

**Psychology of Emotion: Theory and Applications**  
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**Module 7, Lecture 17: Emotion and Judgment/Decision-making**

I welcome you all to lecture number 17 of the course titled “Psychology of Emotions Theory and Applications”. So we are in module 7 and module 7 is about cognitions and emotions, the interaction between emotions and cognitions. So this is the third lecture of the module 7. So today we will be talking about emotions and how they influence judgment and decision-making. So in the last lecture, we talked about how emotion influences memory, in that context we have discussed the concept of mood-congruent memory which means we are more likely to recall events or memories that are incongruent with the current emotional state.

So if you are experiencing positive emotions you are more likely to recall or remember positive events from the past. We have also discussed the different aspects of mood-congruent memory we have also discussed another concept which is called a mood state-dependent memory which means, the emotional state in which we encode information is remembered better later when the same emotional state is experienced. So here focus is given on which emotional state we learned something and correspondingly later under the same emotional state the material could be easily accessed. So here the content need not be emotional content could be any, but in mood-congruent emotions, mostly according to the emotional state the contents and the balance of the content are also similar.

Then we have discussed eyewitness memory and that context we have discussed that when somebody witnesses accidents, criminal events, or some dramatic events they recall those episodes, as what happened. So lot of research shows that a lot of errors biases and errors happen when we people try to recall those dramatic incidents of crimes. We have discussed the reasons behind them and all the phenomena and experiments associated with all these phenomena.

So today we will be talking about the concept of judgment decision-making and how emotion can influence that. In that context, we will be talking about mood-congruent judgment as a phenomenon and we will try to explain why this happens and we will understand various associated phenomena associated with mood-congruent judgment.

So as we have already seen emotion could influence or impact our attention, our memory, our perception, and so on. Similarly, emotions can influence how you make decisions because decision also involves a lot of all these cognitive processes. If emotion can influence all these cognitive processes like attention, perception and so on it is also likely

that emotion can influence decision-making because decision-making also may involve a lot of these cognitive factors. So in this, we will be focusing on how emotion affects people's judgment and decisions this topic has gained a lot of research attention because this has a lot of implications on how emotion influences people's judgment because it has a lot of practical implications. So people in the field of psychology, people in the field of behavioral economics also give a lot of focus on decision-making processes, how people decide and choose or in the field of consumer behavior, how people choose some product, and so on.

So how does emotion influence decisions and choices, Even in the field of neuroscience people also look at the concept of emotions and how they influence various cognitive processes including judgment and decision-making. Now this area has witnessed kind of increasing number of publications and research annually. So some data shows that the research has doubled between 2006 and 2013. So this is kind of till 2013 data ensures that the number might have increased much more after that.

So the idea of the trend shows that the research and publications in this area of emotional decision-making and judgment are on the rise. Now when we talk about the words judgment and decision making there are certain differences in terms of both these terms and how do you explain them? So judgment and decision-making technically are different terms. So judgment refers to the evaluation of certain aspects of a situation such as quality, probability, or importance. So when we judge something, we are judging a particular situation or a particular object or whatever it is based on certain aspects like what is the quality of that situation or the quality of a product and so on. What is the probability of having something in a particular situation, some kind of qualitative aspects or some kind of characteristics are kind of evaluated. So that is kind of why we make some judgments based on certain characteristics.

Decision-making is more about choices that involve choosing between multiple options. So when we have different options and you need to choose one that is the situation of decision making different choices and you need to choose something. So judgment is more about some evaluation of a particular situation, particular object, or whatever it is. But generally, these two processes could be very much related. So based on our judgment can influence our decision-making and so on. So the judgment of the available options can influence the final decision. So these are interrelated processes but technically they are different in terms of what is defined as judgment and what is defined as a decision-making process. All these cognitive processes that we talk about attention, remembering and everything ultimately all these are contributing to our decision-making process.

Since emotion influences all these cognitive processes it will influence the decision-making process also. So the research shows there is compelling evidence that emotions

play a significant role in decision-making even if you are not consciously aware of it. So diverse research that we will be looking at also shows that emotion can influence different kinds of decision-making even though we may not be consciously aware of it. Even unconscious way emotions can influence our decision-making process. So we will be talking about this concept of how emotion influences decision-making through the concept of mood-congruent judgment.

As we had already discussed mood-congruent memory similarly we can have mood-congruent judgment. So it means your current mood will influence your judgment. So that is the meaning of so your current mood will kind of influence the judgment and decision-making that you are likely to make. For example, if you are in a positive mood you are more likely to evaluate or make judgments with positive evaluations, and judgments are more likely to happen. Similar to when we discussed mood-congruent memory which means are more likely to remember things that are incongruent with your current mood.

So similarly you are more likely to make judgments that are congruent with your current mood. So just like memory mood-congruent memory, there can be mood-congruent effects on our judgments and decision-making. So for example a common understanding or experience in our life that activities that appear unpleasant when a person is sad can become enjoyable when the same person feels happy. The same activity can become enjoyable when you are in a positive mood and you may not enjoy the same activity when you are in a sad mood. So emotions influence your evaluation of the same activity.

Activity is the same but you are evaluating it completely differently based on your current emotional state. So that is an example kind of mood-congruent judgment. So this refers to the tendency of individuals to make judgments that align with their current emotional state. There is much experimental evidence available we will be looking at throughout the discussion. For example, Johnson and Tversky 1983 did a very simple mood-congruent judgment experiment on probability.

For example, in this experiment, they induce a negative mood state in the participants by having them read depressing text. So in the experimental condition, the negative emotional state was induced by having them read some depressing text which could influence their mood in a negative way after which they were asked to estimate the likelihood of different emotional events occurring. So certain probability task was given where they were asked what the likelihood that this kind of emotional event would occur in the future. So certain contextual materials were given. So how it influences their judgment and judgment in terms of the likelihood of occurring some emotional events.

So results show that the individuals in a negative state overestimate the probability of

negative events. So when people are induced into a negative state they are more likely to overestimate the probability of negative things happening in the future. So that present mood kind of influenced their judgment while those in a positive mode had another condition where the positive mood was induced, they found they were more optimistic than the neutral participants. So basically, different mood states were induced and they tried to see how this mood state influences their probability judgment of certain emotional events happening. So this also showed the mood-congruent judgment happening, people with a sad mood were more likely to overestimate negative events people in a positive mood were more likely to kind of more optimistic about positive things happening.

Similarly, diverse research shows that people make mood-congruent judgments in diverse contexts not just in the experimental setting. In the diverse context in the experimental as well as field studies and real-life settings people also make mood-congruent judgments about their sensory experiences meaning what you hear, touch, and enjoy all the sensory experiences whether you enjoy sensory experience depends also on your current mood and so on. Your judgment about other people is also influenced by your current emotional state of how you judge somebody whether you judge positively or negatively may be also influenced by your current state. Also, how you judge yourself when you are in a sad mood you are more likely to evaluate yourself negatively and vice versa, and whatever positive mood will kind of stimulate more positive evaluation about yourself. So, in different contexts, this mood-congruent judgment has been found in different research. Research also shows that even momentary and unconscious emotions unconscious feelings, momentary and unconscious feeling can affect your judgment, how do you judge something, even though that feeling could be very momentary short time and very unconscious you are not even consciously aware that you are feeling something positively or negatively, very unconscious feeling could also influence your judgment about things. So how this could lead to some kind of judgment? One of the experiments that were done and later similar experiments also showed similar findings.

So Niedenthal in 1990 did an experiment that shows these unconscious momentary emotional experiences can influence your judgment. So, in this experiment, the participants were shown brief flashes of images on a computer screen where a person was either smiling or displaying a look of disgust. So very briefly flashes of faces showing two emotions were presented brief flashes of images on a computer screen. So, one face was a smiling face one face was a face of disgust say negative emotion. So, some participants were shown this positive smiling face but this was kind of flashed for a very brief period, just shown, and then it was retracted back. So very brief period these two faces showed different emotions one positive and one negative was flashed on the screen. Immediately following the first image, let us say a smiling face was flashed it did not stay for long on the screen immediately after that a long-lasting image of a novel cartoon character

appeared. So one emotional face then immediately on top of it a novel cartoon character, some cartoon character which was not generally in the TV serials and other things some novel new character was flashed on the screen and it stayed for a relatively longer time. But the emotional face was immediately replaced with this cartoon character in the same location on the screen. So it kind of eclipsed the emotional face, the first image was effectively masked by the cartoon character to prevent it from being consciously perceived even people could not consciously see whether the person was smiling or disgusting it was the very fast flashing of the image and then immediately on top of it was masked by the cartoon character.

So similarly several trials were given in which one type of emotional face, for some participants happy face or a smiling face with a cartoon character, for some other groups of participants this disgusted face was eclipsed by a cartoon character. The cartoon character was the same. But what image preceded was different for the two groups of participants one smiling face was kind of associated with another participant, and for another participant, a disgusted face was associated with the cartoon character. So it was paired with the cartoon character. Participants rated their overall impression of the cartoon using a set of personality traits, and then the task was there they were supposed to evaluate the cartoon character in terms of certain traits and how they evaluated this cartoon character with certain personality traits. The result shows that when the disgusted face was repeatedly paired with the cartoon character so for the group of participant what disgust face was flashed and immediately cartoon character came people did not even consciously notice that it was a face when it was repeatedly paired participants made more negative judgments of the cartoon character.

So when they were asked to judge the cartoon character in terms of certain traits their judgment was more negative as compared to the participant when happy face was repeatedly paired with the cartoon character. So, when a happy face or smiling face was repeatedly paired with the cartoon character they made more positive evaluations of the character even though the character was the same for all the participants. So, it was a kind of priming that happened where even unconscious emotion generated by those faces people even those who are not consciously aware of them influence their later judgment of the character. So it clearly shows the impact of emotion and how strongly it can influence our decision-making and judgment processes. So, in many practical settings emotions can play a role where we have we might also kind of encounter or experience them in our own lives in practical settings emotions can influence decision making are often utilized in various settings.

For example in a lot of these retail businesses like shops, malls, and other things, people use cheerful decorations and happy music to put customers in a good mood to increase

their likelihood of purchasing things. So first in general, the people in different shops and other things do the interior decoration in such a way that induces a positive mood that can enhance their likelihood of purchasing from a particular shop or something like that. So, people know this kind of thing even unconsciously and they kind of try to kind of manipulate the mood of the people or the customers. Advertisers all the time use this idea of manipulating the emotions of the people in the advertisement so that more positive emotion is induced when they see the product. So that is the main one of the main ideas people use in advertisements where a lot of advertisers associate their products with happy scenes or most of the advertisements will try to induce some happiness in you where some positive things will be shown to you or some celebrities will be shown where you have some positive emotions associated with some celebrity characters.

So that is why a lot of companies use celebrities for endorsement because people have some positive emotional association with those celebrities. So when they say this is a good product people, may not consciously evaluate the product whether it is good or not but simply because it is associated with a celebrity person with whom there is a positive emotional connection. So people will associate products with positive emotions and they are more likely to buy them. So happy scenes especially in cases like cola beverages where there is not much differentiation between one brand from another they kind of use even in posters and other things some kind of positive images and so on. So that people are more likely to associate the product with positive emotions and make more positive judgments in terms of buying the product.

Political candidates also manipulate the emotions of the people in their advertisements during elections and so on, we all might have seen such things using cheerful music, and images to associate themselves with positive emotions and they try to show opponents the with the negative emotions. Often people may not know make kind of details to judge the positives and negatives but simply because those posters, those music, and those rallies and other things induce some kind of emotions. So a lot of time these things work actually. So these influences are often quick and implicit people influence their decision-making processes. So sometimes they may not evaluate all the pros and cons but the emotions they will induce will kind of change their decision-making process.

And while a rational analysis might not support the emotional associations, they can still be effective. Many times, things rationally may not make sense but emotionally it is associated and people may make such decisions. So how do you explain this mood-congruent judgment? What are the possible theoretical explanations for this? So we will see some of these possible explanations which can further shed light on the understanding of whole emotional influences on the judgment. So, in that context, we will be talking about four models or four aspects that can explain mood-congruent judgment. One is called

as Somatic Marker Hypothesis then we will be talking about Affect Priming, Affect as an Informational Model and then we will be talking about Affect Infusion Model.

Some of these theories we have also discussed very briefly in the first lecture of this module which talked about the relationship between emotion and cognition in the introduction part. Here we will be talking in line using these explanations of these theories in the context of how they influence judgment and a little bit more elaborately. So some brief introduction was already given but we will be talking more about, in more detail we will try to understand it in the context of judgment and decision making.

The Somatic Marker Hypothesis is a new concept here other three we have already kind of introduced in the first lecture of this module. So Somatic Marker Hypothesis kind of explains this mood-congruent judgment. So generally human decision-making is often portrayed as a mechanism driven solely by logical calculation of cost-benefits seemingly detached from emotions. Normally when we think about decision-making mostly, we think decision making there should not be any emotion involved in it. It should be more based on cost-benefit analysis logical calculations and so on. But this Somatic Marker Hypothesis a lot of already research evidence has shown that emotion is very important in decision-making processes. So Somatic Marker Hypothesis suggests that emotions play a very crucial role in facilitating the ability to make rapid rational decisions especially when confronted with complex and uncertain situations.

So whenever we are in a situation of very complex uncertain situation, emotion can play a very important role in making rapid decisions within a short period. So generally, the normal layman's idea that emotions are not important in decision-making is not founded, not much research evidence for that. Emotion can play a very important role in decision-making. So neuroscientist Antonio Damasio proposed this Somatic Marker Hypothesis. According to this hypothesis when we have to make a decision our mind quickly estimates the potential outcome of different options, generates emotional responses to these outcomes, and uses these emotions to guide the decision-making process. So it very simply says when we are about to make a decision our mind estimates the potential outcome what will happen if I make this decision, what will happen if I make a decision some mental possible outcomes are a kind of mind decides and according to outcomes kind of mind also generates an emotional response to these outcomes.

So if outcome X is there automatically emotions are also generated for this outcome if the outcome is Y emotions are also generated for this Y automatically because this emotion uses and guides the decision-making process. So how you feel emotionally about those outcomes if I choose X or if I choose Y, how my emotions are generated for X and how my emotions are generated for Y will be very strong determinants of my final decisions. So that emotion will make that final decision. So this emotional response we have seen in

the physiology chapter lecture that emotions are kind of always associated with certain bodily and neural changes. So this emotional response always includes some bodily and neural changes.

So when you feel fearful there will be a heartbeat and some sensation in the stomach and so on so the body is always involved. We have discussed details about them. Bodily changes that represent an emotional response to an external or imagined event. Damasio called this a Somatic marker.

Somatic means body. So there will be some marks in the body in the only experience emotion there will be bodily markers in the system or physical system. So those are called Somatic markers. Somatic markers can be very visible in terms of changes in facial expression or posture. So whenever we experience some emotions facial expression changes, some bodily changes can happen which can be very much visible from the outside, or sometimes a lot of aspects of Somatic markers can be invisible such as changes in the hormones and heart rate which may not be visible in the outside. So, these Somatic markers influence our future decision-making process both consciously or unconsciously.

So this can help us make difficult decisions quickly based on the kind of emotions generated according to the outcomes and the common advice, just for example people say to follow your heart. So this is a kind of indirect way of saying that following your heart means the heart is mostly associated with emotions. So, emotion guides our decisions. So that's the whole layman idea or general popular idea that follows your heart in terms of making decisions. So that means to follow your emotions and what emotions are telling you to do or go with your gut feelings these are all indications that kind of go with your emotional aspect emotions what your feelings about the different aspects of the decision that you are taking, and this may have some validity because the research shows emotion can play a very important role.

Now the Somatic marker hypothesis also finds some especially important parts of the brain that are responsible for this Somatic marker hypothesis this is called as Ventromedial prefrontal cortex. Now research shows the damage to this prefrontal frontal lobe particularly the Ventromedial prefrontal cortex the frontal part of the brain will just show the picture when there is damage in this part of the brain which leads to difficulty in organizing behavior planning and learning from mistakes. So, a lot of decision-making process is hampered when there is damage to the prefrontal cortex. So in this picture, you can see this blue part is the prefrontal cortex. So, if you see the brain this is the front part of the brain and this part is the ventromedial prefrontal cortex when there is damage in this part of the brain people find it very difficult to make decisions because this part is one of the important parts for making decisions.



Now individuals with this ventromedial prefrontal cortex damage also struggle to appropriately express and experience emotions. So this part also has important emotional implications, when there is damage to this part are not able to struggle to appropriately express and experience emotions because emotions can be regulated by this part also. As a result, Damasio in his somatic marker hypothesis proposed that decision-making deficits whenever there is damage to this part of the brain there is a deficit in the decision-making process it comes from this part, ventromedial prefrontal cortex damage, because of the inability to use emotion as a guide for future actions based on experience. Because due to the damage of this part of the brain people are not able to use emotion as a guide for their decision. Emotion as a guide for their decisions is this ability kind of is hampered and we know in complex situations emotion always helps us to make decisions quickly.

If this part is damaged then people are not able to use emotion as their guide to make decisions. So, therefore, the overall decision-making process is very hampered due to the damage to this part of the brain. So those with damage to this ventromedial prefrontal cortex are compelled to rely on slow and meticulous cost-benefit analysis. So for every decision they will do a lot of this cost-benefit analysis which may take a lot of time because they are not able to use their emotion to guide their decisions. So Damasio 1994 did a study on one of such patients where there was damage to this part of the ventromedial frontal lobe damage and this person was a patient of this damage. So this person was unable to decide between two possible dates for his next doctor's visit. So this task of making a decision when there were two days available and he was to decide on one date for his next doctor visit. He was struggling to decide which date he should go and he had this damage to the ventromedial prefrontal cortex. So he was not able to make this simple decision of choosing between two dates. He spent nearly half an hour listing reasons for and against each date without concluding.

So he was struggling to see what the positives of going to this date, the negatives of going to this date all the cost-benefit analysis he was doing, and still could not conclude. So Damasio ultimately had to decide for him. Damasio who proposed this theory finally decided for this person. So this shows when these emotions are not people are not able to use the emotion as the guide to make decisions and the decision-making process is hampered. This patient was using this deliberate system two that we discussed in the last lectures where we said there are two processing systems, system one and system two.

System two is very elaborate and you do all the cost-benefit analysis to conclude. System one is more quick and heuristic. So this patient was using system two, to do all the cost benefits and detailed elaborate analysis on its own, but he could not conclude. In contrast for people normal people who are in such a situation may use just system one emotion

heuristic and will just say it does not matter to me, I will take the first date whatever is available. So people can make this kind of decision very quickly, but for this patient, it was not possible because somehow he was not able to use his emotions as a guide to making decisions.

So our emotional world is what allows us to make decisions quickly and efficiently at least this theory and research shows. Now emotions especially can become much more relevant in some contexts of decision making such as when there is a choice that needs to be kind of one need to choose between where there are preferences and values involved. In those decision making emotion can play a much more important role as compared to other situations. So whenever there are we need to choose based on our preferences and values. For example, now computers can make complex decisions in terms of when the data are given it can take thousands of steps and make calculations and take decisions efficiently in achieving objectives of existing, but when the situation comes where a preference needs to be decided values are involved logical conclusions and computers may not work. For example, let us say a computer informs us that a particular medical patient has a higher chance of living longer with treatment A. So if treatment A is given there is a higher chance of living longer than treatment B, but treatment B would have a better quality of life. So there are different kinds of pros and cons with both treatments, probably here some value judgment needs to be made, and logical conclusions or kind of computer calculations may not be able to decide what is the best way to go. It cannot determine which treatment is preferable or what kind of treatment one should follow because what is better is a kind of preferential kind of situation, people decide what is better and what is not better based on their emotional judgment.

There is a value judgment involved in it. Just logical conclusions and pros and cons analysis may not work in such a situation. So because there is a value judgment involved here choices based on values are inherently emotional. So in such a situation, even a computer may not work, it can only say these are the pros and these are the cons, but may not give you an appropriate answer based on what values and preferences you have. So as Damasio stated in his quote emotions are inseparable from the idea of good and evil, which means whenever there is a value judgment of what is good and what is bad, emotions are bound to come into the picture, we cannot decide without emotion what is good and bad. So if a decision involves conflicting values and personal preferences, when the values are involved preferences are involved it is more sensible to go with or trust the emotional aspects or intuitions of people to make decisions. Emotions can play a much more role important role in decisions where preferences and values are involved.

Several studies indicate that individuals who make intuitive judgments regarding subjective aesthetic decisions are more likely to be satisfied with their decisions in the long

run. So, when people make intuitive decisions based on their emotional aspects, they are more satisfied in their decision-making in the long run especially when they make decisions related to aesthetic decisions or subjective decisions in their lives where values and preferences are involved. Wilson and colleagues in 1993 in one of the related experiments found that introspecting about reasons behind one preference when people think too much about why they choose something or whatever preferences they had reduces their satisfaction with the choice whatever choice they make if they make too much of logical analysis, it reduces their satisfaction with the choice itself. So for example in this study, Wilson et al study, participants were presented with two different types of posters and asked to select one to take home. So some participants were instructed to think about the reason behind their choice, pros and cons, and so on, and some kind of just intuitively took decisions.

So they found that those who were instructed to think about the reasons behind their choice ended up picking a different type of poster compared to the control group who did not make too much of a logical analysis, the choices were different. So they choose different types of posters to take home. When they were contacted three weeks later the introspected group where they made a lot of analysis reported a lower level of satisfaction with their decision, whatever kind of poster they chose to take home they were less satisfied. When people engage in reasoning about their choices too much, they end up focusing on aspects of stimulus that are easy to express in words and may seem like reasonable explanations. So, when people kind of only look at why I chose in terms of rationality they will only see the observable aspects that make rational sense and may make a decision, but intuitively at the emotional level what appears to them and they may not be even aware and the decision may not be in line with that emotional aspects.

So people generally find less satisfied many times when they take too much of such route. So however these factors may not have been the primary drivers of their initial evaluation. So when they initially leave you just see something and like something may not all the time rationally explain why you like something. So that intuitive decision sometimes people feel more satisfied when they make such a decision in situations where preferences and values are involved as compared to when you do all the logical analysis. Because you cannot logically explain or kind of find out every aspect of a particular situation, only the observable which can be expressed some of the aspects you can only look at it. Which may not be the initial driver of your choice what you like some or what you like or dislike about something. So this act of listing the advantages and disadvantages of an option may make it harder to choose sometimes, it is not that we should not do this pros and cons analysis, but in many situations when you do pros and cons analysis too much they make it more difficult to make choices because you have pros also you have cons also, how do you decide.

Sometimes the decision becomes difficult for such kind of too much analysis. The process of listing the pros and cons often highlights differences among the options, but the number of pros and cons may balance each other out. So you may have 5 pros and 5 cons then still you end up with you do not know as both aspects are equal. So making sometimes such kind of situation things may make choice more difficult. Now nowhere it is said that one should not do a pros and cons analysis in different situations of life, but it only said that especially when preferences and values are involved, probably intuition helps us to make decisions in a much better way as compared to only focusing on logical analysis and rational thoughts. So does that mean that we should not make preference-based choices immediately without thinking about them and should only just make immediate intuition or should not think about them at all? Research does not state this at all.

Weighing advantage of the disadvantages of different options can be beneficial in many practical situations of life and we should do it. Especially in situations where there are a lot of practical implications involved in decisions like selecting what health insurance you should take and what kind of plan or choose, which candidate to vote for running the country, one should call the logical analysis. Relying on initial intuition may be the most valuable source of information where there a choices that are related to your preferences and values involved. In those cases the heuristic pathway seems to be more efficient or people seem to be more satisfied with that kind of decision-making process. Now another so this is about somatic marker hypothesis and choice based on preferences and values kind of also explain some aspect of this mood congruent judgments.

Another factor that can explain mood-congruent judgment is called affect priming. So this is related to the associative network model of Bower that we talked about. So it says mood-congruent judgment is a type of mood-congruent memory only. So whenever you are in a particular mood it stimulates certain memories in accordance with your mood. So positive mood, positive information you recall and then you make a decision that will be influenced by your memories, nature of memories if positive memories are coming you are more likely to make positive evaluations and judgments. So it is more kind of mood-congruent judgment is a kind of subtype of mood-congruent memory itself.

So this suggests that one emotional state could make related memories to the judgment more accessible only. So, if you have certain types of thoughts are available so that thoughts on those thoughts only help you to make decisions. So, mood-congruent memory is involved in mood-congruent judgment itself. So, effect priming means that is associative network model that we have discussed is proposed by Bower that model he was proposed by Bower in 1981. It is a phenomenon in which exposure to a stimulus such as words or images elicits an affective response and can temporarily increase the accessibility and

influence of related affective information.

So this is what we have already discussed in the associative network model of Bower. So that is talking about effect priming as a phenomenon. So it says when you are exposed to a stimulus, some environmental stimulus, some person, some word, some images it elicits certain emotions emotional response which can temporarily increase the accessibility of the memories associated with those emotions and can influence whatever memories are accessed and which can influence your decision making process. So in other words the affective response to one stimulus can prime. So your emotions are stimulated by one stimulus, you see something some images some situations, it induces some emotion, this emotion which was kind of stimulated by one stimulus, can prime or it can kind of induce activation of related effective information in the brain network itself. So if it stimulates positive emotions it can induce activation of another positive emotional node in the brain which can then influence subsequent judgments and behavior, whatever is activated will be only used in the decision-making process.

So that is the whole idea of effect priming, it is a kind of phenomenon that is described in the associative network model. So, for example, if a person is exposed to a stimulus that elicits positive emotions such as joy, this may prime activation of other positive emotional information in the memory. So those positive memories will get activated because these are all connected, emotions that will influence similar emotional nodes in the brain and these nodes will be associated with different memories. So, if it activates past positive emotional events and the memories associated with them. So, this may prime the activation of other positive emotional information in the memory such as memory of happy experiences, this activated affective representation can then influence subsequent judgment.

So these memories that are generated obviously can influence your later judgments and decision-making processes. So positive emotion may make people evaluate things more positively, whatever stimuli they are judging or they may overall feel happier which can influence their decision-making process. This effect priming effect has also been observed in many other tasks such as evaluative tasks when we evaluate something in which participants are asked to evaluate a certain stimulus such as a picture or reward, after being exposed to a prime stimulus or after being exposed to an emotional stimulus then for example the last experiment that we discussed of cartoon. So one emotional stimulus face was presented and then some other stimulus was presented after that. So the initial stimulus will prime the judgment evaluation of the next one that is presented because that first one stimulated some emotion this emotion will influence how you judge the next one.

So that is the priming effect. The affective valence of the prime can influence the

participant's evaluation of the target whatever is given indicating that the effective information associated with the prime has influenced subsequent processing. So that was very clear in the experiment that we discussed cartoon figures that were also very clearly shown there.

Now another model that can also explain this whole mode congruent judgment thing is the Affect as an informational model. So we have kind of introduced this model in the first lecture of this module, but we will be looking at it in the context of decision-making. So this Affect as an information model developed by Schwarz and Clore in 1988 proposes that affective or emotional states serve as a source of information that people use to make judgments and decisions.

So emotions always serve as a signal or information about the environment or the situation that you are in. So you feel happy or you feel let us say fear then it is giving you a signal that something is not right in the environment something is dangerous. So your emotion is giving you a signal or information about this situation and then you use this information to make a judgment. So if you think there is a danger then you may take a decision I should run away from this situation because it is dangerous.

So your decision is influenced by the information that is provided by your emotions. So that is called an affect as an informational model. So according to this model, individuals use their current emotional state as a shortcut mental shortcut to assess the desire will be of an object to the situation. So they assess according to the emotions whether this is a positive thing or negative thing and accordingly, they make decisions. For example, a person in a positive mood may judge a social situation more positively based on their current emotional state whereas, a person in a negative mood may judge the same social situation negatively. So two people may be there in a social situation or a gathering one person may feel happy and may judge the situation as positive, another person may feel sad and judge the situation negatively, the same situation based on their current emotional state.

In this way, the affective state of an individual can influence our judgment of the situation. So situation is judged differently based on current emotional states. So that the emotion is giving you information when you say if you experience If the emotion is negative that means it is giving you information that things are not right here. So you take a decision accordingly and judge that this is not a positive event. So emotion can also serve as a shortcut for making judgments especially when the task is complex especially when the complex situations are there, emotion can help you to navigate such situations more quickly using emotion as information. So in such cases, people may rely on their current emotional state to make a quick judgment because many times we do not have the energy and time to look at every aspect of the situation pros and cons, and all the rational analysis when the

things are very complex because generally, we do not want to invest so much of a time and energy.

So people make quick judgments based on emotion whatever emotion gives them the information they will use that and make decisions. So for example, if someone feels good they may make a positive judgment while the negative affective state may lead to a negative judgment. Some people generally ask how I feel about it. If this thing if they feel good about the situation they think this is a positive situation if they, feel bad about it they judge the situation as negative.

So it could be as simple as this. This is how people make decisions in their real life. However, according to this model, people do not use affect as information when they realize that emotion is unrelated to the object of judgment. So this model also says that emotion does not kind of equally influence the decision and judgment especially when they feel that this emotion is not connected to the situation. This model is predicting this. When people see that this particular emotion is connected to the situation then this situation judgment is influenced by this emotion. But if they think this emotion was kind of connected to something else then probably it may not influence the judgment of a particular situation X when the emotion arose from the Y situation.

So this model says that there could be differences in terms of when an emotion can influence a decision. So feelings can affect evaluation but only when they are seen as relevant to the judgment at hand. So this is one experiment done by Schwarz and Clore in 1983 which kind of shows, when emotion can influence and when not. So in this experiment, the participants were contacted either on a sunny day or a cloudy day. So there were two environmental conditions, one was a sunny day another was a cloudy day and asked things consider how satisfied or dissatisfied are you with your life as a whole these days.

So basically they are asking how satisfied are you with your life. One group of participants was asked this question on a sunny day another group of participants were asked this on a cloudy day or a gloomy day. So, the whole environment was kind of different in terms of condition. So, condition one participants were directly asked this question. In one condition the participants were directly asked, how they all things consider how satisfied or dissatisfied are with their lives.

So they were asked to rate their life satisfaction directly they are asked. In the other condition, the participants were not directly asked. So they were first asked the participants were first asked about the weather. So how is the weather today? So they were first asked about the weather. So the participants become aware of the weather around them and then

they are asked this question, all things considered, how satisfied or dissatisfied are you? So in condition two, the participants were first made aware of the weather that they were feeling maybe good or bad because of the weather.

So it was made explicit in the second condition. In the first condition, they are not asked at all about the weather. So Schwarz & Clore hypothesized that only participants who are not asked about the weather would use their current emotions to judge their life satisfaction. So the first condition participants in their hypothesis in condition one where participants were directly asked to take together everything about how satisfied or dissatisfied with their lives. The condition one participant will make their judgment based on whatever emotion they have because of the weather condition simply because they are not aware that their emotion is generated because of the sunny day or a gloomy day.

So that was their hypothesis. So according to them and condition two because they realize the weather and then they understand that they may be feeling good or bad because of the weather. So they will separate it and their judgment of life satisfaction will be separate. So these two conditions kind of made these things very clear. The result shows this kind of confirms their hypothesis that participants who are called on a sunny day reported greater life satisfaction than those called on a gloomy day.

But only when they are not asked about the weather. So the condition one participants when they are not asked about the weather. So generally the participants who were asked this life satisfaction question on a sunny day reported more satisfaction on average when the many participants were asked as compared to participants who were on a gloomy day. But only in the condition where when they are not asked about the weather. But when they are asked about the weather, how was the weather, they become aware that they are feeling good or bad because of the weather. So this feeling of good or bad did not influence them very strongly on their judgment because they are separated this emotion is coming from the weather and it did not influence their rating of life satisfaction.

However, in condition one they mixed it the emotion was generated from the weather and it influenced their life satisfaction judgment. So, when asked about the weather participants were less likely to be influenced by feelings about the weather when making judgments of life satisfaction. So they are saying that if you become aware that emotion is generated from something else then it may not influence decision making in some other context. So if emotion is generated from the X situation if you are aware of it then probably this emotion will not influence your judgment on the Y situation. So this was kind of the data that shows sunny days and gloomy days and how the differences were there in the two conditions when no weather was not asked.



So there was a difference when weather was not asked so there was a difference. So this finding is generally the effect prime condition that the theory or associative network model that we talked about, did not consider aspect according to that model emotion will influence your kind of activate all the similar nodes and influence your decision making. Here in this model affect as information, they are making some conditional aspect that from what is the source of emotion if people become aware then the judgment may be different. This was not kind of predicted or taken or considered under affect as a prime model for that we have discussed which comes under associative network model.

Now the last model that can explain emotion on judgment is the Affect infusion model. We have given the introduction of this model also in the first lecture of this module. But now we will discuss a little bit more detail. Now this effect infusion model or in short AIM, it is a psychological framework that explains how emotion can influence cognitive processes and decision making. So all these models are actually in this context only, but their explanations are a little bit different and they are kind of improving one over the other. So, the model proposes that effect or emotion can infuse or blend with cognitive processes or mental processes. So, emotion can kind of combine with your thought processes such as your or cognitive processes such as your attention, perception, memory, and judgment decision making which can lead to biased or irrational decisions sometimes.

So when this is infused with your thought processes it can influence your thought processes and influence the outcome of the decision making. So it can lead to sometimes biased and irrational decision-making based on different situations not necessarily all the time. So this model kind of integrates the explanation of mode effects from the earlier two models Affect as a prime model and Affect as an information model. He kind of combined both theories and tried to find out the condition under which emotion influences decision-making and sometimes not.

So this is more elaborate and considers many more factors. So this model has been successful in accounting for the influence of mode and memory as well as a wide range of emotional influences on social thought, judgment and behavior such as person perception, likelihood or rating of positive or negative events, satisfaction rating of intimate relationships, negotiation strategies and so on. So diverse social situations, this theory has been able to successfully kind of account for or explain how mode or emotion can influence different cognitions. So essentially this model seeks to identify conditions under which emotional information is most likely to influence your judgment. Most of the other things are more general but if you see the Affect prime model as more like general not looking into a lot of contextual factors. Affect as information included few factors but this model is more elaborate in that sense is kind of taken into more elaborate factors.

Is most likely to influence social judgments and cognitive mechanisms to facilitate the

influence. So these conditions were kind of fixed, under what conditions how emotion will influence. According to this model affect infusion occurs more when, so this effecting influence of emotion will occur more strongly when a judgment or judge engages in constructive processing which involves the substantial transformation of cognitive comments rather than just reproducing existing information. So it is saying this influence of emotion on cognition will be much stronger when we need to do more constructive more complex processing of information. A lot of efforts are involved here and kind of lot of transformations are involved, you cannot automatically just go and make a decision.

So a lot of effortful cognitive processing is involved in it. So, those conditioned emotions will much strongly influence the decision process as compared to the task which are much simpler. So because this model also shows four possible strategies at varying levels where emotion can influence decision-making in the different levels. So these four conditions they are saying one is direct retrieval of pre-existing evolution. So we will talk about them in a little bit more detail. So directly you are retrieving, so there is no effort involved so you have already known something is very clearly known to your mind and you are taking that information directly and making some evaluation.

Second is motivation-driven processes to achieve pre-existing goals. So, you are motivated, already there is a motivation to do something so that motivation is guiding it. So in these two conditions generally emotion does not have to do much constructive processing or more detailed processing is not required. So according to this model affect infusion or influence of emotion will be less here in this condition. It may be there but it is less effect infusion is less likely to occur in this situation. Situations three and four are different, here in the case of heuristic and simplified processing when you use some shortcuts mental shortcuts here little bit more influence of emotion will be there and the highest number of emotional influence will be happening when there is a substantive and extended processing, very detailed and complex processing are there.

So these are high-affect infusion strategies means in these cases influence of emotion will be much stronger as compared to the first two conditions. So let us see these four. So one is first one is direct access this first condition that we talk about in direct retrieval is direct access. What happens in this condition, in this strategy involves retrieving a pre-existing evaluation of a target of stimulus. This can occur very quickly and with minimum cognitive effort. So you do not need much mental effort something very clearly is there in your mind you just retrieve it. No effort is involved with the mental level. So this does not require any information search or generation both difficulty there is not much difficulty in terms of getting access to it. So there is a direct you can access it.

So this strategy as a general emotion will not influence such kind of situations where there

is direct access is required. For example, imagine that you are a judge in a talent competition and you are asked to rate the performance of a well-known singer who has always been admired in the past. So the singer is already well-known, people have been admiring him, his skills and qualities are already known. In this case, you already have a pre-existing positive evaluation of the singer all the information pre-existing that the singer is very good. You don't have to do a lot of analysis to judge that person and your judgment may be influenced by this evaluation rather than actual performance sometimes or when you judge all such candidates probably, your pre-existing whatever you get direct access to and you just take a decision based on what very clearly. Here emotions may not influence much because there is no need. After all, things are very clear-cut there and you just have direct access and make decisions.

The second strategy is motivational processing here also emotion may not influence much, for example this strategy involves processing information in the service of a pre-existing goal or motivation, such as seeking approval of or avoiding rejection. So you have some motivational processing when you are making a decision or based on some motivation that you have so the decision is mostly motivational you have some already existing motivation. The information processed is narrowly focused and predetermined, you don't process much because you have already some motivation to decide in some ways it is already a kind of motivation. So not much cognitive effort is there and does not require much cognitive effort and information search.

Similar to direct access this strategy also may not be much influenced by the emotional content. For example, here is an example, suppose you are the admission officer of a prestigious university and you are reviewing applications of candidates whom to give admission and so on. So you are looking at their qualities and criteria and so on. One candidate let's say one applicant stands out to you, suddenly the name of one candidate stands out differently from other candidates simply because it shares the name of your hometown of your hometown. Let's say that person comes from your hometown and it stands out to you for some reason.

So there is some kind of bias that may kind of involved here. In this case, your judgment may be influenced by the fact that you have a personal connection to that candidate and you may be motivated to admit them. So here your personal motivation is the deciding factor emotion may not be your current emotion and another thing may not influence much it can influence but it will be much less, because you have already pre-existing motivation that is deciding. So cognitive efforts are less here it's already kind of things are very clear-cut decided.

Heuristic processing again in this case strategy involves relying on simplified and often unconscious cognitive shortcuts or heuristics to make a judgment while this strategy can be fast and efficient it also is prone to biases in errors. So many times we take immediate and shortcut decisions based on some mental strategies that we have. Here some processing is there, but it is not that elaborate. Here emotion can influence kind of require some kind of thinking process but it is kind of more than the direct and motivational processes that we have discussed earlier and does not involve a very extended processing of information. This strategy has a moderate potential effect on fusion. Here emotion can influence moderately not very strongly but moderately at least based on emotion you make some decisions. So let's say you are a manager at a company and you are trying to decide which candidate to hire for a position you are short of time and you need to make a decision very quickly based on whatever resume you have.

So there is a position available and there are few resumes available and you do not have much time, very quickly you need to decide because you need that person. In this case, your judgment may be influenced by a limited amount of information and may use heuristics. So immediately based on a few things you will see and some candidates may look better in terms of a few things, some positive emotions may be generated and influence the decision making. So some emotional aspects can impact here in making a quick decision you will see some things and it may stimulate some emotions and based on that you will make some evaluation.

So if someone sees the resume some positive emotions are stimulated probably you will make a positive judgment about that person. So like in the heuristic when you make shortcut decisions based on a few information available, emotion can influence those decisions. The last one is substantial processing which is more elaborate processing extended effortful processing required in such a situation to arrive at a judgment, this may involve actively searching for and integrating new information with the pre-existing knowledge to form a judgment. So here judgment will require a lot of detailed processing pros and cons and you see every aspect of it. So, in such situations, a lot of generative thinking is required and a high potential for effect infusion in such cases emotion can have a very strong influence, or infusion or integration of emotion with the thought processes can happen very strongly. This is generally a counter-intuitive prediction, we think when and we do a lot of strategic analysis emotions are generally kept away but this theory predicts just the opposite that saying in such cases emotion can have a very strong influence and they found some evidence for it.

Some possible situations in a real-life situation could be for example, you imagine you had a manager in a company and you are tasked to evaluate two job candidates for a critical position. It is a very important position and you have two people to judge whom to give

this position. So you need to do a very detailed analysis because it is a very important position you cannot just give it to anybody. So you have a resume in front of you and you need to make well-informed decisions. Sometimes it can be obvious if you are in a neutral state of mind with no emotion you will do all the detailed analysis, but let us say you are in a negative mood state how the affect can influence?

Let us say you are in a negative emotional state for some reason if you had received some negative news or a personal conflict just happened before making this decision before taking this task of deciding, you are in a bad mood for some reason whatever, reasons. The negative emotion might influence your processing part differently. You might be now more critical and cautious in evaluating the candidates as compared to let us say when you are not in a negative mood. Now you are in a negative mood probably will become more cautious and more critical in terms of judging because you are in a negative mood you will see all the simple things that probably you might have ignored earlier.

Your mood may be influenced here in that context. The substance processing in this context would involve scrutinizing their qualification even more rigorously and being less forgiving of any passive weaknesses. Probably a few weaknesses you might have even ignored earlier now in a negative mood state may lead you to perceive small weaknesses which can become a source of rejection and possibly placing greater emphasis on potential risk associated with each candidate. So more critical analysis probably would be there, if the person is in a negative mood state as compared to let us say was in a neutral state or similarly positive emotional state might have influenced this whole evaluation process very differently. A person might have ignored many small problems and other things, he might be much more open if he was in a positive mood as compared to in a negative mood. So in such cases where there are a lot of generative thinking complex thinking processes are involved probably emotion can influence very strongly like this.

So this could be a possible example. This model also says that two possible additional mechanisms through the earlier two models say the affect priming can also influence emotion because it integrates the other earlier two theories in this model itself. How it is integrated? So it is saying apart from all these four strategies affect priming can also influence the judgment and affect as information can also influence the judgment. So affect priming occurs indirectly by priming affect-related information and is likely to operate under a substantial processing strategy. So when substantial processing strategies are done generally this affect priming can explain how emotion is influencing this particular judgment situation. So, when there are a lot of elaborate complex tasks involved, your present emotion can kind of influence all kinds of thought processes and influence your judgment.

The second mechanism, affect as information is more likely to occur when we make judgments in heuristic processing where we are doing some mental shortcuts. So whatever you see in a particular situation, you take a few analysis shortcut analyses and whatever emotion is generated and you take this as information and you take judgment accordingly. So under the heuristic processing effect as information can explain the model that we have discussed can explain the heuristic processing. So by incorporating this mechanism into the model, this whole effect infusion model seeks to provide a more comprehensive explanation of how emotion influences a judgment, under what condition it is more likely to influence, under what condition it is less likely to influence.

So it is a more kind of elaborative and comprehensive model in that sense. So with this, I will stop here. So this is how we end this module of cognition and emotions. These are some of the most significant aspects of the interaction of cognition and emotion and how emotion influences cognition in diverse ways. So with this, I stop here and in this module, we will not have any further lecture on this module. So we will start another module in the next lecture. Thank you.