it play important role in human cognition particularly? Emotion is the vital component of human mental processes by which one can "wilfully" make a decision, intensely manifest a feeling, automatically react to an unexpected stimulus, and constructively or destructively participate in one's reasoning. Having such important roles in human mental life, emotion was regrettably ignored as a scientific topic throughout twentieth century but today, many neuroscientists, including Antonio Demasio, have also endorsed emotion, arguing that " emotions not only regulate our social encounters, but they also influence our cognition, perception and decision-making through a series of interactions with our intentions and motivations (Damasio 1994; Scherer, 2001). This research investigates is to understand how, when, and why emotions operate during the decision making process, and in what way these emotions influence different choices.

2.0 DEFINITION AND THEORIES OF DECISION MAKING

Every day people face problems those required decisions making. Some deal with their survival, such as decisions during driving, decisions that for their self defence. In traditional theories, the answer is that people decide by taking full advantage of accepted benefit. Although those theories have some valid points to them, modern psychologists think that those theories explain away the problem of human action by not considering emotion as a vital contributor (Camerer, 2000; Kahneman & Tversky, 2000; Koehler, Brenner, &Tversky, 1997). According to modern psychological view, a theory of human action must explain how preferences occur from cognitive and affective processes. Based on new findings in neuroscience as well as psychology, this research offers "neural affective decision theory" to show how the mechanism of human brain shapes people's decisions. This theory comprise of four principles:

1. Affect: Decision making is a cognitive–affective process, significantly dependent on emotional evaluation.
2. Brain: Decision making is a neural process that is guided by parts of prefrontal cortex.
3. Valuation: The brain forms preferences via positive and negative outcomes, by dopamine and serotonin.
4. Framing: Decision making depend on how the context and method of the presentation of information start on different neural activation patterns (Litt, & Eliasmith, &Thagard 2007).

Therefore decision making is a cognitive–affective process, essentially dependent on emotional evaluation of possible actions. This claim rejects the assumption of traditional mathematical decision theory that making a decision is a "cold" process including the calculation of expected values and utilities (Kreps, 1990; Von Neumann & Morgenstern, 1947). The original 19th-century concept of utility was a psychologically rich, affective one based on "pleasure and pain" (Kahneman, Wakker, & Sarin, 1997).

In contrast, there are many psychologists suggest that it is better to act without emotions, because emotions are often regarded as irrational occurrences that could cause us to make wrong judgments or to have distorted reasoning but modern psychologists suggest "before a decision to be made even reaches in the cognitive portion of the brain, the emotional process has begun evaluating the various inputs related to that decision".

3.0 DEFINITION AND THEORIES OF EMOTION

Emotion is an important component of all human activities, but for many years the psychologists ignored it because emotion was too subjective to be worked on, too elusive to be considered a natural phenomenon and too challenging in terms of measuring for its appearance and effects, but because of its ontological appeal, emotion has become a subject worthy of study. According to Demasio (2000) Emotion is the reaction to a stimulus and the related behaviour. Emotions are bodily things, an automatic response, which they don't require any form of thinking. Emotions are the fundamental mechanism for the regulation of life (Harcourt, 2003).

Robert Plutchik (1982) describes few elements commonly to emotion:

''Emotion is an inferred complex sequence of reactions to a stimulus including cognitive evaluations, subjective changes, autonomic and neural arousal, impulses to action, and behaviour designed to have an effect upon the stimulus that initiated the complex sequence''(plutchik, 1982, p. 551). According to this definition:
-Emotion is inferred, not observed. You feel your own emotions, but you can only guess someone else's.
-Every emotion is a reaction to a stimulus, we are happy about something or we are angry about something.
-Every emotion includes three aspects: cognition, feeling and action, they ordinarily happen at the same time.
-Emotions are functional (Ekman, 1972; Keltner&Gross, 1999).
Approximately all theorists agree that emotion involves a real or a potential response to a situation, such as when we feel fear we try to escape.

There are two main categories for theories of emotion. The first group so-called cognitive theorists think that cognition is a necessary element of emotion, trying to explain the subjective demonstration of emotional experiences. The cognitive theories of emotion claim that the cognitive activity can be conscious or unconscious, intentional or unintentional and take a form of a judgement or a thought. This activity is known as cognitive appraisal (Folkman, Lazarus, Gruen, & DeLongis, 1986), this view refers to the evaluation of a special encounter with the environment. Lazarus (1984) was a main advocate of the cognitive theory of emotion, who emphasized the importance of cognitive evaluations in his findings, the meaning of stimuli and the manner of coping with it.

The second group so-called somatic theorists stress somatic factors to describe emotional expressions and perceptions of them (Zajonc, 1984). Somatic theories focus on bodily responses, not cognitive judgements or reason emotional reactions. Silvan Tomkins, Robert Plutchik and Paul Ekman were the major proponents of the somatic approach. Tomkins (1984) mentions affect system as the primary motivation that can increase other physical and bodily functions.

4.0 EMOTIONS AND MOTIVATIONS

One part of the definition of emotion is "an impulse to do something", this is a good definition for motivation. Its means when you have an emotion, you have also motivation (for example anger implies a motivation to attack), but there is some difference between emotion and motivation, one of them is that emotions generally weak but sometimes rapidly (Robinson

& Clore, 2002). Another distinction between emotions and motivation is that drives reflect the need of the body (you become hungry because you need food) but emotions are usually reactions to something outside the body and therefore require processing complex information. Drives are modified by external stimuli and emotions respond to a cognitive appraisal of event. Motivation and emotion plays an important role in cognitive processes which has often been ignored in the past. The motivational state has two important characteristic: first, motivational state is the centre to the whole organism. This means all the times organism is influenced by one motivational state. Second, the motivational state is dynamic.

In addition to have affecting outcome from preference decisions, having power motivation to be needed, in associated with the process of making the decision as well. Before choosing how to respond in many situations, individuals need few time to think over the implications of different potential responses whether or not various options are desirable. We need information about, how to respond before deciding.

5.0 DIFFERENCE BETWEEN FEELING AND EMOTION

Damasio (2003) distinguishes feelings and emotions: a feeling is a mental illustration of the state of the organism's body, but emotion is the reaction to a stimulus (e.g., a facial expression). Also a feeling is the identification that an event is taking place, whereas the emotion is the observable effect of it. Emotions are bodily things while feelings are mental things. Emotions are an automatic response. They don't require any thinking. They are the fundamental mechanism for the regulation of life. Emotions precede feelings, and are the foundations for feelings.

Its mean human body has a repertory of emotions that apply to the different circumstances (somehow we pick an emotion to "react to" a circumstance the same way we pick an antibody to fight a virus). The effect of the emotion is both some bodily behaviour and the creation of a neural map. That neural map leads to the feelings, and the relationship between maps and feelings is that feelings reflect how well the body is doing according to the map. Neural maps of body states are useful to manage the body. Feelings allow us to reason about the cause of the emotion. They allow us to see the big picture, not just to react mechanically to a situation.

What we call "feeling" and "emotion". They are just two physical components of what we normally refer to as a "feeling" or an "emotion". But Damasio declares that feelings enter the mental area, whereas emotions don't, for this reason emotions are more "physical' than feelings. Emotions are neural processes that recognize and react to a situation whereas feelings are plans in the brain that represent the body state. (This article discussed about it in previous pages). Basically, emotion is very ancient, extremely fast; it has unconscious mechanisms controlling in the individual responses to a large variety of situations from serious threats to trivial decision making tasks for example, choosing some brand in others in the supermarket; (Heath, 2001; Franzen and Bouwman, 2001). But feeling, on the opposite, is conscious and cognitive perceptions. Feeling is so much detailed in nature than emotion for instance when we talk about feelings of sadness, jealousy or happiness our description can be verbally in more or less exact terms by the individual experiencing.

An emotion is registered by the brain when a stimulus is recognized as useful for survival or for well-being and bodily changes after actions that imply change map in the brain and this change is the physical implementation of the "feeling".

The part of Damasio's theory that is very interesting probably he explained an analogy between the emotional system and the immune system. The immune system produces antibodies to fight invading viruses; and emotional response also is the antibody that reacts to

an invading stimulus. Damasio claims that feelings help us to solve complex problems. This idea may seem absurd for us, as my "feeling" of fear helps me solve very simple problems (e.g., do not cross a freeway on foot during rush hour), but it is very important to know that Damasio's "feeling" is not just a feeling; it is a lasting memory of an emotion, for this reason he claims that feelings help in managing life in the long-term.

6.0 HOW EMOTIONS AFFECT ON DECISION MAKING

A great number of recent researchers confirm that emotions influence decision making (Loewenstein & Lerner, 2003; Loewenstein, Weber, Hsee, & Welch, 2001; Slovic, Finucane, Peters, &MacGregor, 2002). In some of their researches it is supposed that decision makers review their experienced or expected feelings for different choices and prefer the alternative that earns the maximum average positive affect (Cabanac et al., 2002; Mellers, 2000) and in this area, Kahneman, Wakker, & Sarin (1997) suggested that the utility experience in relation to a decision outcome can be described by its situation on a single good–bad (pleasure–pain) affect element.

On the other hand, the somatic marker hypothesis offers a systems-level neuroanatomical and cognitive framework for decision making that emotion influence on it. The orbitofrontal cortex represents one critical structure in a neural system. The amygdala has been found to be necessary for emotions to improve memory (Cahill et al., 1995) and also amygdala is important in the creation of prejudice and in decision making (Bechara et al., 1999a). These findings propose that in the amygdala, there are the mechanisms through which emotion modulates memory and decision making may be inseparable.

Many studies have shown that patients with damage to certain regions of the frontal lobe also suffer from an inability to realize negative outcomes. Despite preserving normal intelligence and knowledge, they no longer can manage their lives effectively. They cannot learn from their errors or think about future consequences of their actions, although they can be logically but their decision-making ability is damaged for this reason they have lost emotional reactivity at a high level; they can no longer sense, for example, embarrassment or guilt and pride or shame. To sum up, these patients cannot able to qualify their choices as "potentially good" or "potentially bad.

Damasio’s group is known for their case studies of reasoning in people with neurological damage to their emotional systems. For instance, people with damage to the ventro-medial part of the pre-frontal cortex (VMPFC) may be able to perform to a high level on most language and intelligence tests, but they demonstrate gross faults of planning, judgement and social relevance. Damasio’s group have shown that these defects in patients with VMPFC damage are caused by their inability to respond emotionally to the content of their thoughts (Demasio, 1989).

7.0 CONCLUSION

Emotion is an adaptive response; it is a part of the vital process of normal reasoning and decision-making. It regulate human organism and has a huge influence on the protection of individual balance and then well-being. As the psychologists suggest, emotions are generally reactions to something outside the body probably in the social environment (external stimulus) on the other hand, the human brain for decision making require to complex information, and emotions do it with collecting data before and after any actions in him/her self or someone else. Emotions influence on memory process includes encoding, memories,

storing and retrieving and focused on what we notice, what we remember and how we reason. Some theories accept three major elements for emotion including cognition (appraisal), feeling, and actions. In general, an emotion producing event rapidly triggers a cognitive appraisal, which leads a series of autonomic responses.

Let' look at the process of one action that is an important phenomenon in human mental life, decision making. It has been known for quite sometimes that before a decision to be made even arrived at the cognitive part of the brain, the emotional process has begun evaluating the different inputs related to that decision which is saved before in memory. This is vital to the speed at which we are able to make decisions, so the appraisal come first then actions involving autonomic responses and after that the feeling aspect is the sensation arising from the actions. The collected data shows that emotional appraisal occur very quick previous actions. Feedback from actions is sufficient to produce at least a mild and average emotional feeling. The chain of events does not go entirely in one direction. That is after appraisal leads to actions and actions to feelings and the whole process can continue to change again and again. AS it mentioned in this paper a number of theories argue that decisions receive from an appraisal of the future outcomes of a variety of options and alternatives through a number of types of cost– benefit analyses. Some of these theories have shown emotion as a factor in decision making, but some of the others consider it as a consequence of a decision like the disappointment or regret that experienced after some risky decision.

The neurologists indicate the process of decision making in the neural system and they show it in some theories. The somatic marker hypothesis provides a systems-level neuro anatomical and cognitive framework for decision making and the influence on it by emotion. The key idea of this hypothesis is that decision making is a process that is influenced by marker signals that arise in bio regulatory processes, including those that express themselves in emotions and feelings. This influence can occur at multiple levels of operation, some of which occur consciously and some of which occur non-consciously. The orbitofrontal cortex represents one critical structure in a neural system sub serving decision making. Decision making is not mediated by the orbitofrontal cortex alone, but arises from large-scale systems that include other cortical and subcortical components. Such structures include the amygdala, the somatosensory/insular cortices and the peripheral nervous system. This is the role of the orbitofrontal cortex in decision making and emotional processing and the relationship between emotion, decision making and other cognitive functions of the frontal lobe namely working memory(Demasio;2006).

The somatic marker hypothesis and the experimental strategies used to study decision making in neurological patients provide parallels and direct implications for understanding the nature of several psychiatric disorders. For instance, substance abusers are similar to "VM patients" in that when faced with a choice that brings some immediate reward (i.e. taking a drug), at the risk of incurring a loss of reputation, job, home and family, they choose the immediate reward and ignore the future consequences.

Bounded rationality may be helped by the existence of emotion because emotions restrict the size of the consideration set and focus the decision maker on certain relevant aspects of the options (Hanoch, 2001). Emotions assign value to objects, aid the learning of how to obtain those objects and provide the motivation for doing so (Gifford, 2002). In article built on these ideas and described the role that emotions play in our everyday choices and decisions.

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