1. Motivation and Emotion : Physiological and psychological basis of motivation and emotion
   1. Intrinsic and extrinsic motivation – factors of influencing intrinsic motivation
   2. Theories of motivation – Maslow, Maclelland
   3. Theories of emotion – James-Lange Theory, Canon-Bard and

Schachter-Singer Theory

* 1. Effects of motivation and emotion on behaviour

**MOTIVATION**

**Motivation** is the reason for people's actions, desires, and needs. Motivation is also one's direction to behavior, or what causes a person to want to repeat a behavior. **A motive is what prompts the person to act in a certain way, or at least develop an inclination for specific behavior**.

Motivation can be conceived of as a cycle in which

* thoughts influence behaviors,
* behaviors drive performance,
* performance affects thoughts,
* and the cycle begins again.

Each stage of the cycle is composed of many dimensions including attitudes, beliefs, intentions, effort, and withdrawal which can all affect the motivation that an individual experiences. Most psychological theories hold that motivation exists purely within the individual, but socio-cultural theories express motivation as an outcome of participation in actions and activities within the cultural context of social groups.

**Incentive theories: intrinsic and extrinsic motivation**

Motivation can be divided into two different theories known as *intrinsic* (internal or inherent) motivation and *extrinsic* (external) motivation.

**Intrinsic motivation**

Intrinsic motivation has been studied since the early 1970s. Intrinsic motivation is **the self-desire to seek out new things and new challenges, to analyze one's capacity, to observe and to gain knowledge. It is driven by an interest or enjoyment in the task itself, and exists within the individual rather than relying on external pressures or a desire for consideration**. The phenomenon of intrinsic motivation was first acknowledged within experimental studies of animal behavior. In these studies, it was evident that the organisms would engage in playful and curiosity driven behaviors in the absence of reward. Intrinsic motivation is a natural motivational tendency and is a critical element in cognitive, social, and physical development. Students who are intrinsically motivated are more likely to engage in the task willingly as well as work to improve their skills, which will increase their capabilities. Students are likely to be intrinsically motivated if they:

* **attribute their educational results to factors under their own control**, also known as autonomy **or locus of control**.
* believe they have the skills to be effective agents in reaching their desired goals, also known as **self-efficacy beliefs**.
* are **interested** in mastering a topic, not just in achieving good grades

An example of intrinsic motivation is when an employee becomes an IT professional because he or she wants to learn about how computer users interact with computer networks. The employee has the intrinsic motivation to gain more knowledge.  ‘Art for Art’s sake’ is an example of intrinsic motivation in the domain of art.

Traditionally, researchers thought of motivations to use computer systems to be primarily driven by extrinsic purposes; however, many modern systems have their use driven primarily by intrinsic motivations. Examples of such systems used primarily to fulfil users' intrinsic motivations, include on-line gaming, online shopping, learning/education etc. in such that both extrinsic and intrinsic motivations must increasingly be considered.

***Advantages*:** Intrinsic motivation can be **long-lasting and self-sustaining**. Efforts to build this kind of motivation are also typically efforts at promoting student learning. Such efforts often focus on the subject rather than rewards or punishments.

***Disadvantages*:** Efforts at fostering intrinsic motivation can be **slow** to affect behavior and can require **special** and **lengthy preparation**. Students are individuals, so a variety of approaches may be needed to motivate different students. It is often helpful to know what interests one's students in order to connect these interests with the subject matter.

**Intrinsic motivation and the 16 basic desires theory**

Starting from studies involving more than 6,000 people, Professor  has proposed a theory that found 16 basic desires that guide nearly all human behavior. Intrinsic motivation is the tendency to find challenges, to push to find out for more, explore, and learn as much as possible. It is about reaching the most possible potential as a human being. The 16 basic desires, as proposed by **Stevens Reiss**,  that motivate our actions and define our personalities are:

* Acceptance, the need for approval
* Curiosity, the need to learn
* Eating, the need for food
* Family, the need to raise children
* Honor, the need to be loyal to the traditional values of one's clan/ethnic group
* Idealism, the need for social justice
* Independence, the need for individuality
* Order, the need for organized, stable, predictable environments
* Physical Activity, the need for exercise
* Power, the need for influence of will
* Romance, the need for sex and for beauty
* Saving, the need to collect
* Social contact, the need for friends (peer relationships)
* Social status, the need for social standing/importance
* Tranquility, the need to be safe
* Vengeance, the need to strike back and to compete

**Factors affecting Intrinsic Motivation**

Seven factors that promote intrinsic motivation.

**Challenge :** We are best motivated when we are working toward personally meaningful goals whose attainment requires activity at a continuously optimal (intermediate) level of difficulty.

**Curiosity :** Something in the physical environment attracts our attention or there is a discrepancy between present knowledge or skills and what these could be if we engaged in some activity.

**Control:** We have a basic tendency to want to control what happens to us.

**Fantasy:** We use mental images of things and situations that are not actually present to stimulate our behavior.

**Competition:** We feel satisfaction by comparing our performance favorably to that of others.

**Cooperation:** We feel satisfaction by helping others achieve our goals.

**Recognition:** We feel satisfaction when others recognize and appreciate our accomplishments.

**Extrinsic motivation**

Extrinsic motivation refers to the performance of an activity in order to **attain a desired outcome** and it is the opposite of intrinsic motivation. Extrinsic motivation comes from influences outside of the individual. Usually extrinsic motivation is used to attain outcomes that a person wouldn't get from intrinsic motivation. Common extrinsic motivations are **rewards** (for example money or grades) for showing the desired behavior, and the **threat of punishment following misbehavior**. Competition is an extrinsic motivator because it encourages the performer to win and to beat others, not simply to enjoy the intrinsic rewards of the activity. A cheering crowd and the desire to win a trophy are also extrinsic incentives.

Social psychological research has indicated that extrinsic rewards can lead to over justification and a subsequent reduction in intrinsic motivation. While the provision of extrinsic rewards might reduce the desirability of an activity, the use of extrinsic constraints, such as the threat of punishment, against performing an activity has actually been found to increase one's intrinsic interest in that activity. In one study, when children were given mild threats against playing with an attractive toy, it was found that the threat actually served to increase the child's interest in the toy, which was previously undesirable to the child in the absence of threat.

**Socio-cultural theory**

Sociocultural theory emphasizes impact of activity and actions mediated through social interaction, and within social contexts. **Sociocultural theory predicts that motivation has an external locus of causality, and is socially distributed among the social group**.

**Drive-reduction theory**

**Clark Hull** was the **behaviorist** who developed the **drive-reduction theory of motivation**. Drive theory grows out of the concept that people have certain biological drives, such as hunger and thirst. **As time passes the strength of the drive increases if it is not satisfied**. Upon satisfying a drive the drive's strength is reduced.

**Cognitive dissonance theory**

Suggested by Leon Festinger, cognitive dissonance occurs when an individual experiences some degree of discomfort resulting from an inconsistency between two cognitions: their views on the world around them, and their own personal feelings and actions. The theory of cognitive dissonance proposes that people have a motivational drive to reduce dissonance. Dissonance is also reduced by **justifying, blaming, and denying**. It is one of the most influential and extensively studied theories in social psychology.

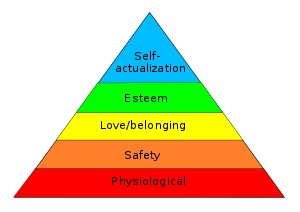
**Content theories**

The content theory was one of the earliest theories of motivation. Content theories can also be referred to needs theories, because the theory focuses on the importance of what motivates people (needs). In other words, they try to identify what are the "needs" and how they relate to motivation to fulfill those needs. Two important content theories:

**Maslow's hierarchy of needs**

Maslow's hierarchy of needs is often portrayed in the shape of a pyramid with the largest, most fundamental physiological needs at the bottom and the need for self actualization and self-transcendence at the top. The most fundamental and basic four layers of the pyramid contain what Maslow called "deficiency needs" or "d-needs": esteem, friendship and love, security, and physical needs. If these "deficiency needs" are not met – with the exception of the most fundamental (physiological) need – there may not be a physical indication, but the individual will feel anxious and tense. Maslow's theory suggests that the most basic level of needs must be met before the individual will strongly desire (or focus motivation upon) the secondary or higher level needs. Maslow also coined the term "**metamotivation**" to **describe the motivation of people who go beyond the scope of the basic needs and strive for constant betterment**.

Maslow’s Pyramid



### Physiological needs

Physiological needs are the **physical requirements for human survival**. If these requirements are not met, the human body cannot function properly and will ultimately fail. Physiological needs are thought to be the most important; they should be met first.

**Air, water, and food** are metabolic requirements for survival in all animals, including humans. **Clothing and shelter** provide necessary protection from the elements. While maintaining an adequate birth rate shapes the intensity of the human sexual instinct,

### Safety needs

Once a person's physiological needs are relatively satisfied, their safety needs take precedence and dominate behavior. For example, in the absence of economic safety – due to economic crisis and lack of work opportunities – these safety needs manifest themselves in ways such as a preference for job-security, grievance procedures for protecting the individual from unilateral authority, savings accounts, insurance policies, disability accommodations, etc. Safety and Security needs include:

* **Personal security**
* **Financial security**
* **Health and well-being**
* **Safety net against accidents/illness and their adverse impacts**

### Social belonging

After physiological and safety needs are fulfilled, the third level of human needs is interpersonal and involves feelings of belongingness. **This need is especially strong in childhood and it can override the need for safety as witnessed in children who cling to abusive parents**. Deficiencies within this level of Maslow's hierarchy – due to neglect, shunning, ostracism, etc. – can adversely affect the **o**, such as:

* **Friendships**
* **Intimacy**
* **Family**

According to Maslow, **humans need to feel a sense of belonging and acceptance among their social groups, regardless whether the group is powerful or not**. Humans need to love and be loved by others. Many people become susceptible to **loneliness, socia**[**l**](https://en.wikipedia.org/wiki/Loneliness) **anxiety and clinical depression in the absence of this love or belonging element.** This need for belonging may overcome the physiological and security needs, depending on the strength of the peer pressure.

### Esteem

All humans have a need to feel respected; this includes the **need to have self esteem and self-respect.** Esteem presents the typical human desire to be accepted and valued by others. Low self-esteem or an inferiority complex may result from imbalances during this level in the hierarchy. Maslow noted two versions of esteem needs: a "lower" version and a "higher" version. The **"lower" version of esteem is the need for respect from others**. This may include a need for **status, recognition, fame, prestige, and attention**. The "higher" version manifests itself as the need for **self-respect**. For example, the person may have a need for strength, competence, mastery, self-confidence, independence, and freedom. This "higher" version takes precedence over the "lower" version because it relies on an inner competence established through experience. Deprivation of these needs may lead to an inferiority complex, weakness, and helplessness.

### Self-actualization

This level of need refers to what a person's full potential is and the realization of that potential. Maslow describes this level as the desire to accomplish everything that one can, to become the most that one can be. Individuals may perceive or focus on this need very specifically. For example, one individual may have the strong desire to become an ideal parent or an athlete or painter etc. Maslow believed that to understand this level of need, the person must not only achieve the previous needs, but master them.

### Self-transcendence

 The self only finds its actualization in giving itself to some higher goal outside oneself, in altruism and spirituality, which is essentially the desire to reach infinite. "**Transcendence refers to the very highest and most inclusive or holistic levels of human consciousness, behaving and relating, as ends rather than means, to oneself, to significant others, to human beings in general, to other species, to nature, and to the cosmos.**

### The Human Dimensions and Basic Human Needs

|  |  |  |
| --- | --- | --- |
| Physical dimension | Physiologic needs | Breathing, circulation, temperature, intake of food and fluids, elimination of wastes, movement. |
| Environmental dimension | Safety and security needs | Housing, community, climate. |
| Sociocultural dimension | Love and belonging needs | Relationships with others, communications with others, support systems, being part of community, feeling loved by others. |
| Emotional dimension | Self-esteem needs | Fear, sadness, loneliness, happiness, accepting self. |
| Intellectual and spiritual dimensions | Self-actualization needs | Thinking, learning, decision making, values, beliefs, fulfillment, helping others. |

All basic human needs are interrelated and may **require nursing actions** at more than one level at a given time.

### Criticism

* The order in which the hierarchy is arranged has been criticized as being **ethnocentric**.
* Maslow's hierarchy of needs fails to illustrate and expand upon the difference between the social and intellectual needs of those raised in **individualistic**societies and those raised in **collectivist**societies. In **collectivist** societies, the needs of acceptance and community will outweigh the needs for **freedom and individuality**.
* The higher-order (self-esteem and self-actualization) and lower-order (physiological, safety, and love) needs classification of Maslow's hierarchy of needs is not universal and may vary across cultures due to individual differences and availability of resources in the region or geopolitical entity/country.

**McClelland’s Need Theory**

**Need theory**, also known as **Three Needs Theory**, proposed by Psychologist David McClelland, is a motivational model that attempts to explain how the needs for **achievement**, **power**, and **affiliation** affect the actions of people from a managerial context.



**Need for Achievement**

Human prefers working on tasks of moderate difficulty, **prefer work in which the results are based on their effort rather than on anything else, and prefer to receive feedback on their work**. Achievement based individuals tend to avoid both high-risk and low-risk situations. Low-risk situations are seen as too easy to be valid and the high-risk situations are seen as based more on the luck of the situation rather than the achievements that individual made.

**Need for Affiliation**

People who have a need for affiliation prefer to spend time **creating and maintaining social relationships, enjoy being a part of groups, and have a desire to feel loved and accepted**. People in this group tend to adhere to the norms of the culture in that workplace and typically do not change the norms of the workplace for fear of rejection. This person favors collaboration over competition and does not like situations with high risk or high uncertainty. People who have a need for affiliation work well in areas based on social interactions like customer service or client interaction positions.

**Need for Power**

**People in this category enjoy work and place a high value on discipline**. The downside to this motivational type is that group goals can become **zero-sum in nature**, that is, for one person to win, another must lose. However, this can be positively applied to help accomplish group goals and to help others in the group feel competent about their work. A person motivated by this need enjoys status recognition, winning arguments, competition, and influencing others. With this motivational type comes a need for personal prestige, and a constant need for a better personal status.

**Effect on Management**

McClelland's research showed that 86% of the population are dominant in **one, two, or all three of these three types of motivation.** His subsequent research found that those in top management positions had a high need for power and a low need for affiliation. His research also found that people with a high need for achievement will do best when given projects where they can succeed through their own efforts. Although individuals with a strong need for achievement can be successful lower-level managers, they are usually weeded out before reaching top management positions. He also found that people with a high need for affiliation may not be good top managers but are generally happier, and can be highly successful in non-leadership roles such as the foreign service.

**EMOTION**

**Emotion is any conscious experience characterized by intense mental activity and a high degree of pleasure or displeasure**. Emotion is often knotted with mood, personality predisposition, temperament and motivation. Also, according to some theorists, cognition is an important component of emotion.

Emotions are complex. According to some theories, they are states of feeling that result in physical and psychological changes that influence our behavior. **The physiology of emotion is closely linked to arousal of the nervous system with various states and strengths of arousal relating, apparently, to particular emotions**. Emotion is also linked to behavioral tendency. Extroverted people are more likely to be social and express their emotions, while introverted people are more likely to be more socially withdrawn and conceal their emotions. Emotion is often the driving force behind motivation, positive or negative.

Emotion can be differentiated from a number of similar constructs within the field of  affective neuroscience:

* Feelings are best understood as a subjective representation of emotions, **private to the individual experiencing them**.
* Moods are **diffuse affective states** that generally last for **much longer durations** than **emotions** and are also **usually less intense than emotions**.
* Affect is an **encompassing term**, used to describe the **topics of emotion, feelings, and moods together**, even though it is commonly used interchangeably with emotion.

**Components**

Five crucial elements of emotion are said to exist. From the component processing perspective, emotion experience is said to require that all of these processes become coordinated and synchronized for a short period of time, driven by appraisal processes

* **Cognitive appraisal:** provides an evaluation of events and objects.
* **Bodily symptoms:** the physiological component of emotional experience.
* **Action tendencies:** a **motivational component for the preparation and direction of motor responses**.
* **Expression:** **facial and vocal expression** almost always accompanies an emotional state to communicate reaction and intention of actions.
* **Feelings:** the subjective experience of emotional state once it has occurred.

According to the research of Paul Ekman, there are six basic emotions as : **Anger, Fear, Disgust, Happiness, Sadness, Surprise.**

**James – Lange Theory**

The basic premise of the theory of William James and Carl Lange is that: **Physiological arousal instigates the experience of emotion**. Instead of feeling an emotion and subsequent physiological (bodily) response, the **theory proposes that the physiological change is primary, and emotion is then experienced when the brain reacts to the information received via the body's nervous system.**

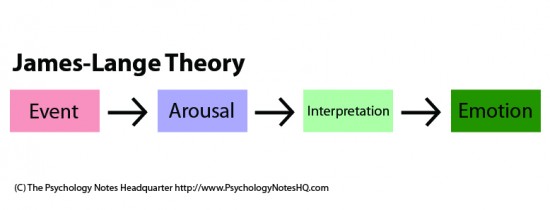
**The Theory**

Emotions are often assumed to be judgments about a situation that cause feelings and physiological changes. In 1884, psychologist and philosopher William James proposed that physiological changes actually precede emotions, which are equivalent to our subjective experience of physiological changes, and are experienced as feelings. In his words, "our feeling of the same changes as they occur *is* the emotion. James argued.

What kind of an emotion of fear would be left, if the feelings neither of quickened heart-beats nor of shallow breathing, neither of trembling lips nor of weakened limbs, neither of goose-flesh nor of visceral stirrings, were present, it is quite impossible to think. Physician Carl Lange developed similar ideas independently in 1885. **Both theorists defined emotion as a feeling of physiological changes due to a stimulus, but the theorists focused on different aspects of emotion.** Although James did talk about the physiology associated with an emotion, he was more focused on conscious emotion and the conscious experience of emotion. Lange reinterpreted James's theory by operationalizing it. He made James's theory more testable and applicable to real life examples. However, both agreed that if physiological sensations could be removed, there would be no emotional experience. In other words, **physiological arousal causes emotion.**

The specific pathway involved in the experience of emotion was also described by James. **He stated that an object has an effect on a sense organ, which relays the information it is receiving to the cortex. The brain then sends this information to the muscles and viscera, which causes them to respond. Finally, impulses from the muscles and viscera are sent back to the cortex, transforming the object from an "object-simply apprehended" to an "object-emotionally felt**.

James explained that his theory went against common sense. For example, while most would think the order of emotional experience would be that a person sees a bear, becomes afraid, and runs away, James thought that first the person has a physiological response to the bear, such as trembling, and then becomes afraid and runs. According to James, the physiological response comes first, and it is perceived as an emotion and followed by a reaction.



**Criticism**

The theory has been criticized and modified over the course of time, as one of several competing theories of emotion. Modern theorists have built on its ideas by proposing that the experience of emotion is modulated by both physiological feedback and other information, rather than consisting solely of bodily changes, as James suggested.

According to Lisa Feldman there is more going on when a person feels an emotion than just a physiological response: some kind of processing must happen between the physiological response and the perception of the emotion.

As a result of his experimental study Gregorio Maranon concluded that stimulating the viscera to produce a specific emotion was found to be ineffective.

Since the theory's inception, scientists have found evidence that not all aspects of the theory are relevant or true. The theory was challenged in the 1920s by psychologists such as Walter Cannon and Philip Bard, who developed an alternative theory of emotion known as  Cannon-Bard theory **in which physiological changes follow emotions**.

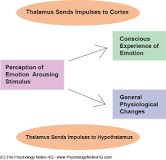
A third theory of emotion is Schachter and Singer's Two-Facto-Theory of Emotion. This theory states that cognition are used to interpret the meaning of physiological reactions to outside events. This theory is different in that emotion is developed from not only cognition, but that combined with a physical reaction.

**Cannon-Bard Theory**

Based on the previous discussion of the purported faults regarding the James–Lange theory of emotion's explanation, Cannon put forward a **theory of emotion based on thalamic processes**.

According to Cannon, **an external stimulus activates receptors and this excitation starts impulses toward the cortex. Upon arriving in the cortex, the impulses are associated with conditioned processes that determine the direction of the subsequent response. It is this response that stimulates the thalamic processes**. Once the thalamic processes are activated, they are ready to discharge. **The thalamic neurones fire in a special combination in a given emotional expression.** These neurones then discharge precipitately and intensely. Cannon wrote that within and near the thalamus, the neurones responsible for an emotional expression lie close to the relay in the sensory path from the periphery to the cortex, and when these neurones fire in a particular combination they innervate muscles and viscera and excite afferent paths to the cortex by direct connection or irradiation.

The key component of the **Cannon–Bard theory of emotion is that when the thalamic discharge occurs, the bodily changes occur almost simultaneously with the emotional experience**. The bodily changes and emotional experience occur separately and independently of one another; **physiological arousal does not have to precede emotional expression or experience.** The theory asserts that the thalamic region is the brain area responsible for emotional responses to experienced stimuli.



Cannon summarises the observations that serve as the basis for his theory of emotion which claims the thalamic region is the coordinating center for emotional reactions. First, after the removal of the cerebrum anterior to the thalamus in animal test subjects, the animals continue to display rage-like emotional responses. These reactions cease when the **thalamus** is then removed. Secondly, a **tumor on one side of the thalamus can result in unilateral laughter or grimace under the appropriate conditions, although cortical and voluntary control of the same muscles is bilateral.** Lastly, **temporary impairment of cortical control of lower centers from light amnesia or permanent impairment by disease (e.g. tumor or lesion) can cause uncontrollable and prolonged weeping or laughing.**

**Schachter- Singer theory of emotion**

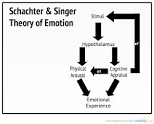
The **two-factor theory of emotion**, states that emotion is based on two factors: **physiological arousal and cognitive label**. The theory was created by researchers Stanley Schachter and Jecome Singer. According to the theory, when an emotion is felt, a physiological arousal occurs and the person uses the immediate environment to search for emotional cues to label the physiological arousal. This can sometimes cause misinterpretations of emotions based on the body's physiological state. When the brain does not know why it feels an emotion it relies on external stimulation for cues on how to label the emotion.

Stanley Schachter and Jerome E. Singer (1962) performed a study that tested how people use clues in their environment to explain physiological changes. Their hypotheses were:

* **If a person experiences a state of arousal for which they have no immediate explanation, they will label this state and describe their feelings in terms of the cognitions available to them at the time.**
* If a person experiences a state of arousal for which they have an appropriate explanation (e.g. 'I feel this way because I have just received an injection of adrenaline'), then they will be unlikely to label their feelings in terms of the alternative cognitions available.
* **If a person is put in a situation, which in the past could have made them feel an emotion, they will react emotionally or experience emotions only if they are in a state of physiological arousal.**

Participants were told they were being injected with a new drug called "Suproxin" to test their eyesight. The participants were actually injected with epinephrine (which causes **respiration**, an **increase in blood pressure and heart rate**) or a placebo. There were four conditions that participants were randomly placed in: **epinephrine informed, epinephrine ignorant, epinephrine misinformed and a control group.** The epinephrine informed group was told they may feel side effects including that their hands would start to shake, their heart will start to pound, and their face may get warm and flushed. This condition was expected to use cues to explain their physiological change. In the epinephrine ignorant group, the experimenters did not explain to the subjects what symptoms they might feel. This group was expected to use cues to explain their physiological change. The epinephrine misinformed group was told that they would probably feel their feet go numb, and have an itching sensation over parts of their body, and a slight headache. This group was expected to use cues around them for their physiological change. The **control group was injected with a placebo** and **was given no side effects** to expect. This group was used as a control because **they were not experiencing a physiological change and have no emotion of label**. After the injection, a confederate interacted with the students, who was either acting euphoric or angry. The experimenters watched through a one way mirror and rated the participants' state on a three category scale. The participants were then given a questionnaire and their heart rate was checked.

The researchers found that the impact of the confederate was different for the participants in the different conditions. From **high to low euphoria** their ranking was as follows: **epinephrine misinformed, epinephrine ignorant, placebo, epinephrine informed**. In the anger condition the ranking was: **epinephrine ignorant, placebo, epinephrine informed**. Both results show that those participants who had no explanation of why their body felt as it did, were more susceptible to the confederate. These findings are considered to support the researchers' hypotheses.



**Criticism**

Criticism of the theory has come from attempted replications of the Schachter and Singer (1962) study by Marshall and Zimbardo (1979, and Marshall 1976) **who showed that the subjects who were injected with epinephrine were not more susceptible to emotional manipulations than the non-aroused placebo subjects**. The results found that euphoria confederate had little impact on the subjects. Also, that the euphoric confederate didn’t produce any more euphoria than the neutral confederate did

There are also criticisms of the two-factor theory that come from a theoretical standpoint. One of these criticisms is that the Schachter-Singer Theory **centers primarily on the autonomic nervous system and provides no account of the emotional process within the central nervous system aside from signaling the role of cognitive factors**. This is important considering the heavy implication of certain brain centers in mitigating emotional experience (e.g., fear and the amygdala).

It can also be noted that Gregorio Marañon also had early studies in the development of cognitive theories of emotion and should be recognized for making contributions to this concept.