

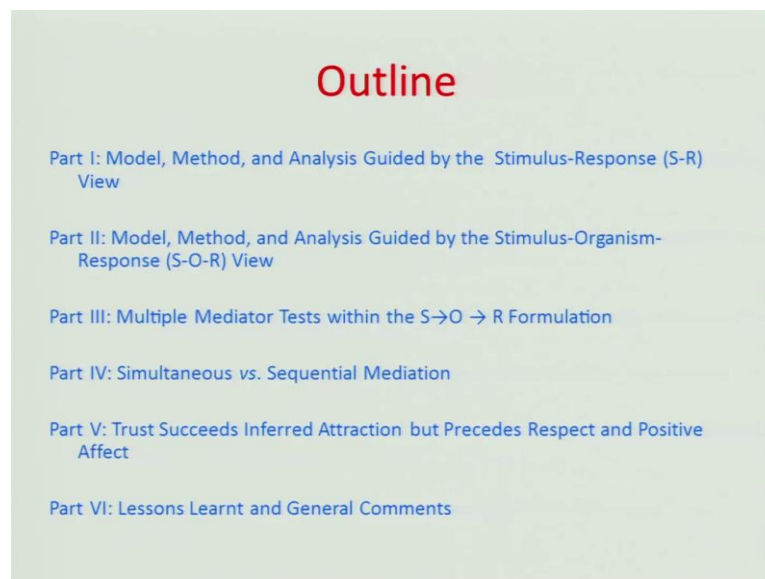
Selected Topics in Psychology
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Module - 2
Lecture - 11
Why Do Similar Attitudes Determine Attraction?

Good morning, in the first session, we looked at, How Similar Attitudes Determine Attraction? And we learnt a number of things. For example, similar attitudes lead to attraction. Then, the issue became, whether similar attitudes lead to attraction or dissimilar attitudes, lead to repulsion. Then, we came up with the idea of similarity, dissimilarity or symmetry.

Then we came to the question, what produces is it, person positive bias or is it weighting of similar and dissimilar attitudes. And we said, both may be operative and when, the weighting is taking place, it is operating at the level of attraction. This much, we accomplished in the first session. So, in the 2nd session, the only difference, you see is between how and why? So, today, we are going to discuss, why do, similar and dissimilar attitudes determine attraction. So, this is our central theme.

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And for this purpose, I have organized this lecture in 6 different parts. In part 1, we will talk about, how the existing model and method and analysis was guided by this stimulus

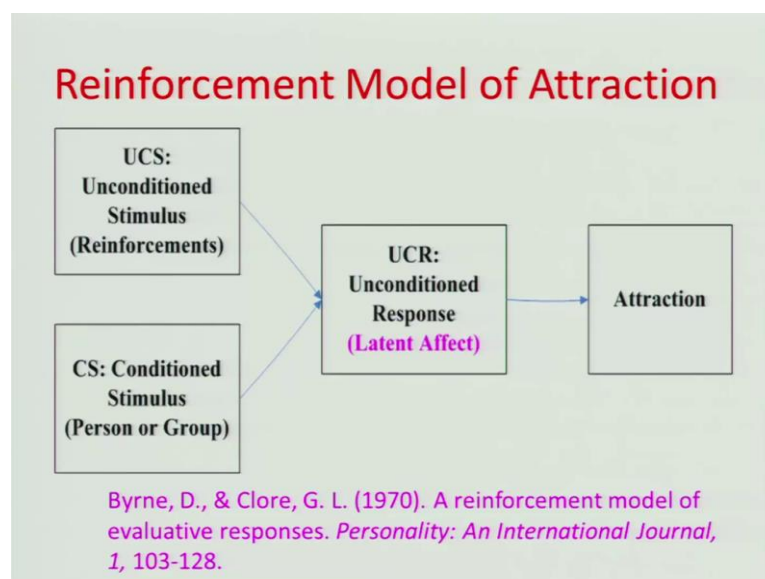
response view, which was prevalent in psychology at that time. In the 2nd part, we will look at, how the model method and analysis guided by the stimulus organism and response; that is S-O-R view guided.

Now, in the 3rd part, we will come and discuss that, like in 2nd part, each one thought, one thing is operating. In the 3rd part, when we come, we will look at, what would happen, when all three are operating. But, model method and analysis remain of the S-O-R view. 4th part, I am raising a new issue, which would be whether these implicit variables operates simultaneously or they build up on each other. So, that is the issue of simultaneous versus sequential mediation.

In the 5th part, I will like to put different things in order. And the main message, I would give that, if there are several mediators like trust, positive affect, inferred attraction, respect. So, if the four things are operating, what is the order? So, the message, I would be giving would be trust succeed in inferred attraction, but precedes respect and positive affect.

And in the final part, we will talk about, what I have learnt out of this entire research program. And we will have some general comments likely. This is the way; I have planned this 2nd session. So, let us begin with the main task here now. So, in part 1, as I said, we are dealing with how S-R model gave us some kind of method and analysis to a study attraction.

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So, originally, when Byrne started his research, he came up with this reinforcement model of attraction, which was essentially a classical conditioning. So, in his view, similar attitudes were like reinforcements. So, which is unconditioned stimulus or UCS. And he said that, positive like latent variable or unconditioned response is affect. So, if somebody agrees or disagrees with you, you feel good and bad.

And anyone, who would be associated with that, feelings would become the target of attraction. Those, who would produce negative would become may no repulsion that kind of notion. So, his idea was, that pairing of person with similar and dissimilar attitude, which you see here at the bottom CS. So, stimulus the person becomes the CS, similar, dissimilar attitudes are the UCS.

Positive feelings are which is originally the UCR becomes CR and attraction is just simple as so CSR. That they formulated a simple learning framework classical conditioning and they articulated it.

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**Study Observables,
Not the Black Box**

Burrhus Frederic Skinner
(1904-1990)

Study the effect of **STIMULUS** or **Independent variable (IV)** on **RESPONSE** or **Dependent Variable (DV)** without postulating any unknown (**latent**) variable between them.

Thus, **overt behaviors** should be explained without going inside the mind: **"The Black Box."**

Ivan Petrovich Pavlov
(1849-1936)

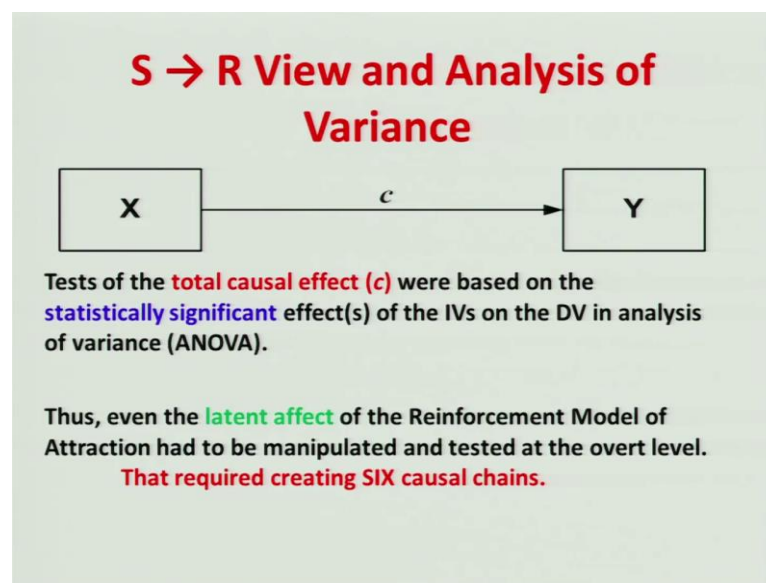
S → R View

John B. Watson
(1878-1958)

Now, how, why this view was accepted at that time? Because behaviorism was at the top. And what did behaviorism say? It was influenced by Harvard, Professor B. F. Skinner, who said? If psychology is over to become science. We have to a study effect of a stimulus or independent variable on response or independent variable, without postulating anything inside within the organism.

So, for him, organism was an empty variable or mind was a black box. He said to be science; you do not have to deal with unknown. You have to deal with known. Your stimulus, we know, response, we know, relate the two, why should we infer anything. So, for him human mind was a black box and he started analyzing like this. And it has tremendous impact a stimulated by Pavlov on the one hand. And John B. Watson on the another hand, who was father of behaviorism. So, because of this S-R point of view, psychologists had a unique or specific method of analyzing things, which you can see here now in brief, I am putting.

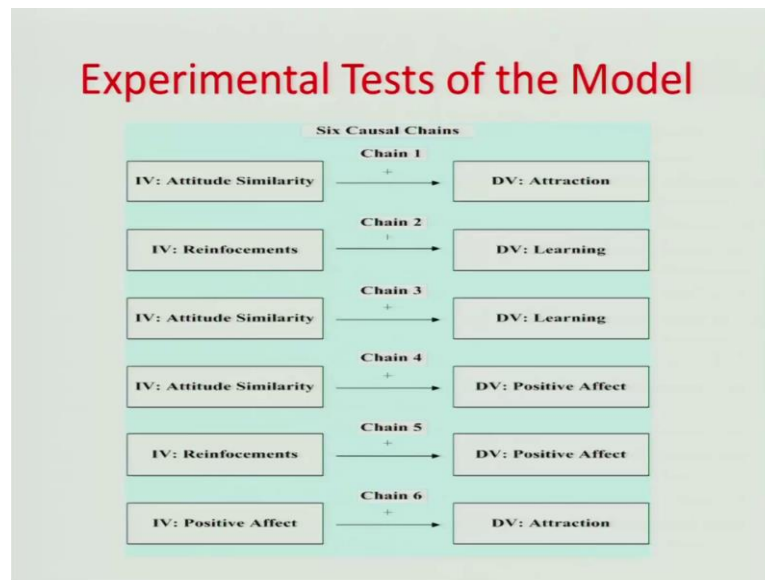
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So, what is our approach? Our independent variable becomes the x. And our y observable variable response is y. So, we will manipulate x and examines it is effect on y, which is this c. So, if we manipulate x and we measure y, what is the effect on x on y? We will be captured by the variable c. So, the c, which is the total effect of x on y. Whether, it is a statistically significant in analysis of variance t test or any test of significance as long as we have significant effect.

Whether, it is main effect, interaction effect, depending upon how many eye views we have. That became our goal demonstrating it. So, to test even latent variables, for example, in reinforcement model of attraction, affect is a latent variable. So, if affect leads to attraction, to a study, we have to manipulate affect. And consequently, the pre paradigm, like earlier stage of up to 71, this was the method.

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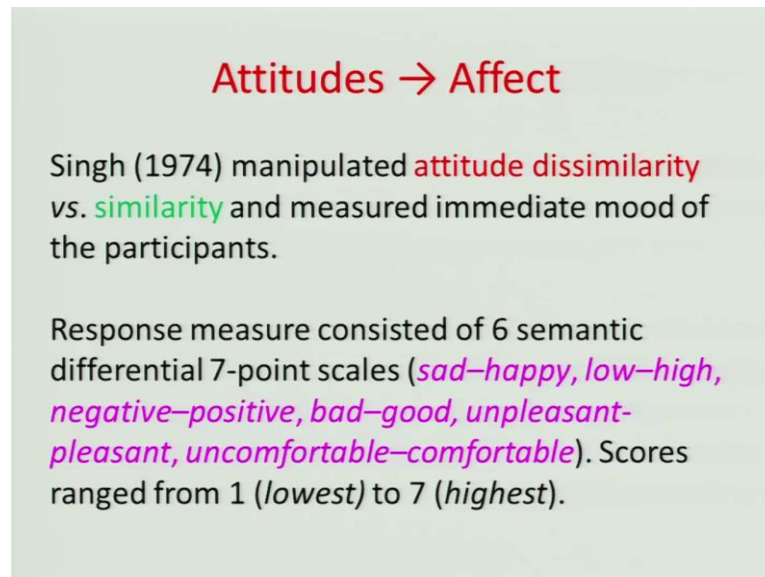
See, here, to test this reinforcement model, we have to perform six different kinds of experiments. Let us so and I called it six different causal chains. Let us look at the first chain. In the first chain, we manipulate attitude similarity, which is IV and we measure attraction DV, which we discussed in the previous session. The second thing is, what is the definition of reinforcement? Anything which changes the probability of response in a learning situation.

So, we are manipulating reinforcements and seeing; whether it would change learning. So, if attitude similarity is reinforcement, what would happen? If we use similar and dissimilar attitudes as reinforcement, it should be able to affect learning. So, in science, an article was published by Donn-Byrne, who likely a Byrne in which they demonstrated; that yes. Similar and dissimilar attitudes do modify the probability of response in discrimination learning.

So, they did learning experiments at the 4th called causal chain we have now. Attitude similarity, lead to affect. Because, this is what, we are postulating, UCS and UCR notion. So, if you manipulate attitude similarity would people feel happy and sad; that became the 4th causal chain. 5th one became, when people get rewards and punishments, do their mood change, demonstrate that. If people feel hot and cold would their mood change; that kind of experiments we did.

And finally, if you manipulate directly affect, would that lead to attraction and repulsion. So, to test the reinforcement model, we were required to performance experiments, which should followed within these six different causal chains. It was clearly stimulus response point of view.

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Attitudes → Affect

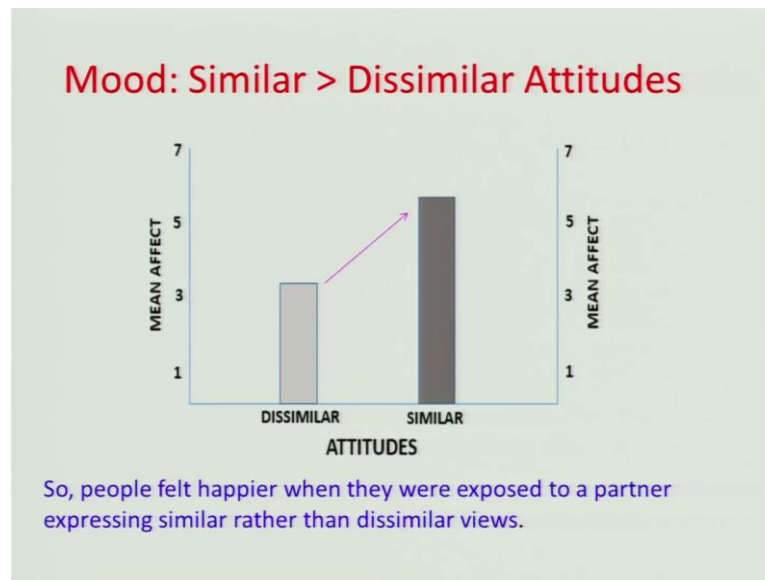
Singh (1974) manipulated **attitude dissimilarity** vs. **similarity** and measured immediate mood of the participants.

Response measure consisted of 6 semantic differential 7-point scales (*sad–happy, low–high, negative–positive, bad–good, unpleasant–pleasant, uncomfortable–comfortable*). Scores ranged from 1 (*lowest*) to 7 (*highest*).

Now, let me go back to some test. So, in my one paper, I did manipulate similar and dissimilar attitudes and measured, immediate mood of the participants. And our measure of mood was very simple at that time; we did not have a measure of affect. So, we took item from semantic differential of us good. And items were sad, happy, high, low, negative, positive, bad, good, unpleasant, pleasant, comfortable, uncomfortable on a seven point scale.

Our idea was people should feel happier, when they are exposed to a partner expressing similar views than dissimilar view, very simple t test type condition.

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And as you can see that, we got the difference between dissimilar and similar here. That the mean is a higher in similar conditions, than dissimilar conditions on that basis, we concluded that similar people did feel happier. When, the partner shared views than when they disagree with the participant. So, attitude similarity does lead to affect, but this evidence is again suggest ((Refer Time: 10:27)), it is suggestive evidence.

So, let us come back to part 2 now. In part 2; we are coming with an alternative point of view. How, psychologists should be conducting their research and that view was also initiated at Harvard University.

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Link Overt to Latent Responses


Stimulus-Organism-Response View:
 $S \rightarrow O \rightarrow R$

The same **stimulus** elicits **different responses** depending on the **state of the organism (O)**.

In this $S \rightarrow O \rightarrow R$ view, O seems to be a **moderating variable that alters the $S \rightarrow R$ link**.

If we conceptualize O as representing the **implicit responses** to the S leading eventually to the overt R, O **mediates** the $S \rightarrow R$ link.

Textbooks
Woodworth, R. S. (1921). *Psychology: A study of mental life*. New York: H. Holt & Co.
Woodworth, R. S. (1938). *Experimental psychology*. New York: Holt, Rinehart & Winston.
Woodworth, R. S., & Schlosberg, H. H. (1958). *Experimental psychology (2nd ed.)*. New York: Holt, Rinehart & Winston.



Robert Sessions Woodworth
(1869-1962)

And the leader is Robert sessions Woodworth, who existed before Burrhus Frederic Skinner, who had given this idea. But, somehow we have resume suppressed this idea and we had become more stimulus response oriented one. So, his ideas can, what he said? That we cannot ignore organism between stimulus and response. We have to bring it back. And his position was at the same stimulus produces different response in different people.


So, the organism is processing it. So, if you strictly take this point of view, this implies that organism is a moderating variable. Same as stimulus has different effect in different group of people. That means, organism is a moderating variable, I am suggesting something else. That if organism, we treat this that O really represents the latent variables, not necessarily moderating. It represents the effect of stimulus internal processes. In that case, organism can be considered as mediating variable.

And these points of view can be found in these differences in which he said, like a beautiful thing you would see. Like his first book was psychology a study of mental life, a Skinner called it black box. And the two other books, which actually influenced me in my thinking, in becoming a psychologist, I have not came across books as influential as these two additions of Robert sessions Woodworth.

So, those, who are interested in psychology, if the library a still has this copy, one should at least glass through it, why these two books are considered so powerful.


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Support for Latent Processes




Donald Broadbent
(1926-1993)

Broadbent, D. (1958). *Perception and communication*. London: Pergamon Press.



Avram Noam Chomsky
(1928-)

Chomsky, A. N. (1959). A review of B. F. Skinner's Verbal behavior. *Language*, 35(1), 26-58.



Ulric Neisser
(1928-2012)

Neisser, U. (1967). *Cognitive psychology*. New York: Meredith.

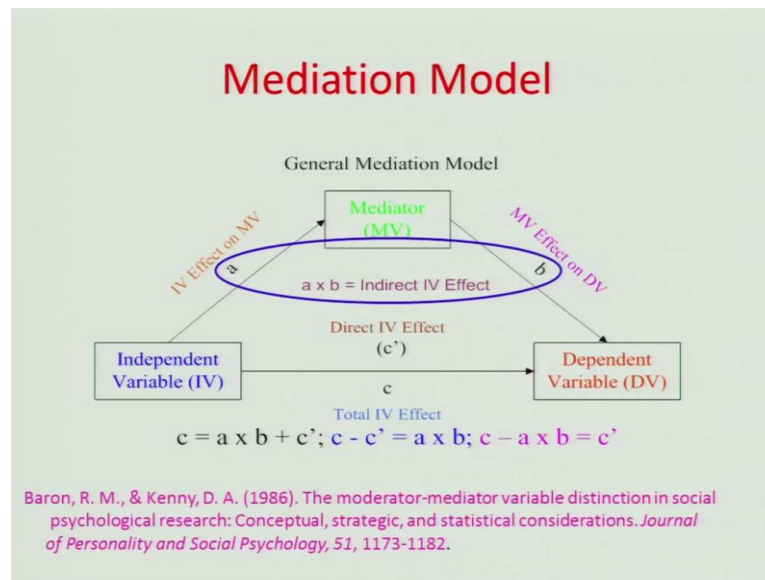
Humans as **dynamic information-processing systems**: Mental operations may be described in computational terms.
Cognition refers to **all mental processes** by which **the sensory input is transformed, reduced, elaborated, stored, recovered, and used**.
Thus, specifying the variables **intervening between** inputs (S) and output (R) is necessary and no less important than just demonstrating the **S → R** link.

Now, after Woodworth, there was a revolution in psychology. And three pioneers played a major role, Donald Broadbent of Oxford, Noam Chomsky of MIT in language and Ulric Neisser from Europe. These three people and I have given their books, which produced tremendous impact in the revolution of what I am going to discuss? They basically brought the information processing approach to human behavior.

And they said that, dynamic information processing system, we have to study and mental operations can be represented in computational terms. They also said that, what happens between stimulus and response? We have to analyze it, that how this sensory input is transformed, reduced, elaborated, a stored, recovered and retrieved or used. We must studied in other words, their positions said that, we must a specified the variables; that intervening between a stimulus and the response.

And that lead to, what I am going to describe now. So, in their view, considering the latent variables are not only necessary, but also important. If we want to understand psychological processes or psychological effects of any manipulated variables and that brought to a new revolution in psychology.

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So, here, I present you, a general mediation model, for which the pioneers, where two ((Refer Time: 14:38)) social psychologist from university of ((Refer Time: 14:41)). Let us look at the model here. In a stimulus response view, we have basically independent variable. And we have dependent variables. What we were looking at this small c ? Does this IV have any effect on DV. Cognitive psychologist three pioneers, I suggested or Robert sessions Woodworth idea, they said that, that is not enough.

We also need to a study, what carries the effect of IV to the DV and that the term mediating variable. So, to do that, we need to measure one more variable and that is the mediating variable. So, they said that, we need to have a path from independent variable to the mediating variable; that be called path a . So, originally, we will have analysis of variance in which we will test effect of IV on the DV or the six chains, you will go effect of IV on the MV.

They said now, we can put them together; we need not analyze them separately. And what is the beauty, you see here, this c , we are now participating into two things, one do two regression analysis. In the first regression analysis, we are predicting DV from this, IV. And second regression analysis, we are predicting this DV from the IV and the MV. So, from the second regression analysis, you are getting this b , which is effect of MV on DV, where IV is present. And this c prime is effect of IV, when MV is present.

So, he said, estimate two more things, then do another simple regression in which we are examining effect of IV to the DV; that would give us path a. So, now, we have three new things, analysis of variance would give us only c. When, we do regression analysis we are getting c, we are getting c prime, we are getting b. By doing another simple regression, we are doing path a.

So, when, you look at these four; a, b, c and c prime, the picture is clear. And what do you notice here? Very simple things here. If this c is, that is total effect of IV on DV, which analysis of variance should indicate in from of significant difference. C is the direct effect of IV on DV, when effect of MV is controlled. And if you take product of a and b, this is the indirect effect of IV, through the MV.

So, in the bottom, you can see, we can have three different checks on this. C would be equal to a times b plus c prime or c minus c prime would give us a times b or c minus a b would give us c prime. We can check with one on another, it would be the same. So, this technique actually allowed us to partition c into two parts. What is the effect of IV and what is the effect IV, through the mediator? That is all is mediation analysis.

So, this one you would say a times b is in the circle here and the difference for this is this Baron and Kenny, 86 articles in which they gave idea for the mediation analysis. Now, this is what, I am going to suggest now.

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Test 1: Condon and Crano (1988)

Manipulated attitude similarity and measured inferred attraction and attraction.

r between IV and DV = **.64**, $p < .001$.

r between IV and DV after inferred attraction (MV) effect controlled = **.18**, $p < .05$.

So, Inferred attraction is a partial mediator.

r between Inferred attraction and attraction $r = .81$, $p < .001$.

r between inferred attraction and attraction when IV effect controlled = **.66**, $p < .001$.

So, inferred attraction is a greater factor in the similarity-attraction link.

So, first mediating test was by Condon and Crano in 88. So, though, Byrne and Kenny had proposed in 86, still had not produced impact. So, how they look that it, they manipulated attitude similarity. And measured, asked the participant, can you tell me, how attracted the partner would be toward you, that we called inferred attraction. Then, we say, can you tell, how attracted you are toward the partner. That is the attraction part.

So, two measures, we have and one IV we have, that is all. And they did some regression analysis. So, if we correlate IV with DV, the correlation is 0.64 and significant. But, if you correlate IV and DV and control the effect; that is like the 2nd stage regression analysis. That correlation becomes 0.18. So, the direct effect of attitude similarity on attraction is 0.18, total effect comes to 0.64. So, this reduction, he said is the mediation part by inferred attraction.

So, since this effect is totally significant and control effect, c' prime is significant. He said, inferred attraction is a partial mediator. It is not the complete test story. It is a mediator, but in completed. It has effect, but it cannot explain fully. Another thing, they did and what they did, he said inferred attraction and attraction correlation is 0.81 to the MV and the DV.

But, if I control the effect of attitude similarity, what would happen; that correlation could be reduced only 2.66. So, they concluded, that look inferred attraction is a greater factor in similarity attraction. Then, attitude similarity by itself, there is one issue to notice, which I followed up little later.

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Test 2: Montoya & Horton (2004)

Montoya and Horton (2004) proposed that attitude similarity leads to **respect for the competence of the partner** which promotes attraction.

Responding to the first two items of the IJS, for example, makes such cognitive evaluation of the respect more salient.

So, the similarity-attraction effect should be stronger at the **Respect-Attraction order (Attraction Last)** than at **Attraction-Respect order (Attraction First)**.

In 2004, another attack came, I would like to draw your attraction as I had mentioned in the first lecture. That some time, measuring some irrelevant things can be problematic to you, let us look at, what he they demonstrated. They said that no, we feel attracted toward the partner, because we have respect for the competence of the partner. We think, he very competent person and I respect him; that leads to attraction.

Moreover, a Byrne initial item of intelligence and general knowledge is a measure of intelligence. So, if you measure it, you are making cognitive evaluation salient. So, if I measure attraction without it and with it, there should be a difference. Effect would be stronger, when you measure after cognitive evaluation than before cognitive evaluation. So, you see like, what was considered buffer items, became a basis of new theory. So, they did it and made that prediction and here are their findings.

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Respect and Attraction Measures

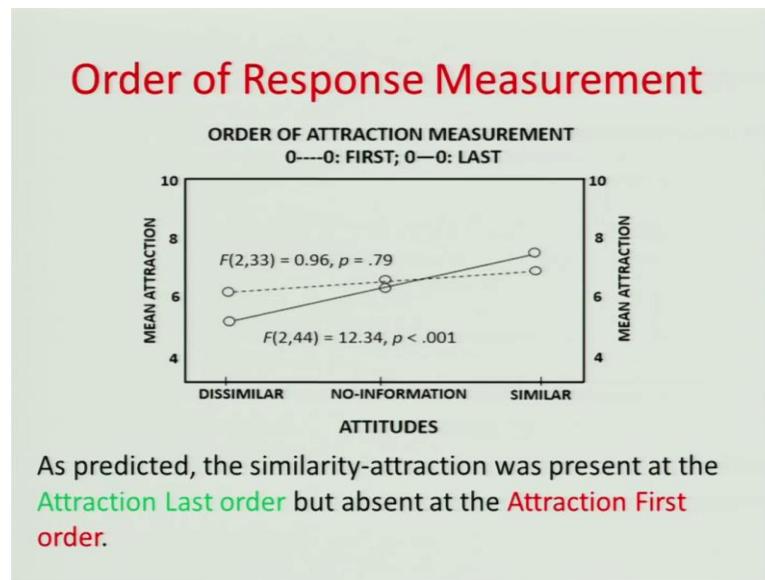
Examples of Respect Items
My partner would make a good leader;
... will achieve all of his/her goals;
... is good at everything that s/he does; and
... will probably be successful in life.

Examples of Attraction Items
I would like to meet my partner;
... look forward to meeting my partner;
... look forward to working with my partner; and
... like to get to know this person better.

First, how did they measure, his measure of respect was my partner would make a good leader will achieve all of his or her goals. He is good at everything; he or she does will probably be successful in life, essentially competence. Attraction, he measured not by working together and liking. Here, I would like to meet my partner, I look forward to meeting my partner, I look forward to working with my partner, I would like to get know this partner better.

So, it will more like a behavioral attraction. You know like intention to establish relationship, aqua intensively, you know that kind of notion.

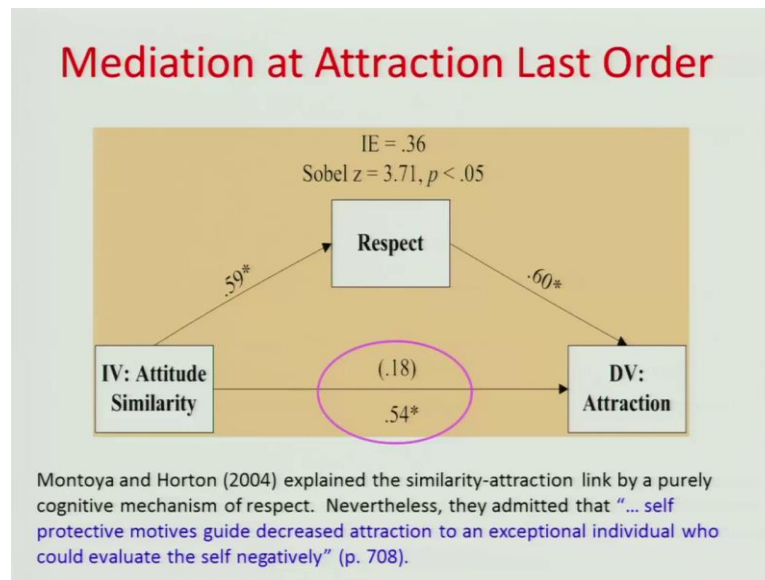
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And here is the effect of order representation, two lines, I am showing you. Three conditions we have, dissimilar attitudes, no attitude information, the condition at created and similar attitudes. See, the line here, the line with open circle and solid is, when cognitive evaluation was measured before attraction. And that dash line, you see is, when attraction was measured first.

In this experiment, it was really not significant. Later on, we have found, there is effect. But, the effect is not as strong as when attraction is measure last, which is natural. Because, if attraction is DV last measured variable mediator should have some effect on it and this is what, you are noticing. Another thing Montoya and Horton did, when attraction was measured 2nd, they did mediation analysis.

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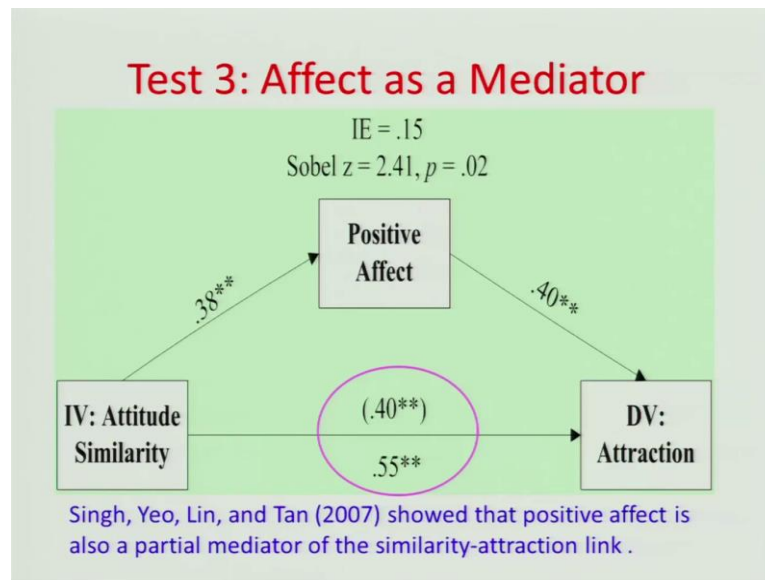
And that mediation analysis is, just like I had shown Baron and Kenny, you see here, attitude similarity has effect on attraction 0.54. Attitude similarity has respect effect on respect 0.59, c prime is 0.18, which is non significant now. And respect has effect on attraction that is the b path. So, if you take the product of the two; that is coming 0.236. So, 0.45 minus 0.36 is giving us 0.18.

So, on based on this, he claims that, respect is a complete mediator of attitude similarity attraction effect. One more thing, I would like to draw your attraction, at that time, simply saying that, when you enter MV, it reduces the effect of IV is not enough. Reduction must be greater than 0. So, for that purpose, you see, we have a shovel z test, this should be significantly greater than 0 and he found that, it was, that z test was significant. So, on that basis, he said, respect is a mediator and it is a complete mediator.

Now, but one thing, they wrote in their discussion part, which I would like to draw your attention. They said that, purely cognitive mechanism, affective mechanism is not needed. Nevertheless, I code them; they admitted that, self protective motives guided decreased attraction to exception individual, who could evaluate the self negatively. So, if you feel, there is a competent person, who can pose threat to you, we do not feel attracted toward it.

So, even though, we respect you, if you threaten me, you threat to my ego. In that case, so they did not rule out cognitive mechanism.

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So, I tested affect as a mediator. So, manipulate attitude similarity measure affect and measure attraction. And here are my findings. Attitude similarity leads to attraction 0.55, attitude similarity leads to positive affect 0.38. When, we put them together, then affect has 0.40 and direct effect comes down to 0.40. So, if you take the difference and the difference of 0.15 is again significant. So, affect also reduce the effect of attitude similarity as if it were a significant mediator.

So, now, we have evidence for three mediators, inferred attraction, respect and positive affect. And this, we had we published in 2007 here, where we said affect is a partial mediator.

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Three Mediators

Given the results of Condon and Crano (1988), Montoya and Horton (2004), and Singh et al. (2007), **inferred attraction, respect, and positive affect** can well be regarded as potential **WHY** of the similarity-attraction link.

It is intriguing, nevertheless, that the mediation was partial in the first and last studies but full in the second one!

Now, based on these literatures, here are few points, we can make, one all the three formulations seem to be right. That means, inferred attraction, respect and positive affect are potential why, they can explain. But, there is something intriguing too; how come mediation was partial in the first and 3rd case, but it was complete in the 2nd case. Another issue, if you do one mediation test and if you get that mediation is complete, does it mean that we should not be considering another alternative issues.

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Six Blind Men and the Elephant

John Godfrey Saxe: (1816-1887)



"... what we observe is not nature in itself, but nature exposed to **our method of questioning.**"

Werner Heisenberg
(1901-1977)
Nobel Laureate in Physics
Max Planck Medal



These were the challenges and that brought me to this idea. And that idea in Oxford free India reader book 4 in my high school, I had read it. That 6 blind men of Hindustan, wanted to understand elephant. And they went and touch different parts of the elephant. And they thought that, elephant looks differently. Somebody, it was a snake, to somebody, it was a spear, to somebody, it was fan. To another, it was tree, to the 5th one, it was wall and to somebody, it was rope.

I thought our predecessors including myself; we were no different from these blind men. Touching different part of the same phenomenon's, same attitude similarity and saying, this is the truth. Then, I went back to internet and started looking at, ideas of some of the physicist. And one idea, which caught my attraction in particular, I would like to share with you. What we observe is not nature in itself, but nature expose to our method of questioning.

And the man who said is, Werner Heisenberg, who got Nobel Prize in physics and also, he was max Planck, gold medalist. Now, think about it, that at no point of time, we are knowing the truth or we are knowing the nature. Our method is allowing us to have some understanding of it, this is the message, I am giving. So, what should we do it, what should be our research strategy. We thought of this and that brings us to part three now.

What would happen, if we bring all three mediators together within the same stimulus organism and response formulation? Let us do that.

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Multiple-Mediator Tests

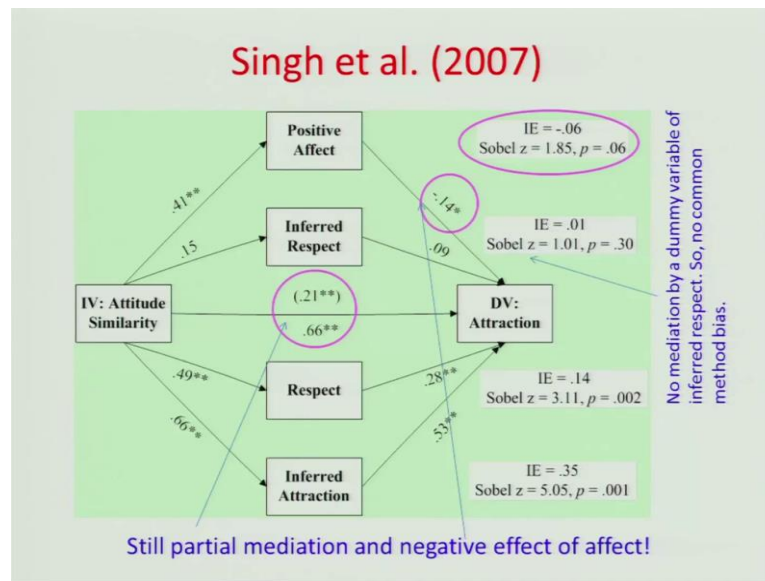
Singh et al. (2007) also measured positive affect, respect, and inferred attraction from attitude similarity.

There were 2 orders of mediator measurement:

- IV → positive affect → inferred attraction → respect → DV
- IV → inferred attraction → positive affect → respect → DV

So, my students and I started doing multiple mediator tests. And in the first study, we measured all three positive affect, respect, inferred attraction, from attitude similarity and attraction was D V. And two orders, we manipulated. Since, respect was always before attraction, you can see, that we are putting respect before. But, we varied the order of positive affect and negative affect. That we are manipulating, but this order, we are keeping constant.

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When, we collected the data, we got something like this. And what you notice here, one more dummy variable, I added. Can you inform, how much your partner would respect, we are asking how much your partner would like you is inferred attraction. But, how much your partner would respect you. We built additional thing and why I did, I will tell you little later.

So, when, we plot the same analysis, we have. Earlier, we will have one mediator, now we can have 4 mediators, at stage two regression analyses and let us look at it now. And product of a times b for all 4, I have written this side. So, let us look at this one first. When, we look at inferred respect, you see path a 0.15 is none significant and also path b, 0.09 is non-significant.

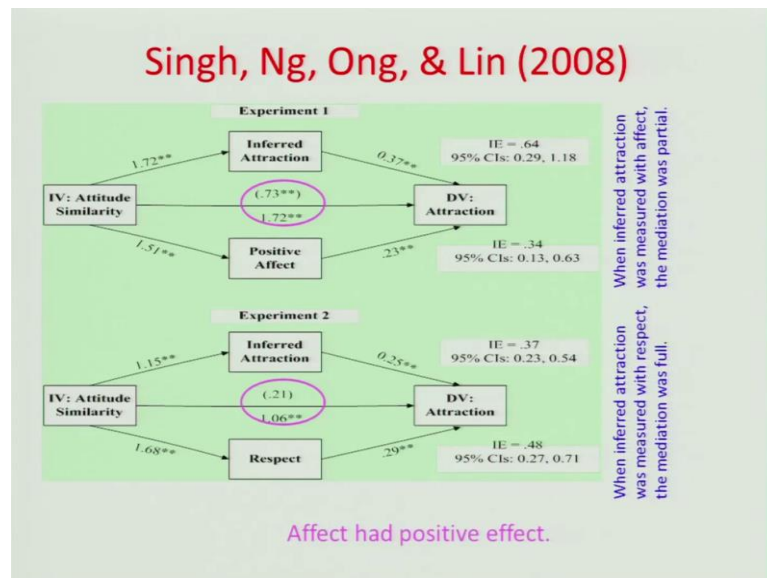
So, if we add the dummy variable using the same method, it is not playing any causal role. So, methodologically, it is important, that theoretical variable should mediate not the dummy ones. So, this is methodological point, I have scoured. Then, let us come to

positive affect and here is something very intriguing. This effect is marginally significant, but it is negative. Theory predicts positive, but this one is negative.

What do we do in a situation like this, but, when we come to respect and inferred attraction; the effects are positive and significant. So, this study, though it was publish. It opened a Pandora box and the point, which I would like to hammer here. In spite of the three mediators, the mediation is partial, c prime is not none significant Montoya and Horton, one was enough. Here, in spite of three, mediation is not complete.

So, another thing, which I said, it has affect, but it has a negative affect. If you feel bad, then you feel attracted that kind. So, how do we explain it, here is a challenge.

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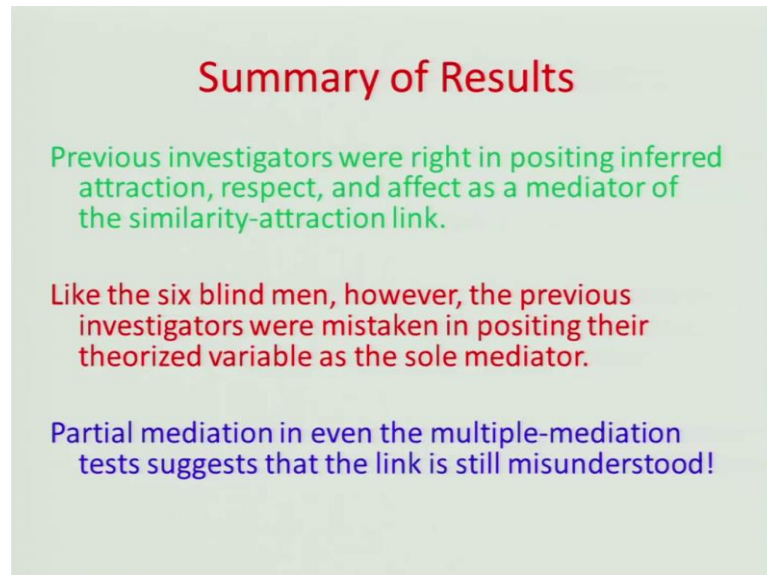


Now, because of these, we did another research in which we did, two things. We manipulated inferred attraction and positive affect and we manipulated inferred attraction and respect take two at a time. In both cases, now you see here, inferred attraction and positive affect mediation is partial. But, when we put inferred attraction and so in this case, it is a partial mediation. But, when we put inferred attraction and respect mediation is complete.

So, we have some clarity and interesting part is the affect has a positive effect. In earlier, it had a negative slope, now it has a positive slope here. So, we thought the issue is

resolve, but my mind did not become satisfied with it. We thought something else is operating.

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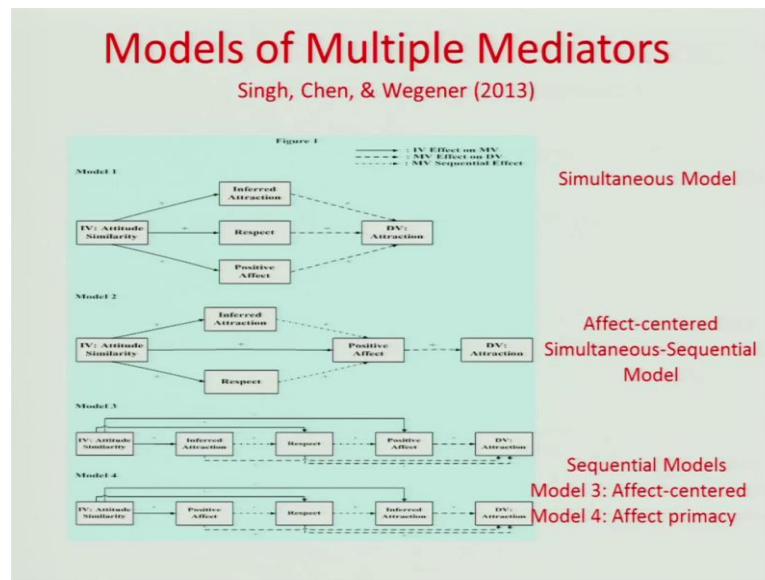
Summary of Results

- Previous investigators were right in positing inferred attraction, respect, and affect as a mediator of the similarity-attraction link.
- Like the six blind men, however, the previous investigators were mistaken in positing their theorized variable as the sole mediator.
- Partial mediation in even the multiple-mediation tests suggests that the link is still misunderstood!

And we must visit these. So, from, multiple mediation, what did we learn? Number 1; yes, we were right in saying that, this one is a mediator. There is no doubt about it, but we were also wrong in saying, just like the blind men. That this is only the mediator, affect is mediator, respect is mediator, inferred attraction is a mediator. We were mistaken like the blind men; that this is the answer a wall, a rope, tree or snake.

So, why, partial mediation in even a multiple mediator test is another intriguing issue. So, we thought the phenomenon is still misunderstood, our understanding is not complete. That led me to do something, which are not published. But, hopefully, they should be and I share with it. So, one issue becomes issue of simultaneous versus sequential mediation. That, when we have more than one mediators should we examine the relationship among them. Let us come back come to the 4th part here.

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We looked at the literature and we thought, that models be, we can develop several models. One model is the first one, which I had tested in 2007. That inferred attraction, respect and positive affect, which I say model 1. Simultaneous model, they simultaneously carry the effect of attitude similarity to attraction. Baron Byrne and Branscombe in 2006 in addition of social psychology, they thought that, three can be accommodated something like this.

And what they are saying is, they called it affects centered model of attraction, which is simultaneous and sequential. And they said, attitude similarity lead to all three. But, inferred attraction and respect come before positive affect and they also boost, positive affect, which leads to attraction. That became affect centered simultaneous model. We thought that know, this is not complete, the correct model can be 3rd.

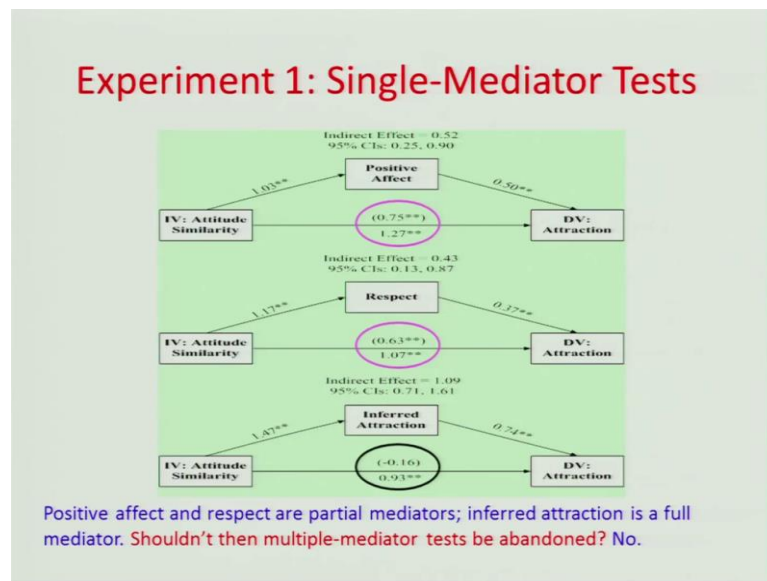
In 3rd one, we say attitude similarity, it has direct effect, you see solid line to all three. Plus there is a sequential effect, inferred attraction, leads to respect, which leads to positive affect, which leads to attraction or it could be positive affect, respect on inferred attraction. So, if you go back to the literature, we have idea for these. These two are sequential model.

So, 3rd model is the affect centered one; I am retaining affect as the last position. but, it instead of considering as simultaneous, I am saying, they are also sequential linked. When, we come to this one Galkin in 1980 American DV psychologist, he published a paper,

feelings need not inferences. His idea is affect is the first process in any reaction. You know, without any control spontaneous. So, based on that, we generated model 3 and 4.

So, you see we have a theory simultaneous mediation. Then, we have affect centered. We revived affect centered and also, we thought Gank model and to do, to test it, we conducted two experiments.

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Now, the first, look at the challenge here, when, we are doing any study with three mediators, the first challenge is demonstrate, that each one is mediator. Then, you have to put them together and see, how do, they mediating, this is the one issue. On another issue is, when you are measuring them, how do you know that, they are different things and not the same thing.

So, is you are M V and D V distinct construct, if they are the same thing, then It makes no sense doing it. So, the first task was to demonstrate, whether these things can mediate, when we have, because same method same participant population, we have to do. So, the first study, we did and you can see here, that positive affect did mediate and data. Now, by this time, there is another change in the method.

Earlier, you are a times b, should be greater the 0, was being tested by shovel test. People realize that, our indirect effects have no normal distribution. So, shovel test is a not right test. So, now, another technique has developed. This is called boot extra sample. What

we tell the computer from the same data 1000, 2000, 3000, 5000, 10,000. Whatever, you want, draw the sample and from each time, develop the estimate the effect and tell me.

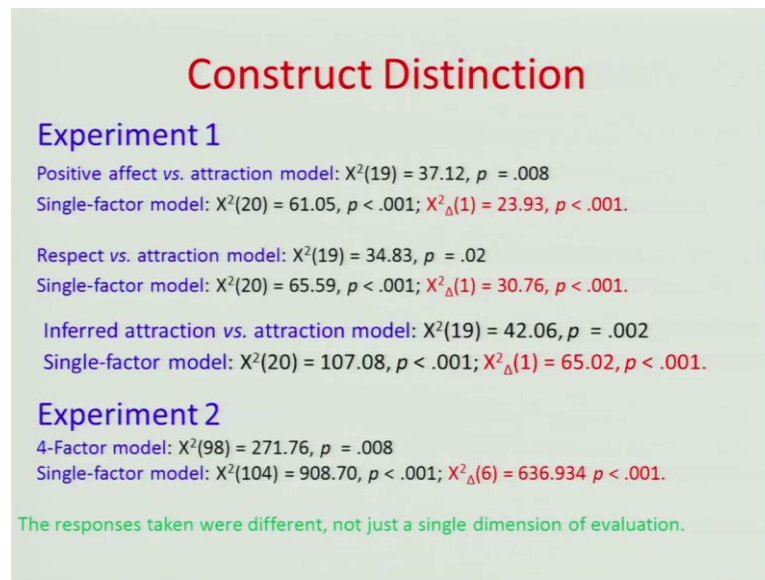
What would be the 95 percent confidence interval of it? That 95 percent confidence interval should include your indirect effect, but not 0. So, if it is positive, lower side should not include 0, if it is negative, the upper side should not include 0. So, this is what, I am writing as 95 percent confidence interval. So, this is another. So, we are passing through almost a methodological revolution these days, between in 2007.

And now, I am reporting 6 years later something else. So, see here. So, when, we look at positive affect, we have indirect effect of 0.52 and this indirect effect is between 0.025 and 90. So, that is a significant. And mediation is partial, because it is non-significant c' . When, we come to the respect, the same thing, you are finding. When, we come to the inferred attraction, mediation is complete.

So, just like the previous literature, something is appearing complete, something is a partial. So, that gave me a ground to say that, yes, these three are mediator and they can be considered as a mediator. But, on another thing, this is what; I had shown by the circle. So, we did find that, they are, but any important issue it becomes. Since, 3rd one is a complete mediator, does it mean that, we should not consider a respect and affect. My answer is no.

Even though, somebody is very powerful, it does not mean, if professor, Mishra is very powerful, it does not mean that, we are not effective. We produce some effect. This is the logic, we have.

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Construct Distinction

Experiment 1

Positive affect vs. attraction model: $X^2(19) = 37.12, p = .008$
Single-factor model: $X^2(20) = 61.05, p < .001; X^2_{\Delta}(1) = 23.93, p < .001.$

Respect vs. attraction model: $X^2(19) = 34.83, p = .02$
Single-factor model: $X^2(20) = 65.59, p < .001; X^2_{\Delta}(1) = 30.76, p < .001.$

Inferred attraction vs. attraction model: $X^2(19) = 42.06, p = .002$
Single-factor model: $X^2(20) = 107.08, p < .001; X^2_{\Delta}(1) = 65.02, p < .001.$

Experiment 2

4-Factor model: $X^2(98) = 271.76, p = .008$
Single-factor model: $X^2(104) = 908.70, p < .001; X^2_{\Delta}(6) = 636.934, p < .001.$

The responses taken were different, not just a single dimension of evaluation.

So, question of construct distinction, how do we test whether positive affect and attraction are same thing or different thing. So, for this, we do confirmatory factor analysis. Then, we made two models. We tell the computer, treat them as two different variables or treat them as one variable. So, the first time, we are saying we are getting a chi x square value.

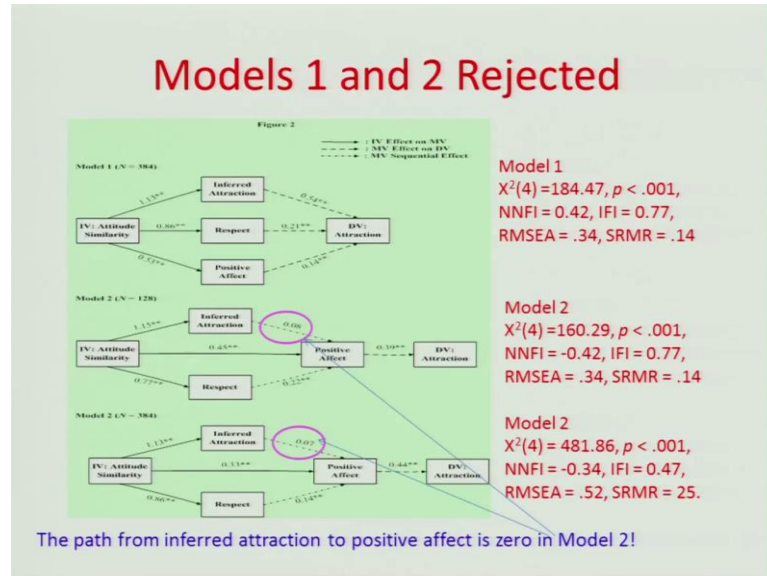
2nd time, we are doing, when we say, one variable. We are getting chi x square 37 point something. When, we say 2nd variable 61 and difference between the 2 chi x square is significant. So, we are saying that, two factor model is more appropriate than a single factor model. This is, in case of the first design, in the 2nd case, same thing, you are finding that chi x square difference, I am showing by delta chi x square here in rate. 3rd time, also we find found the same thing.

So, the two construct I V and D V, they were smilingly different, they were not the same thing. For the 2nd experiment, where, we measured the three things and attraction. Again, you can see, when, we said four factor models, 2.71 chi x square and single factor 1. We have 9 point something here in non-significant. Chi x square really means, your model is successful. Your chi x square means, your model is not perfect, but of the two effective model, your model is more preferable than the other one.

And that is why; this chi x square difference we calculate. So, we do have evidence; that these variables are not the same thing. In 2007, how I had handled this question by

including a dummy variable. But, now, you may not include a dummy variable and still you can test, whether the constructs are same or not.

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Now, let us come back, the main question here, let us look at the model, from the data, which model can be suggested supported by this. So, first one is the multiple mediator models. So, for that, we do path analysis. One need not be frightened by path analysis. It is ideate friendly and if there is a most program, I can teach in 5 minutes. So, let us look at model 1 here. For these, we have to have several parameters.

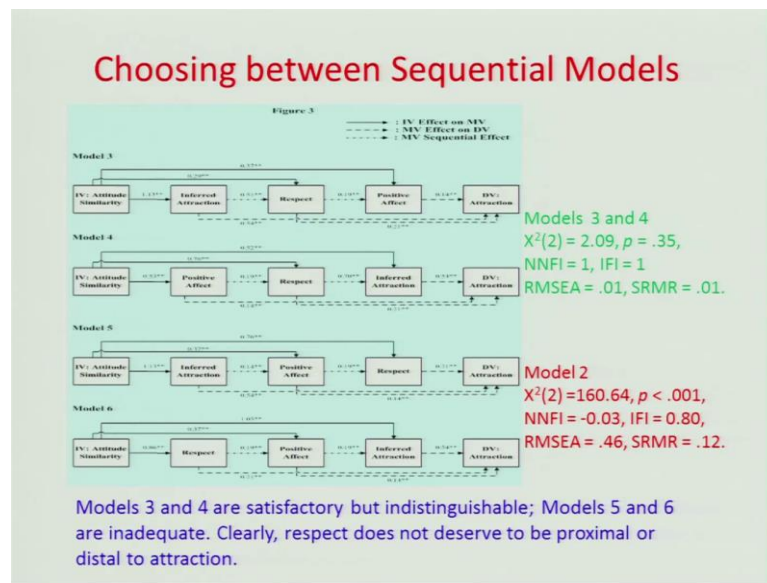
We have to specify draw a path diagram like this; enter our variables to these boxes and say, estimate. And then they would give you the fit parameters, they would give you, all those estimated values and a fit in this. So, whether, your model is. So, now, see something here chi x square is 184 significant. This is 1 NNFI is called Non Normed Fit Index.

Theoretically, it should be 0.95 and more then we have incremental fit index. It should be 0.095 and more. Then, we have RMSEA. Theoretically, it should be 0.05 and less and SRMR should be 0.05 and less if your model is a really perfect. If it is not, then we compare the chi x square, which one is giving a better fit. So, this one, clearly you see, that we are not getting a good fit. And this is the model I had tested in 2007.

So, if I did not get a good fit, there is nothing to be surprised with a new set of data. Then, I come to affect centered model of Byrne in which part of the data, I had measured variable precisely in this way. And this is from the total data 384 participant; that is 128 participants. You see, this model fit is not satisfactory either. Even, with the complete set of data, the model fit is not very good.

In fact, it is worse and more surprisingly, Byrne said, inferred attraction leads to positive affect; that path is 0, 0.08 you see. So, his simultaneous sequential model is not right.

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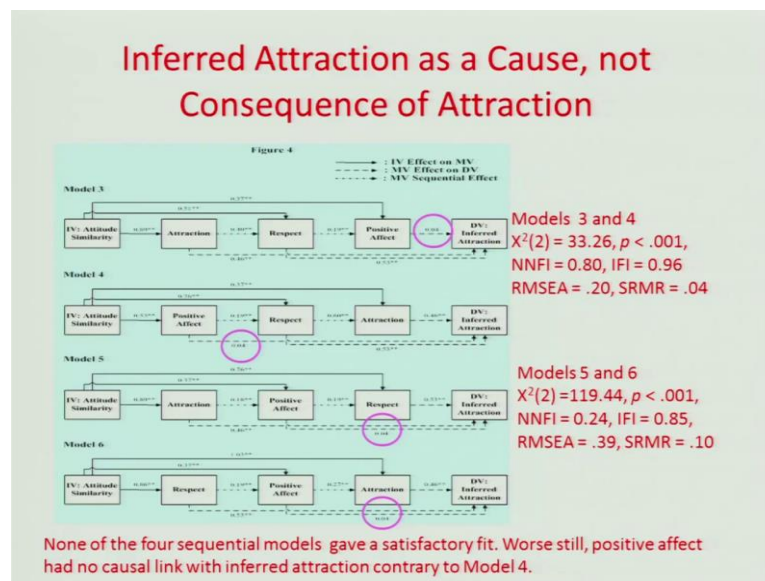


Would the model 3 and 4 succeed then 3 and 4 plus, I generated two more models and why I did, I will tell you that right time. Let us look at model 3 and 4; they give perfect fit and all path coefficients, if you look are significant. In other words, affect primacy and affect centered model, they are indistinguishable. Both are giving exactly the same fit. So, you can erase it out.

That you are technique is such as Professor Dalal has been saying that, he can prove anything mathematical if it is. So, then if I reverse the sequence, I should be able to get the same thing. So, for that, I generated model 4 and 5 and I have done, I have put respect as last variable as I had done in 2007. And I put respect as first variable. And when we put it, then see you consequences with the same data by simply changing the ordering. The fit becomes as bad as in the previous models.

So, this is the one script, who which we prepared and I must thank Proj Bhushan for commissioning for me, for this. Because, it was not written and I started working and this is what, I found out a one script is ready in addition to the lecture. Now, let us, what we have. So, model 3 and 4 are satisfactory. But, indistinguishable, model 4 and 5 are inadequate. So, clearly, respect does not deserve to be proximal or distal to attraction. It operates somewhere else here.

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Now, here is another issue, there in literature, there is also a point, that if somebody is attracted toward you, then you feel attracted toward him. So, inferred attraction is not the cause, it is effect of attraction. I also wanted to handle this question. So, the last 4 models, I reversed and all the change, I go done. I have put inferred attraction as D V and attraction as the mediator.

So, in model 1; you see attraction, there in model 4; you see here. In model 5; you see first. In model 6; you see attraction as last, if it is so. Then, the model fit should be very good, number 1 and all path coefficients should be significant. So, my mathematic mathematician friend say, mathematics can do anything, I do not believe it. See, here model 3 and 4, all the fit in this. Chi x square significant NNFI unsatisfactory IFI is satisfactory, RMSEA is unsatisfactory, it is a mixed up. It is not giving good fit.

But, another thing, I will draw your attraction, when we come to this, it is worse. But, worst than the model fit is. That, whenever, you put effect of from positive affect to

inferred attraction path is, none significant. From positive affect to inferred attraction is 0.04, just like in the first case. From inferred positive affect to attraction, this is 0.04, this is 0.04.

So, causal transmission is not from positive affect to inferred attraction. It is from an inferred attraction to positive affect, both ways we are getting. So, from these two experiments, what do we learn, none of these four sequential about do. Can allow inferred attraction to be the outcome variable, it has to be a mediator. So, this is what, first one say, 2 models can represent better. But, they are indistinguishable.

Both are consistent with the literature. And inferred attraction is not the outcome variable. It is a transmit process; it is not the final process. That much we have achieved.

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Four Lessons Learnt

1. The three previously known mediators are **also sequentially linked** to each other.
2. The sequential mediation takes the form of either the **inferred attraction → respect → positive affect (Model 3)** or the **positive affect → respect → inferred attraction (Model 4)**.
3. Model 3 is a modified version of **the affect-centered model of attraction**.
4. When positive affect will be measured with trust (Singh et al., 2009) or validation of the effectance motivation (Byrne & Clore, 1967), it may be possible to choose between Models 3 and 4.

So, from this, essentially, I learnt four different things. Three previously known mediators are sequential linked to each other. If you disturb it, then cannot represent your data. Number 2; the defensible models seem to be inferred attraction leads to respect, leads to positive affect, which is model 3 or positive affect, leads to respect, leads to inferred attraction, which is model 4.

So, this model 4 would be affect model of Gaink, the first one affect centered model. And model 3, which is modified version of affect centered model. So, when, we suggested here, that we could not distinguish, whether model 3 or model 4 is right. Can it

be distinguish; that is a challenge; that is that brings us to part 5. So, let us come to part 5 now.

So, in part 4, we looked at that, there is a sequential mediation and we cannot distinguish between 2 models. That is affect centered and affect primacy. So, for that, we launched another research program here. And the main message, I would giving you, here we have introduced a new mediating variable, trust in the benevolence of your partner. That this partner would not take advantage of me, would not exploit me that kind of notion.

And then the message I am going to give you, that when we put these four things, trust respect positive affect and inferred attraction. Then, inferred attraction comes before trust. In other words, trust follows inferred attraction, but precedes respect and positive affect. So, essentially, evidence for affect centered model. And let us see, how we came to this conclusion.

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Trust as a New Mediator

- People have a cheater detection mechanism that adaptively prepares them against trust violation (Cosmides & Tooby, 1992)
- "Without trust, voluntary relationships are not likely to develop, let alone, grow or be maintained" (Simpson, 2007, p. 460).
- "... people tend to assign *trustworthiness* high values on Likert scales of importance, to select *trustworthiness* as the most necessary characteristic, and to allocate large portions of limited resources to increase target *trustworthiness*" (Cottrell, Neuberg, & Li, 2007, p. 225).
- People like those who like them (Goulder, 1959). Trust mediates such reciprocated attraction (Montoya & Insko, 2008)
- Attraction from other-profitable traits (*warm, sociable, sincere*) is mediated fully by trust in the partner (Singh et al., 2009).

So, this challenge is now to demonstrate that, trust is a new mediator. Now, why we do have to demonstrate it, if we go to psychological literature, we find some views. Evolutionary psychologist claim, that we all are equipped be thy cheater detector mechanism. So, when, you encounter a person, we know that, gets activated. So, if you feel that, this fellow, whose is not trustworthy, we avoid it.

So, this is the one suggestion, we have. Another suggestion, we have here, which Simpson said that without trust voluntary relationships are not likely develop. Let alone grow or be maintained. That means, trust is important another suggestion, we have like, Cottrell Newberg and Li. They asked people, what is the most desirable characteristics of the partner, across a wide variety of groups.

And their finding, I am giving just coating them, they said, people tend to assign trustworthiness, high values on likert scales of importance. To select trustworthiness as the most necessary characteristic and they allocate large portions of limited resources to increase target trustworthiness. In 2007, they said it. Then, another thing we found in a long literature sociology again, where a sociologist Goulder said in 1959, people like those who like them.

And trust mediate this reciprocated attraction in 2008, Montoya and Insko demonstrated. So, we did this published a paper in European general of social psychology in 2009, where, we said, some trait is can be profitable to other people, some trait is can be profitable to yourself. Like, basically warm should be an example of other profitable and that, effect is also mediated by trust. All these, led us to consider, trust as a new potential mediator of similarity attraction. So, we initiated the research program.

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Research Program on Trust

6 experiments on attraction as the DV.

Attitude similarity was the IV in the first 5 experiments; trust was pitted against one or more MVs in different experiments.

- Experiments 6A:
Partner's attraction (IV) → Trust (MV) → Attraction (DV)
- Experiments 6B:
Partner's trustworthiness (IV) → Inferred attraction (MV) → Attraction (DV)

And I am going to share my findings from that research program, we conducted a series of six experiments. So, in which attraction is always the DV dependent variable. And

everywhere, we are manipulating in five experiments, we manipulated attitude similarity as IV. And then we put a trust against one another as MV, one by one, trust versus respect, trust versus positive affect, trust versus inferred attraction. And then all them together, you know something like this, we pitted.

In the last experiment, we went back to the causal chain hypothesis, from which, this attraction research we had started. So, what we do manipulate partner attraction not that you infer. Partner is actually attracted toward you. Then, measure trust and attraction. In another, we said manipulate trustworthiness and then measured inferred attraction and attraction.

Logic is, if the causal chain is from inferred attraction to trust to attraction, mediation should be complete there. But, if you have trust inferred attraction and then attraction, there should be mediation, because they are correlated, but it would not be complete; that logic, we followed.

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Three Key Issues in Trust Research

- Is trust in the partner's benevolence a new mediator?
- Is trust distinct from attraction and the previously known MVs?
- What is the sequential order of trust among those MVs?

In Singh, Chen, & Wegener (2013),

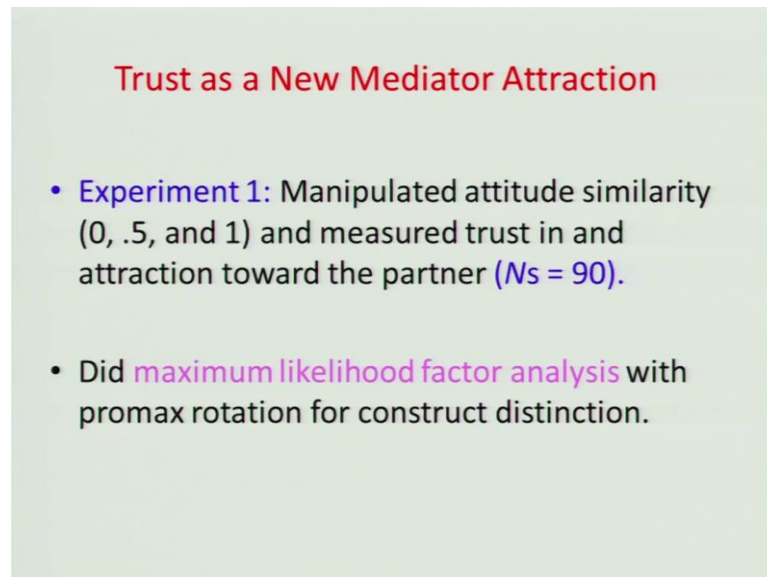
- Model 3: inferred attraction → respect → positive affect;
- Model 4: positive affect → respect → inferred attraction)

were indistinguishable. Can trust lead to a choice between these 2 models?

So, three key issues, I am dealing within this a research program. Number 1; each trust in the partner's benevolence a new mediator. Number 2; is trust distinct from attraction and three previously known mediators. Number 3; what is the sequential order of trust among these M Vs. Now, please go back to my model 3 and model 4, from the previous paper, where, we said two possible orders have been identified so far.

Inferred attraction, respect and positive affect, which is affect centered model or positive affect respect and inferred attraction, which is affect primacy. They were indistinguishable. So, can trust lead to a choice between these two indistinguishable models, that that these were the.

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Trust as a New Mediator Attraction

- **Experiment 1:** Manipulated attitude similarity (0, .5, and 1) and measured trust in and attraction toward the partner (*Ns* = 90).
- Did **maximum likelihood factor analysis** with promax rotation for construct distinction.

So, trust as a new mediator, how we did it. Experiment 1: very simple experiment. Manipulate attitude similarity with 3 levels, 0, 0.5, 1. Measured trust in and attraction toward the partner, 90 participants, huge, maximum likelihood factor analysis with promax rotation, to see, whether attraction and trust are same thing or different things. Because, we have not studied them together, so we are not doing confirmatory. First, we are doing exploratory.

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Experiment 1: Trust vs. Attraction

Table 1
Maximum Likelihood Factor Patterns in the Trust and Attraction Responses in Experiment 1 (N = 90): Promax Rotation

Responses to the items	Factor 1	Factor 2
<i>Factor 1: Trust</i>		
T1: My partner would look out for my interests	.72	.17
T2: My partner would act benevolently toward me.	.84	-.03
T3: This partner would make me feel secure.	.92	-.07
T4: I would find this interaction partner to be dependable.	.75	.08
<i>Factor 2: Attraction</i>		
A1: I would like to meet my future interaction partner.	.03	.79
A2: I would like to be with my future interaction partner.	.11	.55
A3: I look forward to working on the upcoming task with my future interaction partner.	.08	.82
A4: I would like to get to know this person better.	-.09	.87

Note. T = Trust; A = Attraction.
2-Factor $\chi^2(13) = 26.74, p = .01$; 1-Factor $\chi^2(20) = 95.92, p = .001, \chi^2\Delta(7) = 69.18, p = .001$

Trust in and attraction toward the partner are indeed distinct constructs.

So, here are the findings from each of these. The four trust items you have, my partner would look out for my interest. My partner would act benevolently toward me. This partner with make me feel secure, I would find this interaction partner to be dependable. And you see and the attraction items, I would like to meet my future interaction partner, I would like to be with my future interaction partner. I look forward to working on the upcoming task with my future interaction. I would like to get know him better like this.

And you see the now, I would like to also mention here. These are not factor loadings, they are regression weights. So, you are finding that, these four items are having higher regression weights on factor 1. In contrast attraction, items are having higher regression weights on factor 2. And this program also gives you a chi x square test, where your two factor model is giving good fit or not.

So, when I said, do my data have two factors, I am getting chi x square value this, greater could have been if this chi x square should have been none significant. But, it is significant, but it is 26.71, but when I say one factor, it is 95. So, on that basis, I am concluding the trust and attraction are distinct factors. They are not the same. So, measurement model is satisfied.

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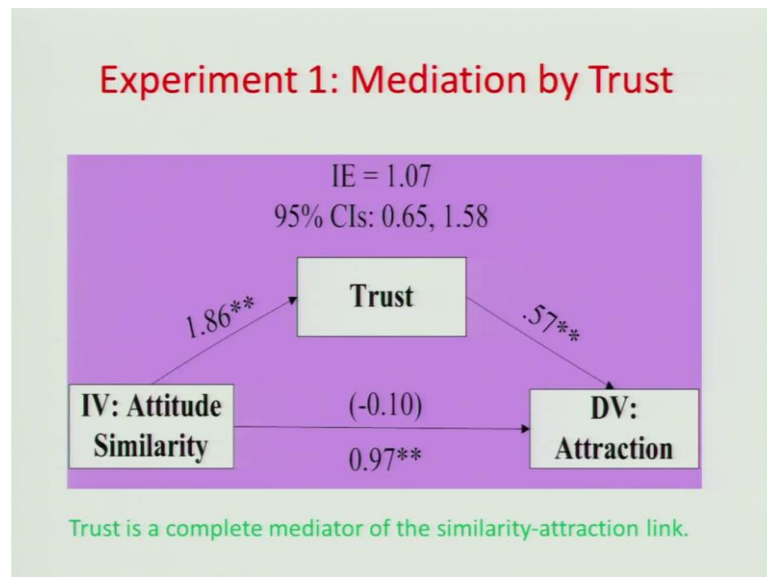
Effects on Trust and Attraction

Responses	Proportion of Similar Attitudes		
	0	0.5	1
Trust	3.18z (0.88)	4.23y (0.91)	5.04x (0.74)
Attraction	3.55y (1.08)	4.11x (0.68)	4.52x (0.91)

Note. The value in the parenthesis is the corresponding SD. The row means with different subscripts differ significantly from each other at $p \leq .05$.

Now, we come to the causal models. In causal models, you see all three have both variables have a linear trait. Trust increases as a function of proportion of similar attitudes, attraction increases as a function of proportion of similar attitudes. So, casual effect is also demonstrated. Now, is it mediator or not.

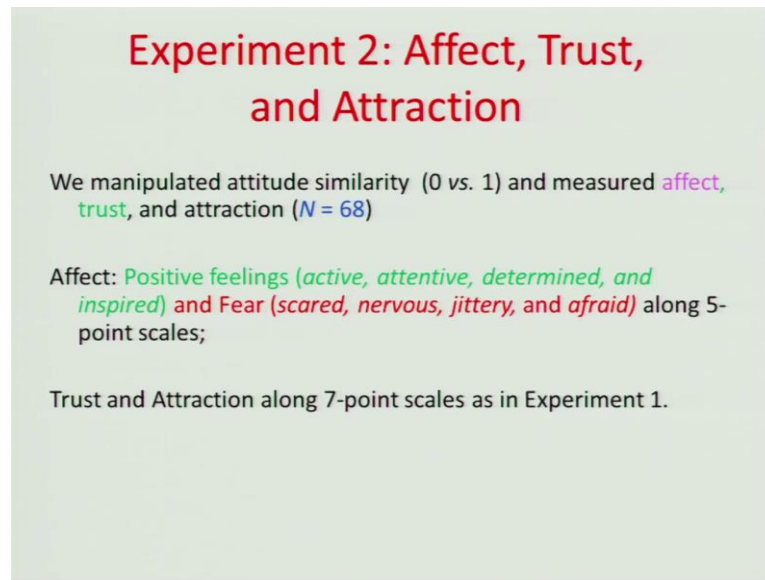
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So, we do the simple mediation analysis and can see that, the original effect of 0.079, here we have even stronger effect. Because, this value is becoming negative and product of these two is 1.07; 95 percent confidence interval. So, trust is a mediator and it seems

to be only mediator, for this data it is a sole mediator. But, I am accepting that one. So, we have succeeded in showing trust and attractions are distinct and trust is a mediator of similarity attraction.

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Experiment 2: Affect, Trust, and Attraction

We manipulated attitude similarity (0 vs. 1) and measured affect, trust, and attraction ($N = 68$)

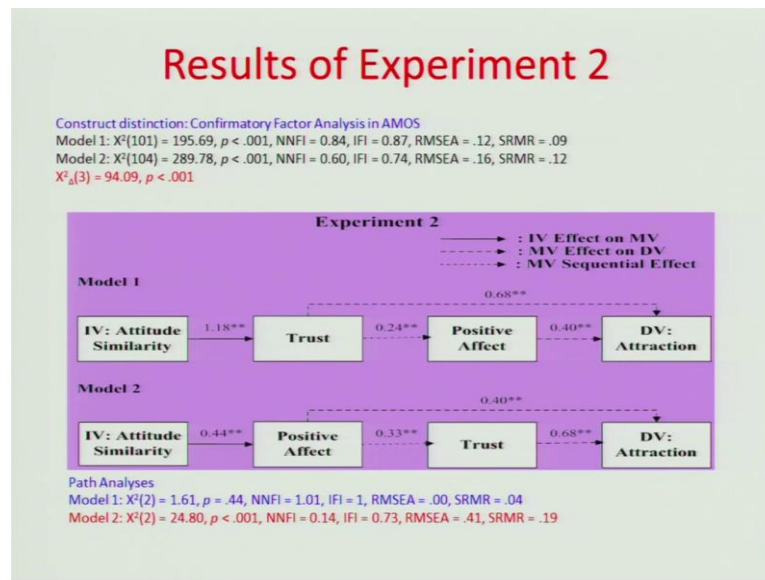
Affect: Positive feelings (*active, attentive, determined, and inspired*) and Fear (*scared, nervous, jittery, and afraid*) along 5-point scales;

Trust and Attraction along 7-point scales as in Experiment 1.

Now, we go to the next experiment, where we are manipulating, we are pitting trust against positive affect. At this point, you also became interested in something more, what would be negative affect, we have not considered so far. So, we measured both positive and negative affect, trust and attraction here, our participants are just 68 here. Positive feelings by active attentive determined and inspired and negative, I am calling as fear. Because, in long relationship fear is a factor.

So, we have scared, nervous, jittery and afraid and from panas, we have taken items, which your original ten items. But, in 2007 Thomson wrote, one paper in general of cross cultural psychology. And said that, no need to use the ten items. These four items are enough and these are the four items, which are highest loading in some 1700 participant across the world. That is why; I am using those items and we measured all them along the 7 point scales here.

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So, what is the result from experiment 2? Let us look at first term measurement model. When, we do confirmatory factor analysis, our four factor model, two emotions, trust and attraction. This model is doing better than saying that, this we have just one factor model. They are not the same thing, they are different things. And when we come to the causal model here, you can look at it, what is happening, attitude similarity affects trust, positive affect and a sequential dependency, we notice like this.

And when we put attitude, so I have reversed the order here put positive affect first or trust first. The question is, how do we choose between all paths are coefficient are significance. Here, our choice is based on the model fit and you can see, model 1; gives a better fit and satisfactory fit than model 2. That means, in this experiment the order is trust lead to positive affect, which leads to attraction.

Not positive affect leads to trust, which leads to attraction. So, not affect primacy, this is the outcome from the, because the 2nd model is, you see everything is very weak, fit in this as we have.

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Experiment 3: Trust, Respect, and Attraction

Manipulated attitude similarity (0 vs.1) and measured trust in and respect for the partner before attraction ($N = 96$).

Respect items were the same as those for Montoya and Horton (2004)

Construct distinction:
3F Model 1: $\chi^2(51) = 79.83, p = .006, NNFI = 0.93, IFI = 0.94, RMSEA = .08, SRMR = .06$
1F Model 2: $\chi^2(54) = 123.98, p < .001, NNFI = 0.83, IFI = 0.86, RMSEA = .12, SRMR = .08$
 $\chi^2_{\Delta}(3) = 54.15, p < .001.$

Then, we come to experiment 3. Now, we are putting trust respect and attraction. Same logic, we have, same method, we have here just 96 participants. Two levels of similar dissimilar attitudes and respect items are precisely like those, which I had shown you earlier. Attraction items were we have saved again, the construct distinction, we are saying. Whether, trust respect and attraction are same thing or different thing.

Evidences, that they are different things, they cannot be treated the same thing. So, this, we called measurement model is satisfied.

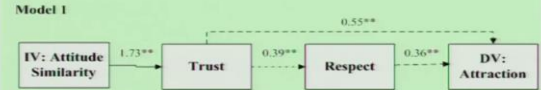
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Results of Experiment 3

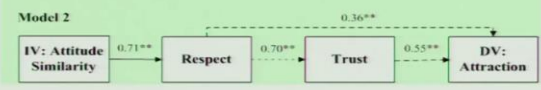
Experiment 3

—→ : IV Effect on MV
- - - - - : MV Effect on DV
- - - - - : MV Sequential Effect

Model 1



Model 2



Path Analyses
Model 1: $\chi^2(2) = 0.61, p = .71, NNFI = 1.03, IFI = 1, RMSEA = .00, SRMR = .01$
Model 2: $\chi^2(2) = 45.68, p < .001, NNFI = 0.09, IFI = 0.71, RMSEA = .48, SRMR = .18$

Experiments 2 and 3 showed that trust precedes positive affect or respect.

Now, we are interested in causal model, here is the model. So, we put trust respect and attraction and we put respect trust and attraction, which model would give a better fit. And three kinds of line, I am drawing, direct, solid line means effect of I V on the M V or D V. Then, we have a dash line, which is indicating effect of mediator on the D V. And then we have a very thin line, which is a sequential effect. So, when, we fit this model, again you can see model 1; in which trust comes before respect is satisfactory and acceptable model 2; is not.

So, between affect and trust, trust comes first between trust and affect, trust and respect, trust comes first. So, that point is also scored.

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**Experiment 4: Inferred Attraction.
Trust, and Attraction**

Manipulated attitude similarity (0 vs.1) and measured inferred attraction, trust, and attraction ($N = 60$).

Inferred attraction items:

- My partner would like to meet me.*
- ... like to be with me.*
- ... is looking forward to working with me.*
- ... like to get to know me better.*

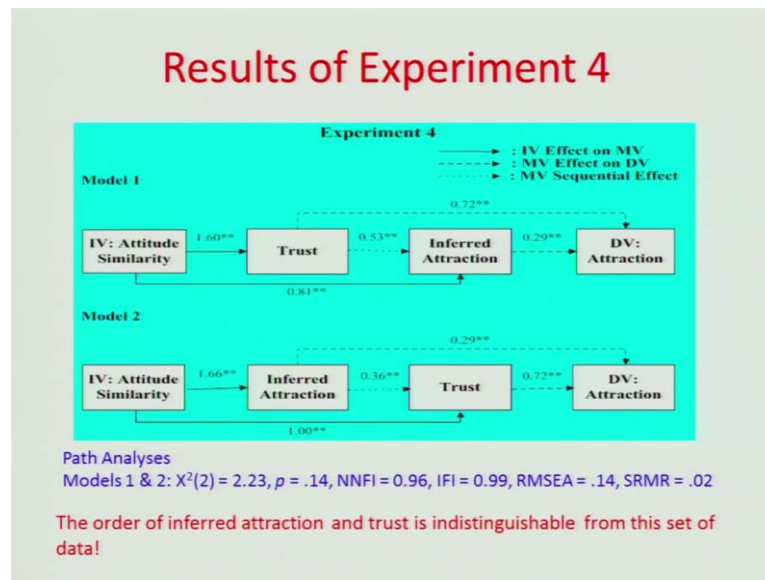
Construct distinction:

3F Model 1: $\chi^2(51) = 99.86, p < .001, NNFI = 0.83, IFI = 0.88, RMSEA = .16, SRMR = .08$
1F Model 2: $\chi^2(54) = 153.30, p < .001, NNFI = 0.67, IFI = 0.74, RMSEA = .22, SRMR = .10$
 $\chi^2_{\Delta}(3) = 53.44, p < .001$

When, we come to experiment 4; then we are bringing inferred attraction. One by one, not all at mainly because if you put many, then we do not know, which is the source of trouble. So, all, by put 1. So, when we put like exactly like same thing, we did just sixty participants we have and inferred attraction, we say my partner would like to meet me; my partner would like to be with me.

My partner is looking forward to working with me. And like to get me know, better means, not only he is also interested in this. When, we tested it again, you can see that a three factor model is better representation of the data than the one factor model.

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But, the causal model is here in which, I have switched the order, both are giving making exactly the same thing. So, when we put inferred attraction and trust, we cannot distinguish which one comes first and which one is the 2nd one. This is the challenges. Same problem, we have faced in the previous study; that when you measure inferred attraction, respect and positive affect, you cannot distinguish.

So, we are back to the same problem, when we put this. That led to me go to, what Professor, Mishra ask yesterday a day, before yesterday about long term relationship. Now, they have a new conceptualization. They say, any relationship formation the first goal is to see, whether that fellow would accept me or not, whether, that fellow would accept me or not.

So, we thought that inferred attraction is accepting that, this fellow accepts me. If he accepts me, then I signal trust to him and then trust leads to the other things this is the logic, we followed.

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Experiment 5: Measure All Responses of Experiments 2-4

Manipulated attitude similarity (0 vs.1) and measured positive affect, negative affect, inferred attraction, trust, respect, and attraction ($N = 224$).

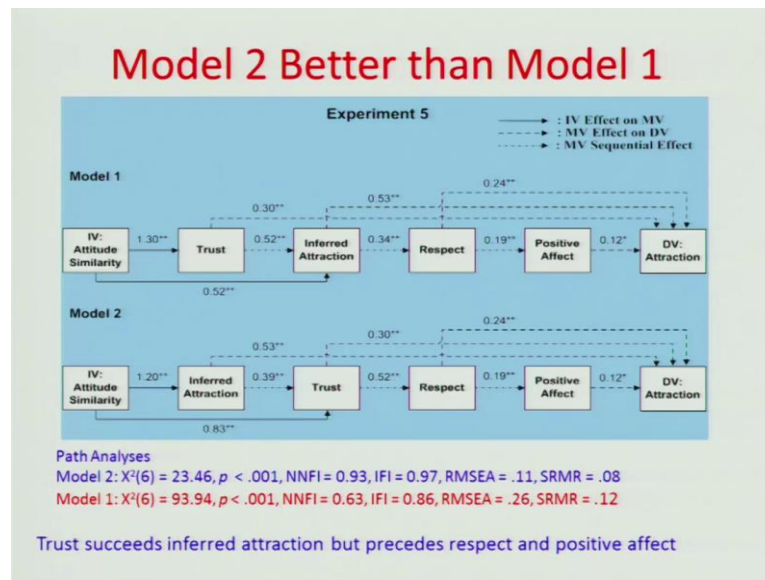
There were four orders of mediator measurements in which inferred attraction and trust were measured twice at Orders 1 and 2 and affect and respect twice at Orders 3 and 4

Construct distinction:
6F Model 1: $\chi^2(238) = 552.12, p < .001, NNFI = 0.88, IFI = 0.90, RMSEA = .08, SRMR = .07$
5F Model 2: $\chi^2(243) = 600.68, p < .001, NNFI = 0.87, IFI = 0.89, RMSEA = .08, SRMR = .07$
 $\chi^2_{\Delta}(5) = 48.44, p < .001$

So, for that reason, we conducted the experiment 5; in which we are putting all these responses, positive affect, negative affect, trust, respect and inferred attraction. Manipulate attitude similarity, measure attraction, I simplified this. And 224 participants, we have. More here, because for doing confirmatory analysis, more variable the need larger sample size and four order of measurement of these things, we manipulated.

In construct distinction, you can see that, a six factor model did better than a five factor model. When, we said that, these responses mean five things. It did not give a good fit, when we said 6; it is a better fit. So, that job is done.

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Now, causal model we are testing here. So, model 5; and 6 here, the only difference, you can see, I am putting trust, inferred attraction, respect and positive affect, which is essentially affect centered model with trust coming before infer. But, when we put inferred attraction, trust, respect, positive affect, order only in the first 2; I am changing. I was as expected model 2; is giving the bit not perfect fit, but it is giving a meder measure fit.

Idea is inferred attraction is the clue that fellow accepts me. So, trust is a signal, which leads to respect, which leads to good feelings. And finally, attraction toward the person, this is what is happening in this case. So, that is why; I said trust succeeds inferred attraction, but precedes respect and positive affect. That much, we seem to achieved, but still any experimentalist would not accept, because trust inferred attraction, respect affect all are correlated variables.

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Experiments 6A and 6B

The flow should be smoother and stronger from a cause to the effect than from an effect from the cause.

Manipulated one MV as the IV and measured the other as DV.

Causal Chain 1:
Partner's attraction (IV) → Trust (MV) → Attraction (DV)

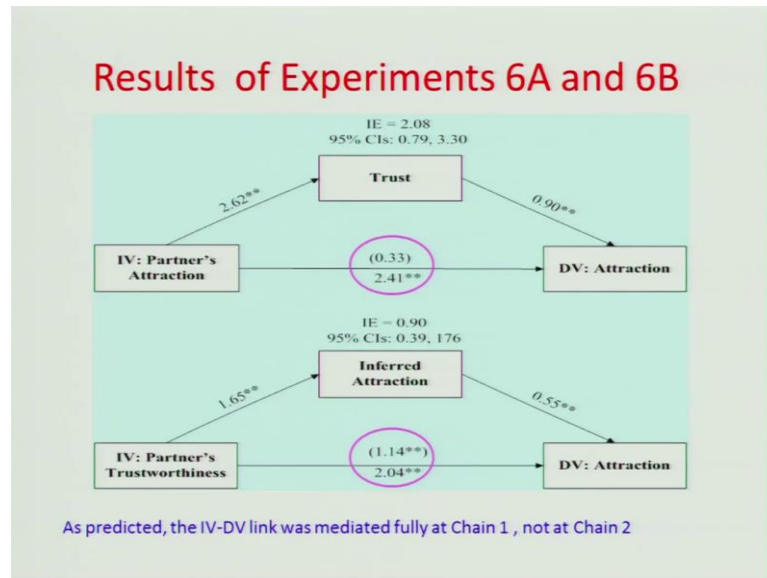
Causal Chain 2:
Partner's trustworthiness (IV) → Inferred attraction (MV) → Attraction (DV)

Hypothesis
The IV-DV link should be mediated fully at Chain 1 but not at Chain 2.

So, that is why; we design experiment 6 in which we said flow should be smoother and stronger. From a cause to the effect, then from the effect to the cause, it is simple logic we are following from everyday science, which I learnt in my high school. So, when, we do this, then partner attraction should lead to trust, which lead to attraction. This is what, Montoya Insko in 2007 and demonstrated, I am simply borrowing to my.

But, I am reversing it, trust, then Inferred attraction and attraction. Here, flow should not be smoother, it is should be weaker. This is the point, I want to demonstrate and. So, DV, IV, DV link should be mediated fully at chain 1, but not at chain 2. Because, it is not natural flow.

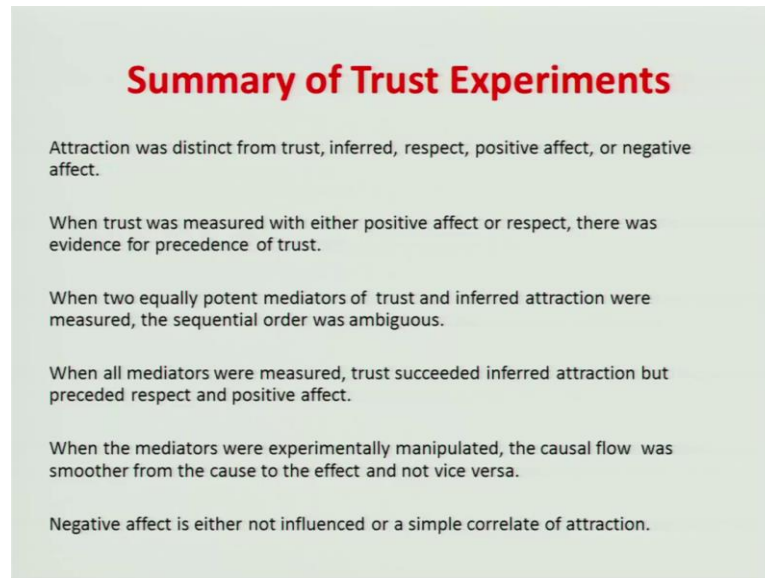
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And you can see here, that this is again, we are back to the single mediator test. And you see here, in this case, effect of partner attraction on attraction is mediated fully by trust the top graph. But, when, we come to the 2nd graph, effect of partner trust worthiness on attraction through inferred attraction, which has already taken place before. That one is partial.

So, we have a scored a point here, the trust seems to be a successor of inferred attraction. But, predecessor of respect and positive affect. Here, this is so as we had predicted chain 1; had full mediation at chain 2, we did not have full mediation.

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Summary of Trust Experiments

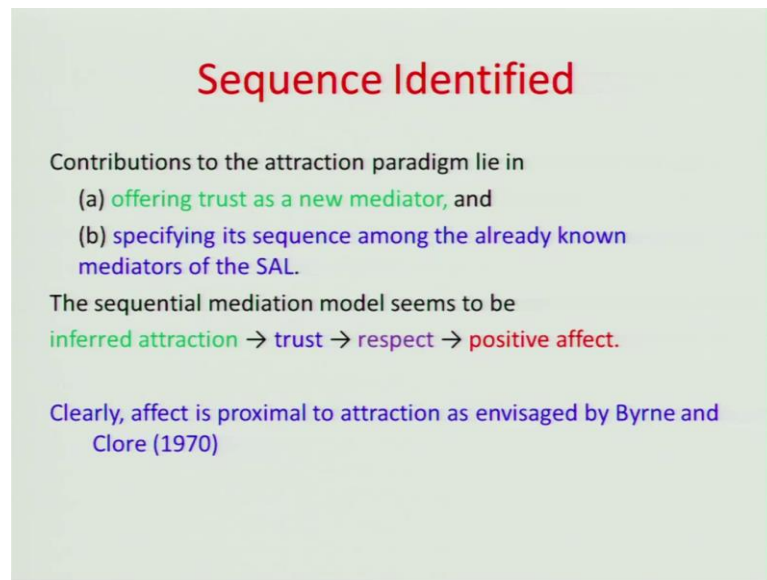
- Attraction was distinct from trust, inferred, respect, positive affect, or negative affect.
- When trust was measured with either positive affect or respect, there was evidence for precedence of trust.
- When two equally potent mediators of trust and inferred attraction were measured, the sequential order was ambiguous.
- When all mediators were measured, trust succeeded inferred attraction but preceded respect and positive affect.
- When the mediators were experimentally manipulated, the causal flow was smoother from the cause to the effect and not vice versa.
- Negative affect is either not influenced or a simple correlate of attraction.

So, what we have learnt out these six experiments, attraction is distinct from trust, inferred attraction, respect, positive affect and negative affect. I think after inferred put the attraction word, it is missing here. Then, when trust was measured with either positive affect or respect, it was a predecessor. When, we measure them with other potentials, mediators than sequential order was like inferred attraction on trust, became big worse, you cannot tell them.

But, when, we you put them together or like a right packing order, you have to have the complete population. So, when, we have it, then trust does succeed inferred attraction. But, precede respect and positive affect, which supports and when we manipulated experimentally. The causal flow is from inferred attraction to trust to attraction, not vice versa, this is what we have demonstrated.

And surprisingly, effect of negative affect was neither influenced nor an influencer or mediator of attraction. It was a simple correlated sometimes. This is, which is, another challenge, we are finding. Now, overview I am giving you now, what I have learnt and what would be some general comments.

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Sequence Identified

Contributions to the attraction paradigm lie in

- (a) offering trust as a new mediator, and
- (b) specifying its sequence among the already known mediators of the SAL.

The sequential mediation model seems to be

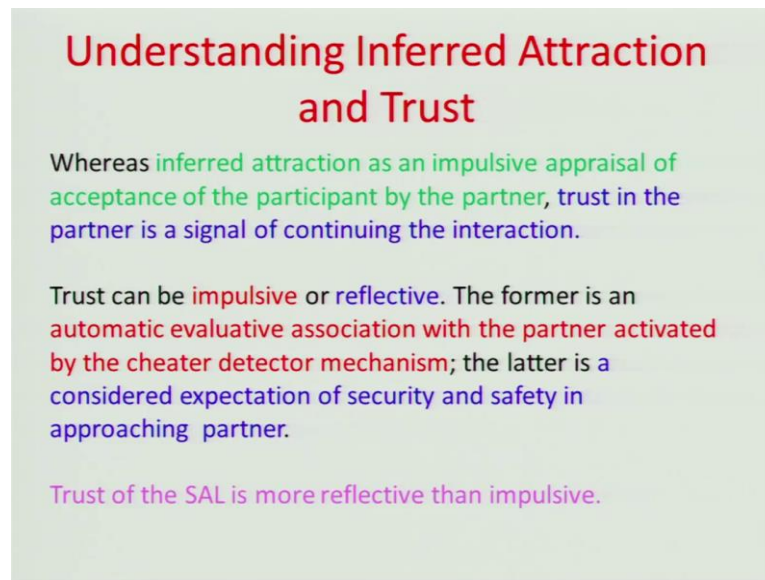
inferred attraction → trust → respect → positive affect.

Clearly, affect is proximal to attraction as envisaged by Byrne and Clore (1970)

Few things, which I feel that, we have succeeded in, we have succeeded in identifying the sequence of the mediator. So, we are offering our contribution to that paradigm. We offered trust as a new mediator and we specify the sequence among the already known mediators of the similarity attraction link. This is the contribution we have made and that sequence seems to be inferred attraction, trust, respect and positive affect.

Clearly, then affect is proximal to attraction as original 1970 model of Byrne and Clore had said. We did not have a method to test it. But, when, we have a method we have a evidence for it.

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Understanding Inferred Attraction and Trust

Whereas **inferred attraction** as an **impulsive appraisal of acceptance of the participant by the partner**, **trust in the partner** is a signal of continuing the interaction.

Trust can be **impulsive** or **reflective**. The former is an **automatic evaluative association with the partner activated by the cheater detector mechanism**; the latter is a considered expectation of security and safety in approaching partner.

Trust of the SAL is more reflective than impulsive.

2nd thing, what is the meaning of inferred attraction and trust. Again, from close relationship plus this data, I find that, inferred attraction is an impulsive, I impulsive, I mean automatic, natural, spontaneous, appraisal of acceptance, whether you accept me or you do not accept me. And trust is a signal of continuing the interaction. Pradbhusan has accepted me. I want to enter into the relationship. Grijiswor has accepted me, I want to enter it. This is interpretation I am giving.

But, trust seems can be impulsive or reflective, like in experiment 2 and 3; it was like a natural response, when there is no inferred attraction. But, when you put inferred attraction, then you think about it, he has accepted me. Now, I can say that, yes, I am interested in the relationship. So, in that case, I am saying, you can be reflective. That means, automatic evaluation part versus something which is activated by cheater detector would be the impulsive part.

But, this one is a considered, cold light of freezing, he is accepting me and I should be entering into this relationship and there is a safety in approaching so and so. In that case, it is operating. So, trust of the SAL is more reflective by SAL, we assess similarity attraction lee is more reflective than impulsive at least in my experiments.

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Link with Impression Formation

In impression formation, people "...first, determine the intentions of the other person and group ... and, second, their ability to act on those intentions" (Fiske, Cuddy, & Glick, 2007, p. 77).

Our finding that trust precedes respect in the SAL of Easterners is an important convergent validation of the processes underlying general social cognition of Westerners. More important, effects of similar attitudes and partner's attraction on attraction can be represented by the sequence of trust and respect.

We can link with impression formation. So, how do we link it? Now, Sujan Fiske Princeton, after reviewing the literature on impression formation, they concluded. That people have a tendency first to determine the intention of the other person and group. And 2nd their ability to act on those intentions, like Fiske, Cuddy and Glick in advances in experimental social psychology, they have a chapter.

Now, is in trust that intention part and respect for your ability is, whether you can do it or not. I am linking that and this is what, we said that trust comes before a respect. So, I am linking that, attraction research. So, our finding that, trust precedes respect in similarity is actually an important in the case of easterner's, important convergent validation of that kind of research.

So, that way, I am linking the two paradigms, what is happening in social cognition and what is happening in interpersonal attraction situations. They seem to be the same. The same sequence of trust and respect can represent it. So, personality trait is or attitudes, they may be producing similar kind of effects.

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General Comments

Duck and Barnes (1992) noted,

“The debate about ‘similarity and attraction’ has been the inverted intellectual Titanic of the last thirty years: Everyone thinks it should sink but it doesn’t” (p. 199).

I have also shown that the similarity-attraction link has now been buoyant for over half of a century!

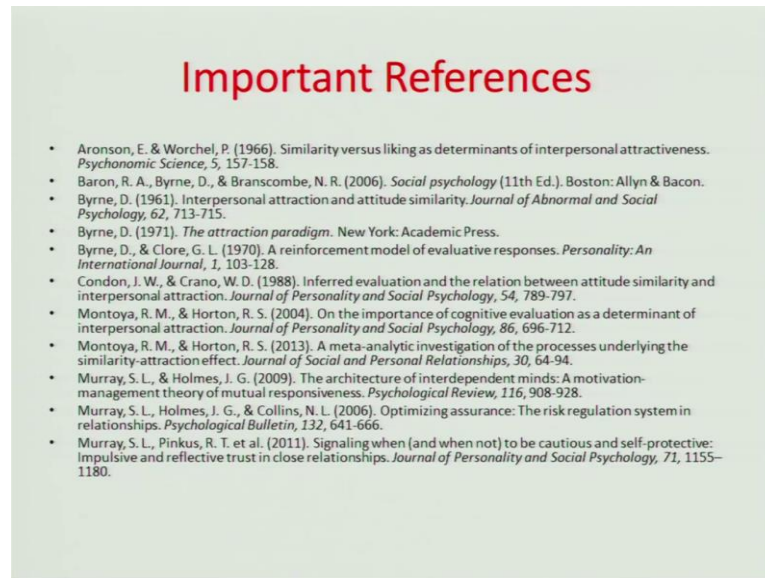
I further predict that the interest in this link will remain so as long as attitude per se remains the central and most indispensable concept in social psychology (Wegener & Carlston, 2005).

This is another thing, I am mentioning, few general comments, I would like to make. In 1992, Duck and Barnes reviewed literature on attraction paradigm. And they made this observation. The debate about similarity and attraction has been the inverted intellectual titanic of last 30 years. Everyone, thinks, it should sink, but it does not.

Now, in 2013, this is 92. So, a 21 years later, I am telling you that, what I have shown that this link is still buoyant for over half of a century. Go, but to 61, the first publication and in 52 years, still we are not able to understand. We have come to this point and I further predict that, interest in this link will remain as long as attitude per se remains the central and most indispensable concept in social psychology.

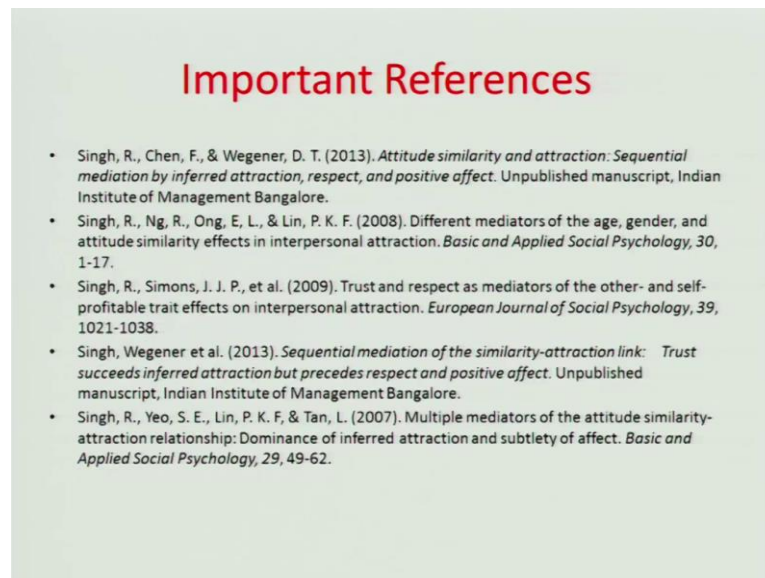
Wegener and Carlston in 2005, there is a book in Quichdum said. So, I am saying that as long as we have interest in attitude, this relationship cannot die; we will be dealing with it. And when I observe the prime time, I get more impressed that contingent upon your attitudes, how people argue support reject condemn.

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And I have added few important references not all. But, here are few references from which I based this work.

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So, one slide, we have these references. And finally, I thank you for your attention.

Thank you.