

Human Behaviour
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Lecture – 15
Emotion

Friends, welcome back to this course on Human Behavior. This is lecture number 15 in the series. And in this particular lecture we will be dealing with another interesting human variable which affects human behavior. The variable that is of interest to us today is a higher cognitive process variable which is called Emotion. So, what we will see is how emotion manipulates or controls, modulates human behavior.

So, before we start a journey on to looking at what emotion is, and how does it control human behavior, and studying the various theories of emotion; let us go back a little and start off by describing what we have done up till now. So, what the course comprises of in the course of human behavior.

So, we started off by looking at the definition of what a behavior is, and we looked at how to study human behavior. We also looked at questions like why do we need to study human behavior, what is the interest in studying human behavior, what is the interest in understanding humans for that matter. There are several reasons that we put forward.

So, mainly we started out by looking at questions relating to human behavior, questions relating to why the study is necessary. And at the very outset we define that psychology is the science which helps us study human behavior. So, the course will be more focused on understanding psychology and using psychology to study human behavior.

So, we looked at where did the science come from, its historical and dissidents, various schools of thought in psychology, and how these schools of thought define human behavior. We rounded off by looking at various methods of studying human behavior starting off with the study of experimentation, then correlation, and then other things like non-laboratory methods like, observation, naturalistic observation, as well as controlled observation, and the journal method single case study method and so on and so forth.

So, after we had defined what the history of the science of human behavior is and what are the methodologies which I use for studying human behavior, we started off by

describing how human behavior is first of all recognized. For any behavior to happen a stimuli; an external or internal stimuli external or internal event person process should arise and this should make a person react to it. And that is what is behavior.

So, we then looked at the first two or three processes or systems and processes which actually encode the human behavior; which actually help in encoding understanding the changes in external stimuli or internal stimuli and then how to decide a response to this external internal changes.

So, we started off by looking at the process of sensation. Studying sensory systems, studying the characteristics of sensory systems because, these sensory systems are the equipment which notice change in the external stimuli and convert it into the psychological domain. So, we looked at characteristics of sensory systems, like sensitivity, sensory, coding, and things like that.

We did we studied how signal is detected or how human beings change detection process takes place. Then we moved on to a model system which is the human eye, and looked at how human eye performs this encoding process or grabbing process of the external change in stimuli, and encodes it into the psychological domain. Then we moved on to a process which is called perception, which is the process which makes meaning of whatever information has been captured by the sensory system.

So, we looked at perception from various schools of thought, like they Gibsonia School and Modern School. And then we looked at the five process of perception starting from paying attention to localizing where a external stimuli is. To recognizing the external stimuli in comparison to whatever models and prototypes have been stored into your head; it is also called pattern matching. And then how the brain uses something called abstraction and constancy to features to help it in recognizing the external stimuli. So, we looked at all these processes in detail the perceptual processes.

Now, once a perceptual process starts it makes meaning of external stimuli which is not gathered by sensation. But then this meaning is a knowledge and it needs to be learned, this knowledge needs to be grasped. And the process which graphs this meaning this knowledge is basically learning.

So, next we focused onto the idea of what is learning. And as we define learning its a relatively change in behavior; a relatively permanent change in behavior which leads to changes in peoples responses to known and well known to well known or other stimulus and it comes to experience. So, we looked at different kind of learning paradigms. We looked at the simple reflex kind of learning paradigm and associative form of learning paradigm. We focused on more onto the associative form, because that is the most studied form of learning paradigm because, there what happens is multiple stimulus or a stimuli responses associated to one another.

So, we looked at a classical system of classical conditioning the system of operant conditioning. So, in classical conditioning we looked at how reward with the learning stimuli leads to learning. In operant conditioning we looked at how the response leads to consequence and how the consequence getting rewarded or punished leads to learning. And then we looked at observation learning paradigm. So, assuming that once we have learned things; once you have captured this knowledge we need to store this knowledge, because this knowledge should be used in future. Human beings optimize performance; and how the optimized performance is that whatever response that they given to a particular stimuli they store it so that in future in the same situation arises the same kind of optimal response could be produced.

And the process which actually stores this information is called memory. So, we looked at what is memory human memory. And we looked at the two influential theories of human memory starting from attrition shipping to the two process model or the parallel processing model. We looked at what is working memory. We have looked at what is long term memory, what kind of information is stored in long term memory, and the dynamics of long term memory, and other factors which affect long term memory.

So, once this captured information from the external stimuli we have made meaning out of it, we have learnt it and we have stored it and also retrieved in some point of time. These processes define human behavior, these processes underlie the behavior of humans. But then there are several higher order processes cognitive processes which actually also define the kind of behavior which is there.

As I said in the first lecture itself behavior is defined learning as simple stimulus response kind of a thing. So, behavior said that there is no human brain in between. A

person does a particular response to a particular stimulus and if the consequence of it is positive, then people do that response again and again. But as we know from our common experience that is not how it is people change their responses to well known stimulus. And so, how does that happen or why does that happen; because people have something called the mind of the brain.

And so, next on we focused we started focusing on higher order cognitive variables. Higher order variables which also show its influence in human behavior. So, we started off by looking at thinking and language. So, we define language is a process of communicating information between people. And so, we started off by explaining: what is the difference between communication and language. We took a model system which is the English language and looked at how does this process really work the English language really works. We looked at the idea of water phonology is, water morphology is, how sentences are constructed in, how our language is passed over.

So, we define the integrities, the basic dimensions of language, and how it can be used to change people behavior or help in designing peoples behavior. We moved on to something called thinking which is the process, that humans use to decide and evaluate stimulus. So, we look at the idea of thinking what is thinking. And there are many types of thinking for example: the in inductive and the deductive type of thinking.

And then using reasoning for thinking; reasoning is a process where arguments are validated against certain premises and conclusions. And based on that a model is generated or a decision is generated. So, that is what is the inductive and deductive reasoning or types.

And then we further and looked at how using the inductive and deductive reasoning and arguments and premises and information, that we have from learning in language. So, language is the process of how information is encoded or language is the process of encoding the basic symbols which means something. So, how these informations are used for solving basic problems. So, human behavior the behavior of humans also dependent upon what kind of problems you are facing, and how do you solve that problem. So, we looked at those processes. So, we looked at the idea of problem solving.

In the last class we looked at something called intelligence. It is another higher order cognitive function which decides how human beings behavior is influenced by

intelligence. So, what is intelligence? As we looked at intelligence is described by multiple ways, is we described by something like single factor multi factor theory. So, we looked at those theories of intelligence in that. Intelligence is a process or intelligence is that particular process which makes two people different in evaluating a problem or even coming up with a solution to a problem.

So, we looked at the various definitions viewpoints about intelligences and then we looked at the several theories of intelligence. We further on moved on to describing how intelligence test would work and what is the meaning of intelligence. And various other factors of defining intelligence a genetic impact, the environmental impact and further on describing emotional intelligence is a model system of intelligence. And studying how emotional intelligence and creativity reflect the idea of intelligence.

In this particular lecture what we are going to do is study another interesting human behavior which is called emotion. And we look at how emotions actually color or modulate our behavior. That is the topic of this particular lecture. Let us start off by describing what our emotions. Most people understand emotion, they go through emotion, but when asked: what is the emotion it is very difficult for them to describe what an emotion actually is.

So, let us take the classic case of this serial killer; who was very active in the United States during the early 80s and 90s and how he was emotionless, let us first describe a little bit about him. So, he was like 23-24 year old, used to visit campuses in the United States he is to live in Seattle, and nearby campuses he has to go kill missed mostly go befriend a female. And then later on killed this female and sort of take away her things robbed her, and then do all kind of unnatural acts.

He would also keep the bodies of these females for longer periods of time. And what he described with the police when he where got convicted was: he actually enjoyed the process of what it is doing. So, he did this for some 20 odd years and later on he got caught, and he was put to jury.

But the kind of response that he gave to jury was very unbelievable: he said he enjoyed the whole process of killing female and keeping their bodies as a showiness or parts of the body is a showiness. And he was not guilty at all of what he has done. In fact, he started laughing in the court when he was accused of something. He was taken to

obviously to a psychiatrist, because this kind of personalities, this kind of people are known to us psychopaths and sociopaths.

Now psychopaths or sociopaths for one matter are people who actually do not feel emotion at all. They cannot feel emotion or even if they feel the emotion they feel it for a very brief period of time. And if they do not feel emotion, they can do all kind of gruesome acts. So, sociopaths are those who are devin from the societal norms, and psychopaths are those who cannot feel emotions or cannot feel human suffering.

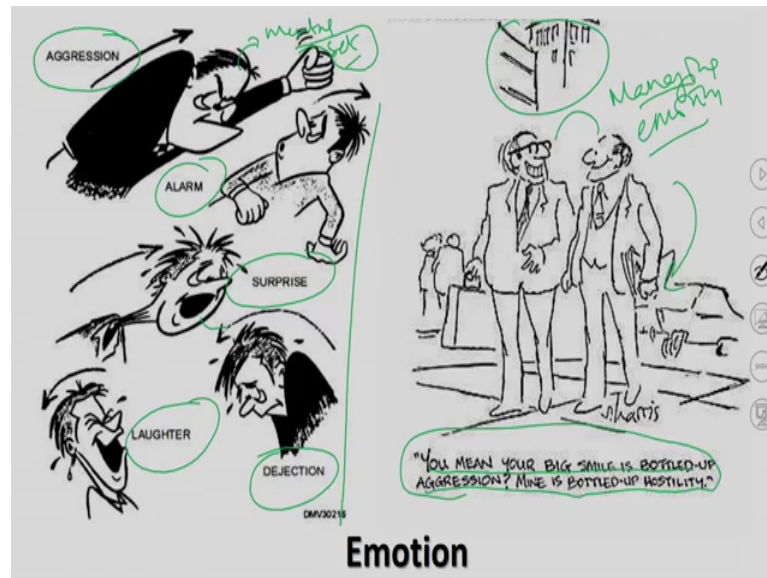
The psychiatrist in question did a number of analysis studied this person in detail and said that; this person can actually feel some emotions, but the emotion feeling that he has was very little. So you can feel pleasure, he can feel the positive emotions. The best part of the story was that he could feel it, but he could feel it for very less a period of time. And it is not that because of emotion or non feeling of emotion he was doing whatever he was doing. He was actually feeling proud and he wanted to be famous. And that was one of the reason why he was doing what he was doing.

He was aware of that fact that he was doing something wrong. But then on one hand he could not feel it, on the other hand he wanted to be famous. And so, that was one of the reasons why he was doing what he was doing, all the guilty act that he was doing and so, when he was convey even convicted he actually showed a different kind of response which is very close to a psychopath.

What the story actually tells us: is that emotions are very central to our human behavior. Because humans decision making process, humans actual behavior is influenced a lot by emotions; lot by what you feel about certain situations. So, emotions are you are feeling towards certain situations. All the definition of feeling and emotions are a little bit different, but we will not distinguish or start discriminating between what is feeling in what is an emotion. For now we will believe that they are more or less the same although, as I said psychologically speaking those are two different things.

So, emotion is a kind of heightened arousal that you feel of certain situations. And these heightened arousals actually make you respond in certain ways. So, let us start by first defining what is emotion and looking at the parameters of it and then looking at some theories of emotion. Later on we will study one of these theories in detail which is called multiple component theory and study the parts of it.

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So starting off we will start off by some cartoons to show you what emotions are. And as you can see: aggression, this is an emotion; alarm, this is an emotion; surprise is an emotion; laughter is an emotion; and dejection is also an emotion.

And as you can see in most of these the person acts in certain way. And this act is decided by a particular mental set or a particular mental process and this mental process which acts in certain way. For example, here you can see these acts the whole body the face everything is showing the aggression. So, everything is showing a particular kind of act. Similarly alarm, similarly surprising, there is clear distinctions between all of them. Not only in terms of the bodily changes, not in terms of the body posture, but also in terms of what they do after in.

And so, emotion is a process is a higher order cognitive process which actually shape your behavior, to be as simple as that. When our non emotional the same act or the same stimuli gives you a different feeling, but when you are emotional the same stimuli might actually give you a different kind of feeling altogether, right.

So, depending on the kind of arousal for example, there were studies done in which a person was actually aroused by exercise, and later on some kind of thought was given to them. So, to you know in the study two groups of people were taken; and one group of people both of both the groups actually did an exercise, and so they were feeling aroused or they were actually aroused physically aroused for that matter. And then later on one

group was taken to a happy room where people were all happy and the other group was taken to a sad room where people were all sad. And later on when they were talking and they were describing how they were feeling, the group which actually went to the sad room or the angry room felt more angry; and the people who went to the happy room felt more happier.

We basically means that our arousal is not the only thing which is their peoples behavior has also changed by the emotion that you feel. And similarly they acted in response to it. The angrier group responded very badly with interactions within interactions. And the happy group responded very positively with the happy group. So, that is the power of what emotion is.


And so, as you can see here you mean your big smile is bottom up aggression mine is bottom up hostility; is another thing that that defines emotion. And this is what is what this process actually defining is called managing emotions or what these two people are trying to do is control their emotions. So, one of the interesting thing about emotions is emotions can also be controlled. So, let us start off by looking at what emotions are all about.

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Nature of Emotion

Emotions are complex entities to define. However most scientists studying emotions agree that they involve –

- Physiological Changes, within our bodies – shifts in heart rate, blood pressure, and so on
- Subjective Cognitive states – the personal experience we label emotions
- Expressive Behaviors – outward signs of these internal reactions



So, definition of emotions; emotions are complex entities to define. Now as I said emotions is not an easy entity or emotion is not an easy process to define, it has multiple facts or it has multiple processes. And so, its a complex thing to define.

Emotions are also different from moods. So, we will come back to that, but as I said told you with the story of this person; the emotions is actually a complex thing why, because it is dependent on so many facts. This is dependent on body arousal, it is dependent on your thinking process, it is dependent on what kind of information you are receiving, it is dependent in your past experiences, it is dependent on your memory, it is dependent on your language that you use. So, so many things actually act together to define emotions or to make emotions. And so, it is actually a complex process. But then there is a general definition of emotion and what is that.

However, most scientists studying emotions agree that they involve three processes. So, emotions has been defined as a three process system. First, emotion leads to physiological changes within our bodies. Whenever you are emotional, whether you are happy, whether you are sad or any other emotion that you feel the first thing that you feel is that you feel a little bit aroused. Whether you feel aroused on the positive direction or in the negative direction, whether the emotion that you have is positive or negative you feel arousal. And this arousal is different from the common homey status.

So, mostly most people have a baseline have a homeostatic. When you are very calm, but when you are feeling emotion your body feels a little bit different a little bit more heightened then the calm that you have actually had. And that is called the physiological arousals. So, the first step in emotion for any emotion to start up is physiological arousal.

And so, how this physiological arousal has been defined; these have been defined in terms of shifts in heart rate blood pressure and so on. So, whenever you feel emotional there will be a shift in your rate of heartbeat. Your pulse beat will change, your galvanic skin response the skin response, the skin sweating will change more sweating will occur, more blood will be pushed to your pupils, the hairs on the end of the screen will rise.

So, depending on the type of emotion that you are feeling or any emotion that you are feeling you are not only there will be change in heart rate, but also blood pressure will change, your skin temperature will change, your skin reactivity will change in so many other things happen. So, the first step in any emotion to set up, when you feel emotional the first step that you feel is called the physiological changes.

The next step or the next part of any emotion is subjective and cognitive state. So, emotions are not only including the physiological changes they also include something

called cognitive states; subjective cognitive states. And what is the subjective cognitive states; which means that you are thinking also changes. Subjective cognitive states means, that different-different people start thinking differently about the same situation when you are emotional. And so, that is subjective. The thinking varies from people to people in their experiences in memory.

And so, what are these subjective cognitive states? The personal experience we label as emotion. And so, the same situation for some people would mean something else and for other people would mean something else. And that is what is all about emotion. So, emotion starts with a physiological changes and then a kind of thinking a change in thinking.

So, when I am happy with the situation let us say that, I win award. Now when I win award I feel a little bit more heightened, then mother or friends who are not filled about. The moment that I go to the auditorium whether what is given my other friends will be calm, but I feel all heightened up all acted up. Inside of me I will see the temperature rising, the blood pressure rising, before my name is called for giving me the award. So, I feel because I am feeling happy I feel the physiological changes.

My subjective cognitive states changes which means basically means that my thinking will change. Now since the award is given to me everything is positive; and so if at that point of time something even bad happens something not so good happens. Like I break my pen or I drop something on the floor even that thing is seen as positive. That that particular act is also seen as positive because, my mindset has become positive, I am receiving the award I am all happy about it and so I have a positive state of mind.

Other people may vary depending on how much so; somebody who has often got awards he will not be that happy with the same situation. And so, he might see the dropping of something onto the floor as a negative conversion. But somebody who is winning an award for the first time or who is actually very interested in the award he would feel the situation as something else.

So, the same situation can be described in two different ways. So, the second part of any emotion is subjective cognitive states and the third is the expressive behavior. So emotion, the third part of any emotion is behavior. So, in emotion not only you feel heightened, arousal, and a different line of thinking a different pattern of thinking; what

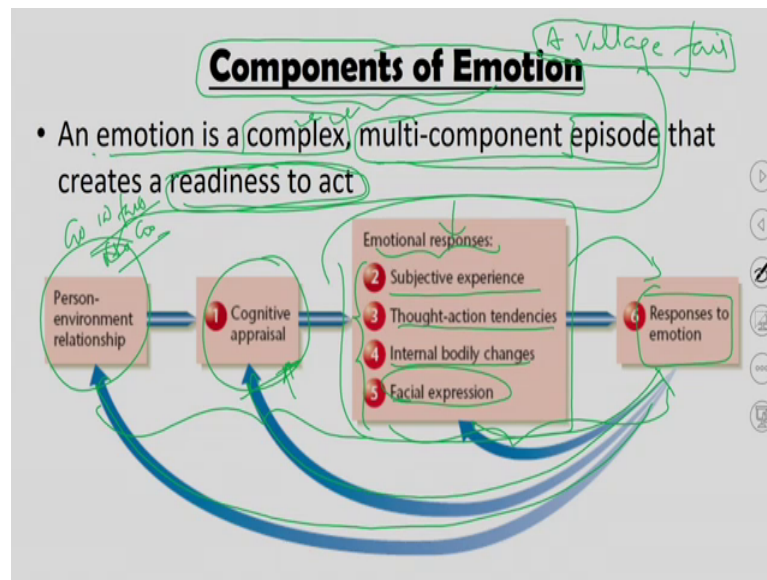
extra happens in emotion is your behavior. Your behavior also changes in certain way, you start behaving in certain way.

You start so when you are happy and you are receiving the award you start clapping more when your name is coming or anybody else is giving getting that award. So, when you are getting that award and other people are getting that award also, then you will clap more. But if you are not getting an award, other people are getting award you might not clap that much. The reason being that you are happy but not that happy, but in this case you are more happy. So, you will be happy all together right.

And so, your behavior will be similar, you will find yourself fidgety you will sign yourself talking in loud voices and then everything changes. Your behavior accordingly changes when you are happy. And so, these are the three steps of any motion. Now on the right hand side of my screen I have somebody who is called Captain Spock. And if you are familiar with the idea of Star Trek you will find out the he was one of those people who had no emotions right. He was known to be a robot and he had no emotions.

And so why I am putting this here is to tell you that there are people who had no emotions. Now although in this case he was not a psychopath, but then there are classes of people who are psychopaths and sociopaths who actually do not feel any emotion at all. And once they do not feel emotion their behaviors are accordingly tuned. And so, for a better and healthy life people should have emotions, because emotion is not only protect you from certain things it also helps you in certain way. And that is the power of any emotion.

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So, the way we are going to define emotion in the present lecture or in the present lecture series is using the most efficient version of emotion. And this efficient version of emotion theory of emotion is called the component processed theory of emotion or emotion component process model multi-component emotion process. So, according to this component process of emotion; emotion is we defined as a complex multi-component episode that creates a readiness to act.

So, let us look at the definition first. The component process theory of emotion defines emotion as a complex process; emotion is not a simple process it is a complex process because it involves several systems. Just as sensation is or perception is which are more simpler in nature, sensation is more a simpler in nature than perception. Emotion is a more complex process; why because it needs feedback from so many systems, so many processes and based on that the emotion happens. So, emotion has is a multi process or a multiple component episode. So, emotion is more complex in nature.

Then it is multiple component episode; which means that emotion is not just one thing a sensation is detecting a stimulus, emotion is not as simple as that, emotion is a whole process. Just like memory has been defined as a three step process right from encoding to storage to retrieval; emotion has been defined as a process which starts with a person interaction relationship and ends with a response to it.

Now anybody who thinks about memory will actually think of the literal meaning of memory is storing something. But as I said memory is not an only storing something. It is it is starting with encoding to storage, and not only to storage out but also the process of retrieval. Similarly emotion is not only showing a particular emotion, showing a particular kind of feeling or feeling or continue a particular kind of situation or a feeling a particular kind of feeling for that matter. Emotions are a multi-component episode, and there are multiple parts of it and any change in one part could actually lead to change in other parts. So, we will define how that happens.

And what does emotion actually do it leads to readiness to act. So, let us look at the model for that matter. Now what this model says is that; an emotion starts with something called a person environment relationship. So, any emotion starts with a person environment relationship. If a person inherent relationship does not happen, then emotions will not start. Now as I explained it in my classes let us start and understand how this really works. Let us assume that you are walking down the road going from place a to b, and there is a fair at some place.

Group of people from the village or from town people they have arranged a fair; a village fare a festive situation and that is happening nearby to where you are walking. So, the first step for you to feel any emotion or for any person to feel any emotion is called person environment relationship. Now if you walk through the fair, if you walk away from the fair without going into the fair you will not feel emotional at all. Maybe if you decide not to interact with the fair go inside the fair purchases ticket get involved with what is happening inside the fair you will not feel moving at all. Maybe the music, that loud music that is playing or people laughing creates an instantaneous change in you and you feel differently, but that is not emotion.

So, the first step in emotion is to get involved with the situation; the person is to get involved in the situation. And in this case if when you decide that you want to go inside the fair the first step of emotion starts. Otherwise if you decide that you not do not have enough time and you move out of the situation you will the emotion will not set in you or you will not feel emotion at all. So, the first step of emotion is something called person environment relationship. Now once you have decided to move into the fair.

So, we have taken the case of a village fair and we try and explain this theory using this village fair. So, the first step is that you decide to go in the fair. If you go in fair the emotion will start. If you no go in fair then emotions will not happen. Now let us say that you go into the fair, you decide to go into the fair the second step is called cognitive appraisal which is the act of subjectively evaluating situations in front of you. What is cognitive appraisal is a process cognitive appraisal is using your cognition to appraise any situation.

So, once you decide affair, once you decide to go into the fair now if you move out there is no emotion, but you decide to go into the fair. Once you decide to go into the fair you will evaluate the situation of a fair. With your past experiences you will start thinking what the fair is, what kind of fairs you have been to, what is a fair the definition of fair, and there is where you we use the concept of scripts and schemas.

So, previously you would have been to several fires there are very little people who actually never been to a fair. And so, your past experiences actually tell you what a fair exactly looks like or how it is. So, fairs are more about joy you have swings, you have foods, you have people laughing, you have different kind of plays, different kind of acts going on a theater and so many other things in the fair. And so once you decide to go into the fair these that you look at what is happening at the gate of a fair. The cognitive appraisal process actually tells you what you should expect of a fair. And this is the first step in emotion or the first point of entry into emotion.

Now deciding on let us say that you have been to be into fairs and most of these fairs you are not liked. So, once you decide to go into the fair and you have not like previously any fairs he will decide that this is what the situation is going to be inside. But suppose that you are one of those people who have been happy and who have had very good experiences previous experiences its fair; the cognitive appraisal by looking at what is happening in the situation and your past experiences decide that this kind of situation or this kind of feeling I will have when I enter the fair.

If you have past bad experiences about fairs and the present fair looking at the gate of the present fair you do not find something comfortable or you do not find many things which are not comfortable, but you still decide to go into the fair. You will have a different kind of feeling altogether, which is not only decided by looking at what the fair is offering to

you and comparing with your experiences that will decide. That is that process called subjective evaluation or subjective appraisal.

Now once you have appraised this situation, once you have decided to enter the fair and you actually use your experience or you actually use your memory to come up with what should happen in a fair; the next three steps our next couple of steps of emotion experience or emotion feeling happens. And these are called the emotional responses. The third step is subjective experience.

So, once you appraise the situation, once you look at the particular situation people will have different feelings different subjective experiences. As I said some people might have had bad experiences its fair, some people might have had good experiences its fair. And that decides how you are going to feel into the present fair. Once you enter decide to enter into the fair and you appraise that this is a fair and a good kind of a fair a bad kind of fair, you will have subjective experiences.

Your past experiences will decide how you want to or what kind of feeling you will have inside the fair, or what kind of response you will actually give inside the fair. So, the subjective experiences you are your past experience with any fare. As I have explained before different people will have different experience in the same fair. And so, what will happen is they will feel differently or they will feel different emotions in the same fair.

The next step is called thought and action tendencies. Now assuming that you have visited fairs before and most of these fairs are actually been pleasing experiences to you, happy experience to you your thought and action tendencies will also get shaped in that particular manner. Which basically means that you are thinking about the present fair will be in a positive way and your action tendencies. So, when you are happy what do you do, you clap you talk loudly, you feel a lot of blood rushing to your hands, you jump up and down. All these action tendencies, all these action tendencies of talking loudly, eating loudly, laughing and all those act related to being happy is then decided.

So, once your subjective experiences and cognitive appraisal these processes are over and you decide the fair is and happy fair or your experiences also say that most fires are happy, your thoughts you are thinking about the present fair will also be in a happy state, and you start acting accordingly. You start acting accordingly or your action tendencies which means that; you not only start you think about acting in a similar way, because

when you are happy what do you do you jump. And so, you start thinking this is a positive fair. So, I should actually jump or I should start I should also start naturally it comes to you start talking in or clapping our hands or talking in higher voices and so on and so forth.

This needs to change in internal changes in bodily reactions so, internal bodily changes. Once you feel the fair is happy and you start thinking about the present fair as happy. And you have your action tendencies which basically means that how you respond to this is also set up. That this is the kind of response that I am going to give to the fair, your bodily reaction also changes which basically means that you start feeling jittery, if more blood is pushed to your extremities the sympathetic system becomes active, you become heightened. Because, the act that you are going to do because jumping requires you to have more blood towards your feet, right.

Or clapping or talking loudly more vocal cords should have more blood, and you should feel activated. And so, the bodily responses also changes which means that the body prepares for these actions that you are going to do. And with that the facial expression changes, which means that once you feel happy the facial expression becomes accordingly with it. So, your mouth widens, your eye widens, your nose flares up, the temple expands itself, the mouth widens itself, teeth displayed, similarly the body attains that kind of posture which is similar to happy.

So, inside the fair depending on your experiences and your thinking, and the bodily reactions, and the face also accommodates similarly or the face starts showing that happiness or that feeling of pleasure. And the last step is called response to emotion which is the step in which when you feel happy in the fair you start acting accordingly. So, you have start feeling clapping in the fair, jumping up and down, talking loudly to people, enjoying maybe whistling we all kind of things that you do when you are happy. So, all those responses come in place.

So, emotion is a kind of combination of these steps. And as you can look these arrows always are in the forward direction. But not only that each step or each part process is backwardly connected to other processes which means that, every step of the process, every step of this whole system working can take feelings or can take inputs from the previous process. Let us say that responses to emotion. So, after all this thing I start

feeling happy, but then I am all happy and something disaster happens inside the fair. Will you still feel happy?

So, given the fact that my cognitive appraisal immediately. So, when I go into the fair and I feel it is a happy place; and I am all acted upon it and I feel happy and I go inside and I see that person crashed right in front of me. Should I be still feeling happy? Will my behavior be like that? Right, no. What will happen is my cognitive appraisal or my appraisal of the situation immediately changes, and now I see a fair as a different thing this fair is not that happy and so, my behavior changes accordingly.

So, it this response to emotion can have feedback from any of this situation. Or if I go inside the fair and I think it is happy, I am all happy about, I am all acted upon it I go inside the fair and I see the fair is not happy at all which means that; I can talk to my person interaction relationship and decide that this is not the kind of fair that I wanted to be and my responses will be similar to that. So, I will try to get off.

So, these are all the situations when you thought a fair is happy, you went inside or let us say that you are all happy about a museum, you get all excited about it, you going to get all happy about it. When you go into the museum you find the museum about is about paintings and fine art things. And when you enter the museum you actually feel that it is not that good it is not that happy. So, you check your person environmental relationship and you or the move out of the museum. And you are not happy anymore, the emotion immediately changes. So, this is how this response to emotion can also talk to person environment reaction.

So, not only is it that emotions will lead to certain responses, but these responses can also talk back to any of these processes and then can change itself. Because, happiness should mean a different kind of response, but the response is not matching happiness. Which means that what has happened is; now the response actually when you are responding the responding processes talk back to cognitive appraisal and he has found something else.

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Six components of the emotion process	
Cognitive appraisal	A person's assessment of the personal meaning of his or her current circumstances
Subjective experience	The affective state or feeling tone that colors private experience
Thought and action tendencies	Urges to think or act in particular ways
Internal bodily changes	Physiological responses, particularly those involving the autonomic nervous system such as changes in heart rate and sweat gland activity
Facial expression	Muscle contractions that move facial landmarks – like cheeks, lips, noses, and brows – into particular configurations
Responses to emotion	How people regulate, react to, or cope with their own emotion or the situation that triggered it

So, this is called the multiple component model theory. Now if you look at it each process right from cognitive appraisal to subjective experience to thought and action tendencies to facial expressions and response to emotions, all of them have been explained here in detail. So, a lot I will suggest is you should go to this concept review table and read about it.

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Components of Emotion *Mood Emotion*

- Emotions are distinct from moods in several ways:
 - Emotions tend to have a clear cause, are typically brief, and implicate multiple component systems *5-10 min*
 - In research there is much interest in the detailed nature of components of emotion, and the mechanisms by which they influence each other

Now, the components of emotions .What are the components of emotions? Emotions are distinct from moods in several ways. Now as I describe there are two terms: one is called

a mood and the other is called an emotion. So, what is the difference between a mood and emotion. Now you were often seen people talking about I am in a bad mood, I am in a good mood. And so, this is also a kind of feature that people have.

So, what is the primary difference between a mood and emotion? There are some basic differences between a mood and a emotion. First, emotions tend to have clear causes, whereas emotions come from clear causes. You interacting with the fair, you receiving a gift, you being shouted at. And so, these reasons could be the reason for an emotion generation, but for mood there is no reason. If we talk to people they have no reason for the mood. My mood is off today, my mood is off for the first 5 days, I do not know what is the reason. So, there are no specific cause for mood, but for emotion there is a specific and clear cause.

Also emotions are typically brief, emotions last for let us say 5 to 10 minutes maximum. So, there is a time phase; emotions have first set in they go to the height and they come back. So, emotions are set that way, they last for brief periods of time. But on the other hand, moods do not do that; moods lasts for longer periods of time. You can have 15 days of bad mood 10 days of bad mood. So, there is no timeframe of how long a mood can happen.

Emotions implicate a multiple component system. As I said emotion is not just one system, it starts with a person interaction relationship to cognitive appraisal to emotional responses into emotional behavior; so, that kind of a thing. It is a multiple component process and where any all of these components actually work together to define an emotion episode. Whereas, mood is just a one single system, it is one feature that is highlighted in mood and that is called the subjective experience; no other process is there. There is no cognitive appraisal, there is no response to it, when you are in a bad mood you do not do particular responses, but when you are happy sad a particular response is associated with it.

You start feeling in a certain way or thinking in a certain way with mood, a bad mood you do not feel or think in that particular mood. And so, moods are all on the subjective experience dependent, whereas emotions are a multiple component dependent system. Now in research there is much interest in the detailed nature of components of emotion and the mechanisms by which they influence each other. And so, researchers actually

look at the detailed nature of emotion and multiple components of emotion; how they interact with each other, what kind of thing happen.

For example, if the physiological changes, come before cognitive appraisal in the emotion multiple component theory it can also kick start an emotion. It is not necessary that the cognitive appraisal should actually start an emotion. Our facial expression sometime can kick start emotion, there is something called the feedback theory; facial feedback theory.

Think about actors: now they do not actually do a cognitive appraisal. They start by changing the facial feedback right. And so any of the component can come before and speak start and emotion and the emotion process will still generate. So, basically how these process are related to each other, and what effect does one process have another is what is studied in emotion, but that does not work in mood.

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Theories of Emotion

The Cannon-Bard and James-Lange theories – which comes first, action or feelings

Cannon-Bard theory – suggests that various emotion provoking events induce *simultaneously*, the subjective experiences we label as emotions and the physiological reactions that accompany them.

James-Lange theory – suggests that subjective emotional experiences are actually the *result* of physiological changes within our bodies –

Handwritten notes and diagrams on the slide include:

- A flow diagram: Action → feeling → Action
- Handwritten text: "CB - Tiger - Fear (appr) - Run (beh)"
- Handwritten text: "James Lange - feel - run"

So now, let us look at some theories of emotion we will start with something called a Cannon-Bard theory, and James and Lang theory which comes first actions or feeling. Now these two are the most primitive forms of theory. And the theories are dependent on the idea or the theories try to evaluate the idea that an emotion what comes first; whether an action comes first or a feeling comes first.

Let us look at this theory from a story a little bit of story. Now assume that we are all here and a bear enters the room or a tiger enters the room. What is the most optimal response? Two responses: we will feel afraid and start running. So, if you see a bear approaching you or a tiger coming to the room what happens is we feel first afraid and then we start running. Or is it that we start running first and feel afraid. My question is: that of course if a bear comes into the room or a tiger comes into the room you start feeling fear afraid, and then you also start escaping the situation running away.

Now the question is: whether you run first and then feel afraid, or when whether you feel afraid first and then run, or you feel afraid and run at the same time. Now, two processes can happen the same time or whether so. If action proceeds feeling which means, that you first run and then you feel afraid. If feeling precedes action, then you feel afraid first and then run. Now the question is if you run first and you later on feel then it will be stupid, you will not know why you are running. So, it is not that any tiger coming in start running that is not how it is, right. So, that is one question.

The other thing is if you feel afraid first you will not have enough time for you to run and so, what happens first or do they happen simultaneously. Now the answer to this question or whether we feel afraid first or we run first was provided by someone called Cannon-Bard; and what is the theory? Cannon-Bard suggests that: various emotion provoking events induced simultaneously. The subjective experience we label as emotion and the physiological reactions that accompany them; so, which means that feeling an action happen at the same time.

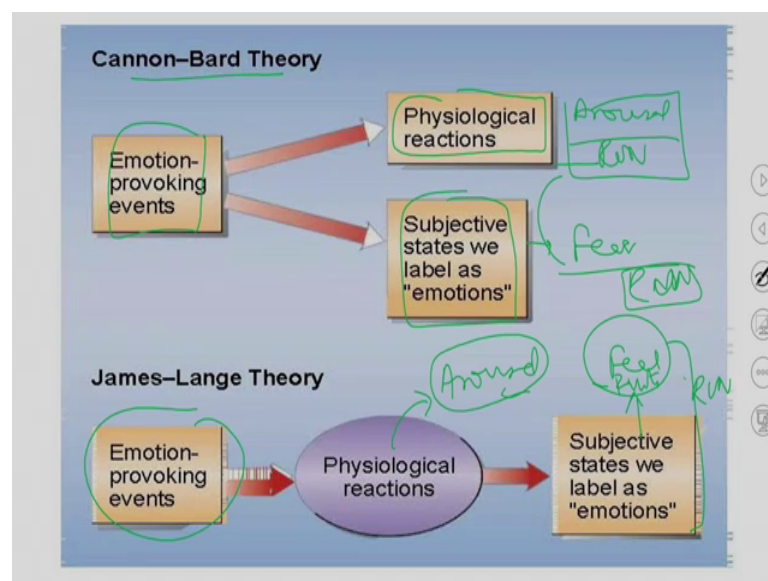
So, my Cannon-Bard theory says that if I see a tiger I feel afraid and I run away from situation at the same time. That is what Cannon-Bard says. So, not only that I run I also feel afraid and start running at the same point of time. That is the proposal that Cannon-Bard has about this situation. So, you feel and you act the subjective experience and the response happens in the same time.

In contrast to that James-Lange theory suggests that subjective emotional experiences are actually the result of physiological changes within the bodies. And so, what James-Lange says is that: you first feel then you run. So, first you start feeling when a tiger enters the room; the initial act is first you feel a little bit you feel little bit aroused, and because of that arousal that you feel or that arousal the body responds in a certain arousal. So, when

a tiger enters the room you feel a little bit aroused and once you feel aroused you start running and then you feel you feel afraid; you feel afraid and you start running at the same point of time.

So, first a physiological changes happen and that physiological changes actually lead to the emotion. Whereas, Cannon-Bard says that the physiological changes and the feeling happened at the same time. James-Lange says that body is aroused first and then later on an emotion comes in and then followed by an act.

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This is the primary difference. So, Cannon-Bard emotion provoking events will lead to physiological reactions and subjective states we label as emotion at the same time. So, we feel emotion for example fear and physiological reaction like arousal and running, because of the arousal the response at the same time. So, we ran because we feel aroused and or we are aroused and we feel emotion at the same time.

James-Lange on the other hand says that first we feel aroused, and this feeling of arousal leads to the fear, and because of this fear we actually run. So, why do we run? We run because first we feel aroused and then we feel the emotion or we feel the fear and then we run. Whereas Cannon-Bard says that this process occur simultaneously James-Lange says that these process happens one by one.

Now the question is which of these theorists is right, which of these theory is actually supported by scientific evidence.

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Theories of Emotion

Which of the two theory is a correctly explains emotion?

Until recently the Cannon-Bard hypothesis was the most favored theory among the two but recent research has highlighted the importance of the James-Lange theory based on evidences from (science) Fear, Anger, Happy

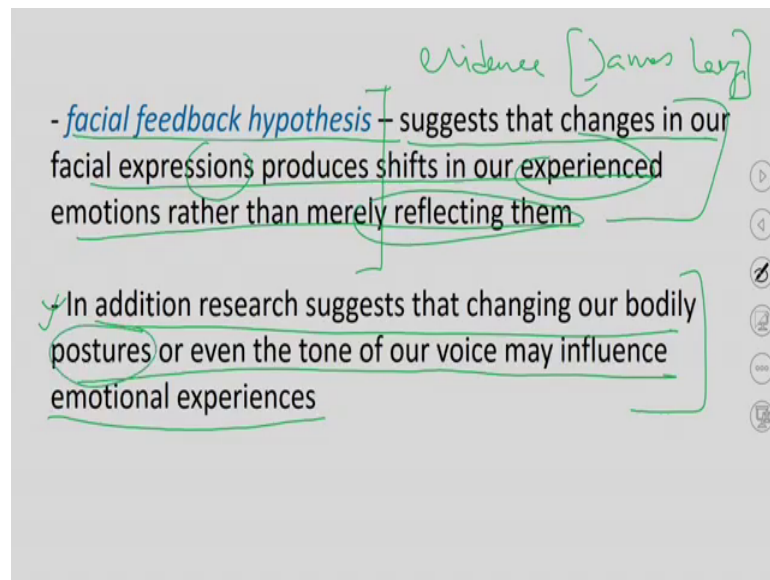
- modern equipment's verify that different emotions have different patterns of physiological activity

And for that which of the theory is correctly experience emotion? So, we have some details, we have some scientific proof. Now until recently the Cannon-Bard hypothesis was that most favored theory among the two, but recent research has highlighted the importance of James-Lange theory based on evidences; said certain kind of scientific evidences. What are the science scientific evidences?

So, up till now it was the James-Lange theory and it seems more plausible also. We feel afraid and start running at the same time that is the most plausible explanation that so the tiger comes in and that is what happens. But James-Lange theory is what is supported nowadays, and it has some proof from science from scientific experiments first. Modern equipments verify the different emotions have different patterns of physiological activity.

So, as fear, anger and happy are different emotions they are accompanied by different physiological activity which means that the physiological activity defines emotion; the physiological activity sets for the emotion. So, first you feel the physical activity and the physiological activity when the later on we will label what emotion that you are feeling.

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What is the next evidence? So, next evidence; so these are evidences for James-Lange theory. Suggest that changes in our facial expression produces shifts in my experience on emotions rather than merely reflecting them. The facial feedback hypothesis says that: look at actors and actresses. Now how do they feel emotion they do not feel emotion too much. So what happens is by the change in their facial feedback or change in the faces they start feeling that particular thing right. And so, what this experiment also says or this, this facial feedback hypothesis also is that.

Changes in a facial expression produce a shifts in our experience emotion rather than merely reflecting them. So, if you if you make your face happy or if you contour your face in a happy manner you will start feeling happy after some time. But if you contour your face in a sad manner the brain somehow understands this information from the face and starts feeling sad. So, how you how you depict your face or how you contour your face change your face that will decide what kind of emotion you are feeling.

The third kind of evidence is in addition this suggests that changes in bodily postures or even the tone of our voice may influence emotional experiences. Now it has also been found out that changes in body postures certain kind of postures will lead to certain kind of emotions. And also tone of voice; if you are talking with loud tone, if you are talking with a different kind of a tone altogether. Now these kind of tones are raised on a high tone that kind of tones can also lead to different kind of emotional feeling that can

generate in people. So, these are the evidences which support the fact in the James-Lange theory is correct.

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Theories of Emotion

Schachter and Singer's Two-Factor theory -

Emotion provoking events produce *increased arousal*.

In response to these feelings we then *search the external environment* in order to *identify the causes* behind them.

The *factors we then select* play a key role in *determining the label we place on our arousal* and so in determining the *emotions we experience*.

Another interesting theory that has been proposed and that is more apt theory of emotion is the Schachter and Singer theory. And what is the Schachter and Singer theory? Now Schachter and Singer theory says that: emotion provoking events produce increased arousal. The first step in emotion to happen according to this theory is that emotion provoking events, the events the stimuli the person in environment interaction they produces increased arousal.

So, those situations that lead to emotion, that causes emotion for receiving a prize or somebody shouting at you these situations actually lead to increase arousal. Now in response to these feelings we then search the external environment in order to identify the cause behind them. As soon as we see an increase arousal, as soon as we feel an increase arousal what we tend to do is we look at the environment around us and try to find out why are we feeling this, what is the reason for this feeling.

So, what we do is we search the external environment to identify the causes behind what is happening. So, if you are feeling angry why are we feeling. So, an anger related situation; anger arousing situation if it is presented to us we will feel aroused. Not only we will you feel aroused we will also start searching for an environmental cues which

leads to this person or this event or this action or this system showing anger to us or provoking anger responses in us.

The factors we then select play a key role in determining, the label we place in our arousal. And so in determining the emotions we experience. So, then the emotions is determined not by the arousal that we are feeling, but it is determined by the factors that we select as the reason for the increase arousal. And that determines the label we plays on a arousal and the experience that we have with it.

Now remember the external experiment that we did in which I explained to you what happens is. There are two group of people: one group of people both of group actually had an exercise they did an exercise and later on they were sent to two rooms. In one room was the happy room the other room was a sad room. People were sad in one room, people happy in one another room. Later on when this group of people were actually talked to and they asked to describe their emotion, the peoples who were sent to the sad room felt more sad felt more angry if it was angry room. And the people who were sent to the happy room they felt more happy.

Now we know that this arousal was there that any situation the emotion provoking situation here was the exercise. Now the exercise led to the arousal, and this arousal these people did not know why they were feeling aroused, they were they were not a to find out the reason for the arousal. But when going to these rooms they search the environment and when they were sent into the room they searched the environment the environment said that this is a happy room, because everybody is happy there they were playing, they were making paper planes, they were talking loudly.

And so, these people then determined the fact that the arousal was because they were feeling happy, they were in a happy room and so, they were feeling happy. And that is the arousal linked to it. People who when they angry or sad room they saw people if it was an angry room that people were shouting with each other, the cursing everyone. In a sad room they were saying they were crying, they were sitting its at a place and not doing anything.

And so these cues these environmental cues made them believe that it was a sad room and they were feeling sad. And that is what this theory actually says. The factors which are selected for determining the reason for the arousal that leads to the emotion.

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Opponent process theory – the theory suggest that

Happy → Sad

- 1) an emotional reaction to a stimulus is followed automatically by an opposite reaction
- 2) repeated exposure to a stimulus causes the initial reaction to weaken and the opponent process, or opposite reaction to strengthen

And the last theory that we discussed today is called the opponent process theory. And what is this theory? It is a very simple theory. Either theory suggests that an emotions reaction to a stimulus is followed automatically by an opposite reaction. What does it mean? It means that if we feel happy the happiness is immediately filled with sadness.

So, if you feel very happy if there is a doctor who is operating in patient and he feels happy about his success, then immediately after the operation he starts feeling sad for whatever reason. And so, opponent process theory says that if one feeling if one emotion sets up in someone and contrary motion or a second emotion an opposite emotion also sets up very quickly in that situation. Also repeated exposure to stimulus causes the initial reaction to weaken, and the opponent process or the opponent reaction to actually strengthen.

So, if we keep on repeating exposure to the particular stimulus us, the initial reaction or the initial emotion that we feel to a particular situation weakens and the opposite reaction strengthens. What does it mean your doctor experiment is: the doctor always feel happy to about his operation and later on he feels sad, over the years what will happen is he will start becoming a robot and he will not feel happy anymore about his operations or the success of his operations. By operating each time you operate someone any its a success he feels happy. And if he does this happiness is a this happens for a longer period of time, with the coming of years what will happen is will not feel happy at all. He will not

feel that much happy or that much excited anymore. What will happen is he will feel the opposite reaction sad reaction. Or what will happen is the sadness will prevail more. And later on in life they will they will become a robot he will not feel at all.

So, summing up of what we did in today's class is that: we actually looked at what is emotion; another interesting fact or another interesting variable which defines human behavior. So, we described what is emotion, and we described the process model of emotion which basically defines how emotion sets in, and how different processes and systems combine together to define an emotion episode.

Later we looked at some theories of emotion which is the Cannon-Bard theory, the James-Lange theory, the Schachter and Singer theory, and the opponent process theory. Whereas, Cannon-Bard says that the feeling and the arousal that comes with emotion happens simultaneously. James-Lange says that you first start with a feeling of arousal and this feeling of arousal then later leads to; the artist arousal the bodily arousal then leads to the feeling of emotion and that leads to the emotional responses.

Now both of the theory has been challenged in some way and then the answer to the challenge that has been given to these theories come from the Schachter and Singer view which basically says that it is not the physiological arousal or the emotion that has any role to play. What happens is the factor people or the reasons that people assign to how they are feeling or the arousal that they are feeling. So, when you feel aroused the reason that you define for this particular arousal we will defined what kind of emotion you are feeling.

So, emotions are not a direct output of the arousal rather this the reasons that you provide for what you are feeling is the reason or is the main factor which decides what emotion you are going to feel. And the last theory was called opponent process theory which says that if one emotions had seen a contrary emotion also sets in after it very quickly and so, this kind of cycle goes on and on.

Now we will continue with this idea of what is emotion and look at some further discussions on what is emotion, how it sets up. And then also focus a little bit on how to control emotion in the next class when we meet again.

So, up till we do that and meet next time it is thank you and goodbye from here.