Social Behavior and the Brain: An Introduction to Social Neuroscience
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Week – 04
Lecture – 16

Hello and welcome to the course Social Behaviour in the Brain and Introduction to Social Neuroscience. I am Dr. Ark Verma from the Indian Institute of Technology, Kanpur. Now, this is week 4 of the course. We are trying to understand the representation of social groups and the neural basis and the activities associated with social groups in this set of lectures. Now, today I will talk to you a little bit about the idea of self-regulation with respect to intergroup relations.

Let us move on. Now, so far in the previous week you have seen the social cognition is actually a multifaceted entity where a bunch of information is activated at once. I have been telling that basically one of the most key things in social cognition is to understand the context and is to understand the number of variables that are activated when you are talking about social simile for example, faces. Now, when we see a face let us say consider the face as a starting point several facets of the face and related to the face will become activated and they will become available for action at once.

For example, it could be the starting point of identification of whose face is this or recognition of facial expressions, whether the person is happy or the person is sad or the person is annoyed or he is expecting something, wants to say something, those kind of things. But also information in the background, the demographic details of the face also get available to us, you know they become activated, they become available for action and they start influencing our behavior. For example, when you see a face remember the studies that we talked about in the last week of Ito and Erlen 2003, 2005 where we saw that the information about the race, information about gender, information about age all of these are available and they are activated as early as 100 milliseconds. So, we talked about the four ERP components N100, N200, P200 and P300 and which basically tells us that within around you know from around 100 milliseconds to 500 milliseconds, there is a lot of information about the face you know that becomes available to us. And it is not information about the face as the stimulus, but about the person who this face belongs to, about the background of the person, about the race, about the ethnicity of the person.

And when all of this information becomes available to us, this information will connect back to the semantic knowledge that we already have, it will connect back to the episodic knowledge that we already have, it will connect to our long term memory and it will activate and it will bring you know a bunch of things that let us say for example, the face

is of a black American. Now, if I have any preconceived notions about black Americans looking at the face of a black American even for a 100 milliseconds will bring all of those notions you know available to me and they may start influencing my you know reactions to this face. Or in general you know I mean in general situations it will start affecting my reactions to the individual as such all right. So, this is basically very you know something that is very interesting because even a glance at somebody's face will make activated all of our stereotypes all of our prejudices also our pleasant experience it is not only about the negative things, but all the memories that you will have associated with that specific you know individuals face or about their background will become available all right. Now, this variety of activated information it will bring about not only the recognition of this information, but it will as I said activate subsequent prejudice, subsequent attitudes all of them will become available and in that sense you should appreciate that in the subject of social cognition is in that sense multidimensional.

Now, when we are interacting with various social groups it brings about a component of let us say racialist ethnic prejudice and this is a lot of times not such a great thing say for example, you know people used to be differentiating and discriminating with each other on the base of race, on the base of you know color, on the base of age, on the basis of age and gender. In several years ago while again I will not say that it does not happen anymore, but it is not socially acceptable anymore. Now, what happens is even if you have or you do not have explicit prejudice about people from other race, other gender and so on. What typically you know we have with us is a lot of cultural baggage is a lot of you know baggage of our memory of our past experiences sometime experiences of others who have interacted with these with you know members of let us say this other social group. For example, a lot of times let us say a lot of us may not have travel to America or to Europe and you know come across you know let us say black Americans.

Now, maybe we have heard something. So, we do not have our personal experiences, but we have some history, we have read some history, we know something about them, we probably have heard some anecdotes by some people who have come in contact with them and these anecdotes can be good, these anecdotes can be negatively laced as well. Now, what happens is every time that you will come across a black individual, all of those information will become activated and it will start influencing your behavior. It will start influencing whether you want to go and shake hands and say hello, whether you want to sit next to them, whether you want to sort of maintain your own distance. And this is something that is you know it is coming because you have this knowledge that becomes available to you.

Now, the second stage is you may or may not have prejudice associated with these other groups and again this is not only on racial bias, but it could be caste bias, it could be religion bias, it could be gender bias, it could be any of those things. So, while we are talking about with an example of race you should basically take this you know with an

extension to any kind of social groups, any kind of you know self groups and other groups. Now, what happens is because all of this information becomes available to us, we may or may not be prejudice towards the other person, but it will effect our interaction with them. And while this was socially acceptable you know several years ago, it is not socially acceptable now. You would not want to be in your right sense to be perceived as a person who is racist, to be perceived as a person who is misogynist or a person who bullies younger people.

And so all of this information needs to be therefore regulated. So, we even if we have some experience, even if we have a bad experience, even if we have even if we are egalitarian you know who believe in the equality of everybody else, but there could be you know sometimes you know these nascent tendencies to be prejudice towards the other group. It could be as simple as that because I do not know how you know people of this particular group interact or react to us, I will be you know relatively cautious. Remember in the previous week we have talked about a certain vigilance response that is being you know that was being activated by people seeing faces. The vigilance response was being activated when white Americans were seeing the face of black Americans.

It was also becoming activated when female you know participants were seeing the faces of male participants. So, the idea is that any kind of self group and other group will have these differences and because you do not know enough about the other group, it will initially generate a vigilant, it will initially generate a cautious, a more careful response. Now, what happens is that you would not want the others to be aware of this basic response the first response that you are having. It may be if it is good and you are feeling kindly towards the other person, if you are feeling generous, if you are feeling you know friendly towards the other person perfectly fine. But it is in some sense one of the functions of social living that we want to you know be perceived as positive people, we do not want to be perceived as people who are racist, who are misogynist and so on.

And therefore, we would like to control or regulate these biases even if we have you know a very implicit bias or even if we have a very explicit bias. People who are explicitly misogynist or racist also will not express openly their feelings about you know this other social the other social groups. So, one of the things that is concerned and that is some of an interesting problem in social cognition is that we talked about self and other, we talked about how do we access the other, how do we feel their pain or not feel their pain if you remember the first week. We also want to regulate our initial impressions, may be initial prejudice, may be our initial biases when we are interacting with people of the other group. So, what are we doing? What do we need to do? We need to regulate these biases, we need to keep them in check, we need to if you are conscientious you will need to you know disallow these implicit biases to factor in and to color your social behavior.
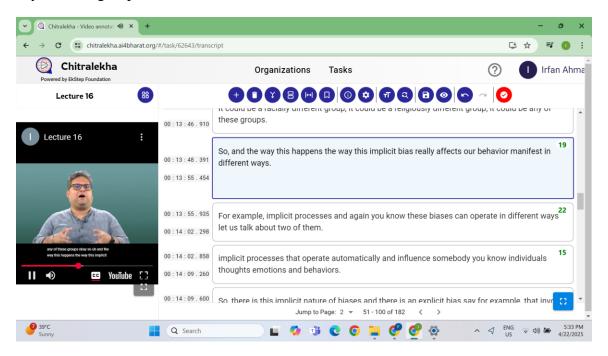
For example, you are a judge, for that matter you are in a position of power and you need to basically decide between, you know, decide between a dispute between two people, a white person and a black person or say for example, an Indian and an African person, anything like that. And even if you have some prejudice, even if you have some biases, you would not want that bias, ideally, if you are consensuous, if you are sincere, for that bias to, you know, affect your judgment of the dispute. You would want to see all the facts, you would want to try and do the best to your ability, best of your ability to take a correct and you know just decision. So, in that respect, if you see regulation of our implicit biases, regulation of the stereotypes that we carry is a very important social skill. And this is what we are going to study about in different forms in this week.

So, let us take some studies. For example, Schuman and colleagues in 1997, they report that despite the decrease in self reported prejudice, social behavior still incorporates subtle forms of bias that may unintentionally or sometimes intentionally influence the behaviors of the individuals intergroup behavior. So, this is interesting that sometimes even you know unintentionally people carry these biases and these biases may affect their behavior towards the other you know towards individuals from the other group you know the self group and the other group. And, this may be especially true in case of for example, in the context of white Americans interacting with colored individuals and this is again something that Amodio and colleagues have demonstrated. So, researchers have basically termed this persisting bias and the intention to avoid the same as an American dilemma.

It is a very interesting term for me, but the idea is that you know white Americans are typically and this is again coming from some of these older studies Allport has written an entire book on the nature of prejudice and so on. So, you can look at this idea and you can say. So, Americans are typically let us say having this kind of bias again it is I am not saying that everybody has it or nobody has it I am saying let us say there is a situation where an individual has this hypothetical bias towards the other race and they also need to keep it in check and this has been referred to as the American dilemma by Myrdal and even you know Allport in their books in 1944 and 54. So, this is a very interesting thing just highlights the need for us to regulate our biases that is that is basically the take away from here. Now this so called American dilemma has been regarded as a very contemporary concern by some researchers as you know recently as 1998 and even later studies have talked about the fact that there is a constant need in people to regulate their social biases, their prejudice and their stereotypes because everybody wants to interact in a peaceful, in a cooperative, in a pleasant way with everybody else.

So, this has been it has been demonstrated that most Americans possess some form of implicit you know racial bias that can sometimes influence their behavior even if they do not intend to even if even sometimes without their awareness and it could you know it could manifest in very simple ways people do not realize. For example, if you are

traveling in public transport and you encounter somebody from this other group this could be other race group other gender group other you know a religion group anything like that and you almost automatically once you recognize that you go and sit at a particular distance from this individual. So, as you do not have to exchange pleasantries or you do not have to interact with them you do not have to exchange a smile. Now, for most people if there is place on the other side why not why you know go and sit just next to somebody, but interestingly and we will talk about some of these you know studies later that the degree of implicit bias that you carry can actually determine this behavior that it will determine how far you will go and sit from this person of the other group. It could be a racially different group, it could be a religiously different group, it could be any of these groups.

So, and the way this happens the way this implicit bias really affects our behavior manifest in different ways. For example, implicit processes and again you know these biases can operate in different ways let us talk about two of them. Implicit processes that operate automatically and influence somebody you know individuals thoughts emotions and behaviors. So, there is this implicit nature of biases and there is an explicit bias say for example, that involve deliberation awareness and are associated with intentional and strategic responses. Sometimes these biases may not be you know implicit even they might be rather explicit they might have been well thought about for example, It is possible that due to you know some knowledge that you have had, due to some experience that you have had, due to some kind of propaganda that you have been subjected to, you may have an explicit bias, a very well reasoned rationally established bias about the other group individuals.

You may say oh I hate or I do not like people from this particular group because so, so and so. And in that case, the bias becomes explicit, it starts manifesting not only in your overt behavior, not only in your covert behavior, but also in your overt behavior. You will speak about that, you will talk about that, you will consciously make a strategy to disengage with the people or the people of that group that you do not like to. So, again this whole idea of these informations being available very rapidly and then these information being available very rapidly and activating the subsequent biases is a rather interesting, but rather important idea that we should consider. So, both implicit and explicit processes work together in concert to orchestrate adaptive behavior.
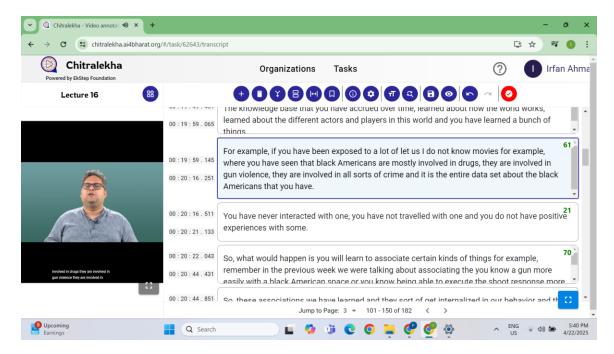
For instance, in regulating racial prejudice, whereby many individuals hold explicit intentions to respond without prejudice, even sometimes contradicting their implicit biases. Now, what I told you, there is this implicit, you know, there is this need to regulate behavior. Nobody wants to be perceived as racist or as communal or as misogynist. So, they may have some implicit bias, they may have a certain kind of dislike for people from other groups, but interestingly people utilize both you know explicit strategies and they sometimes try and moderate their implicit strategies in order to regulate this racial prejudice or communal prejudice or gender prejudice because they do not want to be seen as such and a combination of both of these kind of processes are recruited to manage and to sort of you know get around and regulate these kind of stereotypes. So, how do people do it? How will they do it? They will need these regulatory processes that are required to override the implicit bias that people you know carry.

So, how do we try and study this? How do we talk about regulation? We have in this course if you remember in the first week talked about the dual process approach to a bunch of things in cognition. Dual process approaches are very common in cognitive psychology as well as social psychology, where you talk about that there is an automatic non-deliberative kind of process and there is a deliberative well thought out additional kind of process. So, let us try and understand what is this dual process approach to racial bias as well. So, intergroup relations have been studied for several decades under social psychology and more recent approach has been to investigate the automatic versus more controlled components in this concept of racial bias. From the perspective of applying cognitive psychological theories to studying social psychological issues.

People have looked at some of the theories they borrowed some of the theories that come from cognitive psychology because remember in cognitive psychology we are trying to understand and analyze mental processes at a procedural at a mechanical level and we are trying to if we have an understanding of those let us say if I were to talk about how does racial bias you know manifest. So, from a cognitive psychological perspective I would try to understand what exactly are the underpinnings of the racial bias and at this point I am not talking about neural underpinnings. I may be able to create a hypothetical information

processing model of a racial bias or a embodied model of racial bias and I will start deconstructing this concept of racial bias and I will start basically breaking it down and trying to understand where is this bias emanating from. The next question could be that what are the neural underpinnings of this bias? How are these different aspects in the racial bias being a manifested in the brain? That is a different question that is what we will talk about in this course, but if you want to study this at a cognitive psychological level, then you will have to break it down as a if you remember in the cognitive psychology courses I have always said the idea is to atomize and to deconstruct some of these broad processes and understand where are the originating from. So, in from that perspective people have tried to understand racial bias by separating the automatic components of racial bias, how does you know racial bias triggered using automatic non-deliberative processes.

And, also the deliberative part of racial bias what kind of rational thinking, what kind of decision making, what kind of accumulating of evidence leads to you know racial bias. So, both kind of theories have been studied and people have said say for example, Devine has applied a dual process model that basically you know takes up talks about both of these things he says more specifically that automatic biases are learned association that are stored in a parallel distributed semantic network. Now, again what is this parallel distributed semantic network? We are basically talking about the knowledge base that one has. The knowledge base that you have accrued over time, learned about how the world works, learned about the different actors and players in this world and you have learned a bunch of things. For example, if you have been exposed to a lot of let us I do not know movies for example, where you have seen that black Americans are mostly involved in drugs, they are involved in gun violence, they are involved in all sorts of crime and it is the entire data set about the black Americans that you have.

You have never interacted with one, you have not travelled with one and you do not have positive experiences with some. So, what would happen is you will learn to associate certain kinds of things for example, remember in the previous week we were talking about associating the you know a gun more easily with a black American space or you know being able to execute the shoot response more readily when you are seeing the face of a black American unarmed versus unarmed as opposed to a unarmed white American. So, these associations we have learned and they sort of get internalized in our behavior and then they start you know automatically biasing or influencing our behavior. So, this model borrows from theories of cognitive psychology and suggests that implicit biases were learned through repeated exposure to associations between black Americans and stereotypic or you know negatively valenced concepts as I was just saying. If you have seen only those kind of movies, if you have seen only particular kind of movies members of a certain group are always linked to violence or all are always linked to something like that, negative things for that matter then you will end up having a negative you know perception of people from this group, you will end up harboring a prejudiced you know attitude towards people of this group and again remember we are very good at generalization.

For forming these prejudices, for forming these stereotypes, you do not need to have met or interacted with all members of the given species. Even if you have a bad experience with one individual, you will generalize it to everybody else. For example, it is typically said I was doing my PhD in Europe that Indians are not very punctual. It may be correct, it may not be correct, but for example, may be where does this start? It may have started at one point at where you know for a meeting a particular Indian student arrived late and then the you know a person involved said oh it seems that Indians are not very punctual.

And it is obviously not possible for that person to have sampled all Indians we are too many.

For that to happen, but this generalization sort of you know becomes internalized in the semantic memory, in the semantic you know network of that individual and it will start coming up every time you have to interact. So, for example, for this person to keep any appointment with Indian individuals would be always concerning that should I give a time of 10 minutes early. So, that the person at least reaches on time and it could be with the friends with social groups all kinds of things. On the other hand the controlled component of this model represents that in represents the consciously held beliefs and intentions of individuals. So, as I said the deliberative component of bias or the deliberative component in bias is something that is well stated people have reasoned about it, people have thought about it, we do not like people from group X because of reasons X, Y and Z, A, B and C and say for example, it could be because we have learned about this historically, we have been taught about this in our books, in our newspapers, on our social media or may be even I have had one bad experience with the person of this kind.
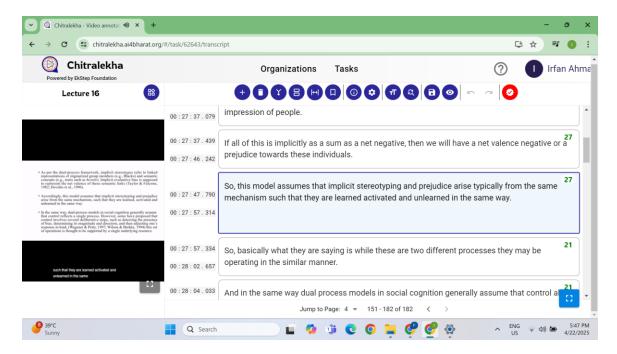
And again remember how does confirmation bias apply in decision it basically once you have had a bad experience you are looking for bad experiences with individuals of that out group and you are constantly generalizing. So, every time what you are doing is you are looking for more examples to add to your prejudice people are not actively looking for you know taking away prejudice, but a lot of times people you will find they are actively looking at feeding their prejudice. So, that is in that sense a rather interesting phenomena. So, Devine demonstrated that racial biases could be activated automatically and they can affect one's personal judgments regardless of one's explicit racial attitudes. So, for example, explicitly you can say I am you know, an egalitarian individual for me everybody is equal I see people you know as born from the you know as pieces of the same cloth you can take any metaphor, but implicitly you have that bias and what happens is even despite you explicitly saying that oh I am not a misogynist or I am not a racist or I am not a communalist.

It is possible that you know this can you know affect your personal judgments, it could affect the way you interact with individuals, it could affect the way you take decisions you know about certain things, it could affect how you even pass on the knowledge describe others and so on. So, automatic stereotyping effects were indeed found to be dissociable from controlled belief based intentions. Interestingly, if you look at this most theoretical accounts of racial bias have been consistent with this dissociation model. Now, the thing is what is this dissociation model? The idea is that automatic non-deliberative components and deliberative components basically are different components that feed into the same racial bias. They are dissociative, they are dissociable, their neural

underpinnings are dissociable, the way they work is dissociable and they will both in different ways in their different ways feed into let us say the racial bias that one has.

So, to elaborate social cognitive models of automatic and control processing basically propose two kinds of processing in the context of race bias these models assumes that there is there are these implicit stereotypes for example, traits that are ascribed to black Americans that oh they are you know big burly engaged in violence you know get angry easily any anything you can cook up for that matter and implicit evaluations of black people that are processed through a single automatic mode of processing. So, the idea is two modes of processing have been proposed one is that implicit stereotypes working through implicit stereotypes and the other is implicit evaluation of people. So, you can come with the stereotype the knowledge that you have gained you know over several years and then there is your own evaluation that will come through and it will basically affect your behavior through a single automatic sort of made of mode of processing. As per this dual process framework, implicit stereotypes are actually refer to linked representations of stigmatized group members. For example, blacks or all females or all males or all members of a particular caste or community or anything you can take.

And semantic concepts such as traits as hostiles. Say for example, these people are hostile, these people are extremist, these people are violent you know violence friendly any of those things. So, what we are doing is we are basically creating a sort of a network where we are putting in on one side all of the members of this group and on the other side all of these traits and we are mapping these things together because this is sort of a easy way to do and it is sort of in some sense maintains and feeds our biases. The implicit evaluative bias is supposed to represent the net valence of these semantic links. So, the implicit bias that we will have is on one side all of these qualities of these people and all of these people and maybe our experiences with the individuals of them.

If the overall impression is positive, then we tend to have an implicitly positive reaction or impression of people. If all of this is implicitly as a sum as a net negative, then we will have a net valence negative or a prejudice towards these individuals. So, this model assumes that implicit stereotyping and prejudice arise typically from the same mechanism such that they are learned activated and unlearned in the same way. So, basically what they are saying is while these are two different processes they may be operating in the similar manner. And in the same way dual process models in social cognition generally assume that control also comes through a single process.

So, this idea of regulation that I was talking about also happens in through a single process. However, some people have not agreed with this. So, they say that no control involves some deliberative steps also for example, detecting the presence of bias, determining its magnitude and direction and then adjusting once response you know in kind. So, for example, Obviously, control regulation a lot of research suggests a lot of people says that it is also to a certain extent deliberative, people intentionally, deliberately decide to be not racist, they deliberately intentionally decide to not harbor or not less let the bias affect their behavior. Also, the dual process models in social cognition have been useful in understanding and explaining various types of social behavior.

So, we have seen in the past as well that the dual process models sort of give us a good idea about how certain social cognitive phenomena are operating. For an example, evidence from behavioral and cognitive neuroscience research says that the dual process framework you know although it works fairly for explaining a lot of things, it may also need some kind of fine tuning. And for example, they say there are several phenomena

that these dual process models do not explain very well example being why do some egalitarian individuals fail to control their expressions of bias more than some others. For example, see all of us in an ideal world would like to be non biased, we like to be you know very liberal treating everybody as equal, but even if we if this is the explicit attitude that we want to harbor, even if this is the explicit attitude that we want to project, sometimes it would happen is that some of us will let the biases come in the way. And some of us will let the biases come in a way more than others.

Some people are good at controlling their biases, some people are not very good at controlling their biases and this is not very well explained by these dual process models. Also for example, why is control usually more successful when it is motivated by personal reasons as opposed to normative reasons. If you have a bias, it can actually go away only if you personally wanted to. If you have had a very positive experience with the members of the group that you have a bias against, maybe if you really wanted only then the bias will go away. It typically does not obey or it typically does not go away for just normative reasons, for just reasons of show or reasons of projection.

So, these are some of the issues that still need to be studied and investigated, more you know deeply in more detail by the dual process models. And these models typically assume that implicit processes have actually more profound effects in behavior, but again there is a there is very little evidence for this. If you start looking at how people are you know letting these biases play, there is very little evidence that actually talks about how these implicit biases you know manifest and there are relatively fewer ways to measure these implicit biases as well. So, as far as one's understanding of the brain's role in regulating social behavior evolves it becomes clearer that the brain may not be you know organized according to just these two ways the automatic and the deliberative way. For example, you know general systems for self-regulation may actually reflect the coordinated activity of different kinds of system multiple underlying systems ranging for some processes can be very automatic where some process can be very very deliberative.

So, again we will continue this discussion on biases and we will talk a little bit more in detail about biases in the next lecture. Thank you.