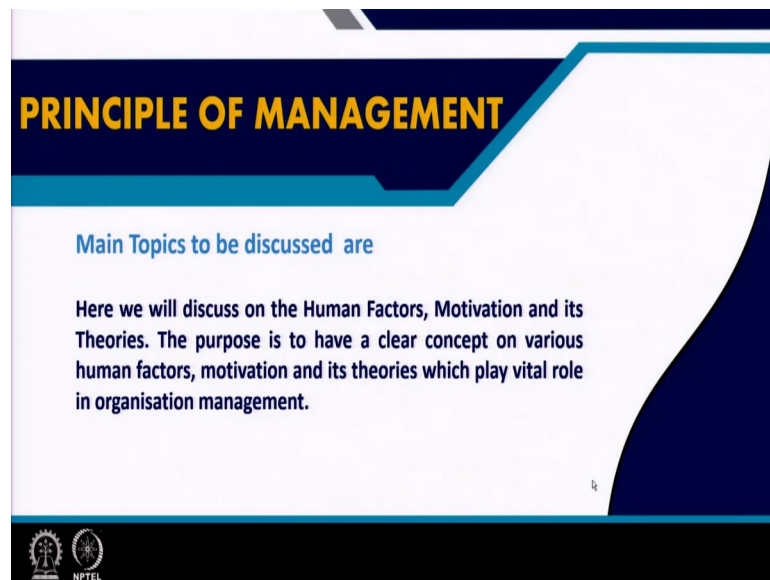


**Principles of Management**  
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**Indian Institute of Technology, Kharagpur**

**Module - 11**  
**Lecture - 55**  
**Human Factors and Motivation**

Welcome back to today's session. In the earlier session we have learnt about Leadership and Team Behaviour. In order to understand these two factors, it is very important like the leader understands about the Human Factors which is affecting work and the level of Motivation of the employees.

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So, here in today's lecture we are going to focus on the human factors' motivation and its theories. It the purpose is to have a clear concept on the various human factors, motivation and its theories which plays a vital role in organisation management.

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**Why to learn Human Factors ?**

- It helps organization to get the services from the employees, develop their skills and motivate them to achieve the organization objectives.
- It helps proper utilisation of other resources
- It helps make work more efficient, effective and safe
- It allows plant/equipment and procedures to be designed with the user in mind, taking account of human capabilities and limitations.

The slide features a background with various icons including gears, a person at a computer, and a molecular structure. A small inset image shows a person working at a computer. The NPTEL logo is visible in the bottom left corner.

So, why we should learn about human factors is that it helps the organisation to get the services from the employees, develop their skills and motivate them to achieve the organisations objectives. It helps proper utilizations of other resources also.

It helps to make workers more efficient, effective and like safe in their working processes. It allows the plant or equipment and the procedures to be designed with the user in mind taking into account of the human capabilities and limitations. So, in for these reasons it is very important to know about the human factors of work.

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**Human Factor in Management**

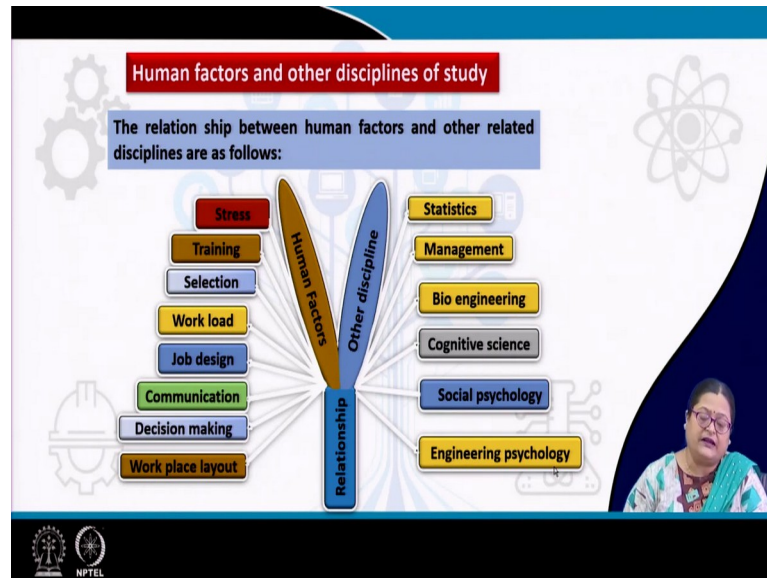
Human factors refer to environmental, organisational and job factors, and human and individual characteristics, which influence behaviour at work in a way which can affect health and safety.

The concept includes three interrelated aspects that must be considered: the job, the individual and the organisation

The diagram shows three overlapping ovals: a green oval labeled 'Job/work', a blue oval labeled 'Individual', and a red oval labeled 'Organisation'. The NPTEL logo is visible in the bottom left corner.

So, the human factors in management refer to the like environmental, organisational and the job factors and the human and the individual characteristics which influence behaviour at work in a way which can affect health and safety. So, the concept includes three interrelated aspects that must be considered the job, the individual and the organisation.

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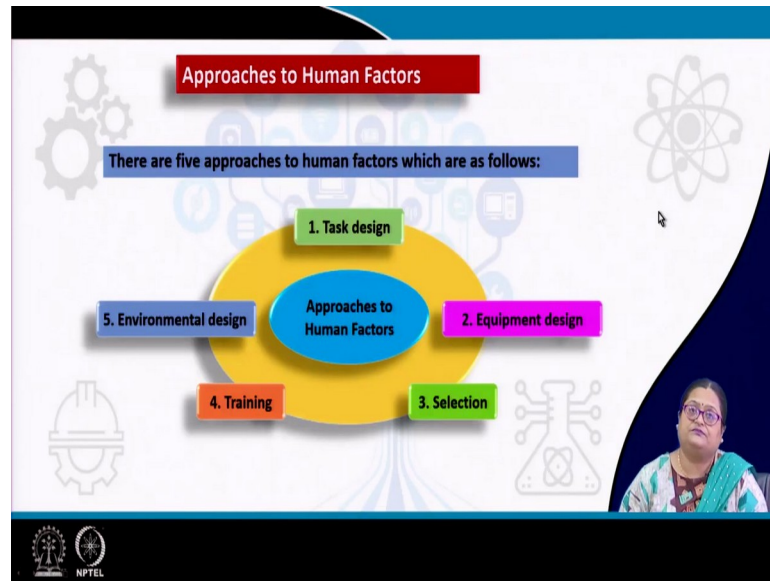


Human factors are very much interlinked with the other disciplines of studies like you can talk of like statistics, management, like bioengineering, cognitive science, social psychology, then engineering psychology. And, it deals with which are the other disciplines and it deals with the human factors, deals with like whether like workplace layout, the decision making, then communication, job design, workload, selection, training, stress.

So, we can see like the human factors are important factors which needs to be considered in each of the functions of management and it draws its resources like how it can be interpreted or how, where it originates from, it draws in resources or what will be the in order to take care of these human factors if you really want to bring in some intervention.

Then you have to take help from other disciplines which are like statistics management and bioengineering, cognitive science, social psychology, engineering psychology all these disciplines will give an input to understand the human factors which are like affecting work behaviour and what can be done to take care of those factors.

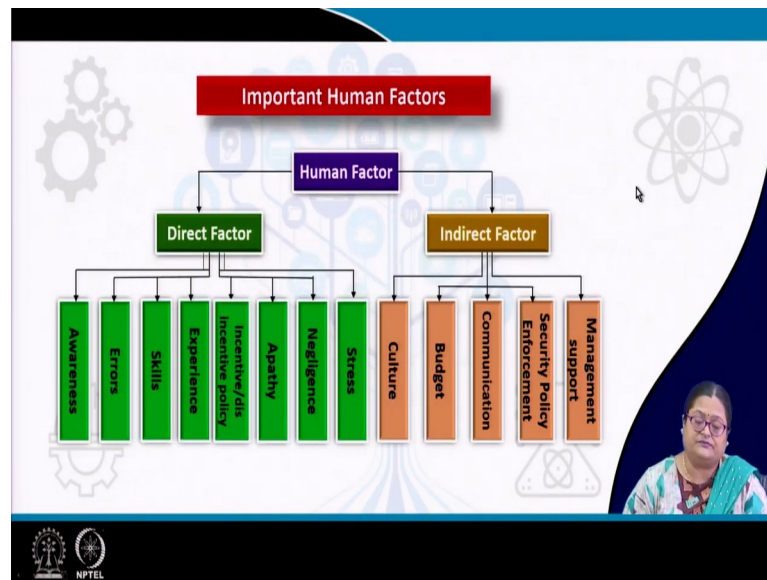
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So, there are five approaches to human factors which are there, like we can talk of the task design we can talk of the equipment design, we can talk of the environmental design as per the design aspects to control for the effect of the human factors and also, we can go through like selection and training processes of the individuals in the organisation.

So, either by designing the task or by designing the equipment at hand, we or the environmental design we can see the factors which are like you which are like interacting with the human factors in order to affect the work behaviour. And, we can also control for these human factors by the process of selection and also improve on the human factors by the process of training.

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So, here we can see like the human factors can have some can we talk of some direct factors and some we can talk of indirect factors. Like the direct factors which are related to the work behaviours, work performance and the stress, negligence and then apathy of the individuals, then the incentives and the disincentive policies then the experience of the people, the skills, the errors committed and the awareness of the people.

The indirect factors which are also related to the human factors are like the management support, security policy, enforcement, communication, budget, culture. So, these are indirect factors, which has an effect on the human factors as such.

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**Motivation**

**Motivation**  
The processes that account for an individual's intensity, direction, and persistence of effort toward attaining a goal

**Key Elements**

1. Intensity: How hard a person tries
2. Direction: Toward beneficial goal
3. Persistence: How long a person tries

The slide includes decorative icons of gears, a hard hat, and an atom. The NPTEL logo is visible in the bottom left corner.

So, in order to understand the human factors and then to help them to contribute positively towards the work behaviour which is one of the focus of the principles of management like we apply principles of management, so that we can work more effectively towards achieving the organisations goal and also the persons are also they are not stressed, but they are performing effectively and wholeheartedly with engagement and they are enjoying the work that they are doing.

So, and together there is a synergy with the individual and the group and together they are performing towards reaching not only the organisations objectives, but also their individual growth is also growth needs are satisfied. So, in order to do that so, and to see like the human factors really have a facilitating role in helping the individuals to do it and the whole system is designed in that way the motivation plays a very important part.

So, the motivation is the processes that account for an individual's intensity, direction and persistence of efforts towards attaining a goal. So, that is where when we talking of the human factors contributing towards organisational objectives definitely motivation of the employees is one of the important factors that we need to discuss about.

The key elements of motivation are intensity like how hard a person tries; direction towards a particular beneficial goal and persistence and how long the person tries. These three together makes the like makes the definition of motivation.

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**What is Motivation ?**

The set of processes that arouse, direct, and maintain human behavior toward attaining some goal.

Motivation is the result of processes, internal and external to the individual, that arouse enthusiasm and persistence to pursue certain course of action

The slide features a red header with the title, a blue text box with the definition, and an illustration of five people in a meeting. The background includes gear and atom icons. The NPTEL logo is in the bottom left corner.

So, if we try to define motivation, we can tell it is the set of processes that arouse direct and maintain human behaviour towards attainment of some goal motivation is the result of processes internal and external to the individual that arouse enthusiasm and persistence to pursue certain course of action.

So, it is the processes internal and external to the individual that really arouse enthusiasm and persistence to pursue certain course of action. So, that is how again we are contributing towards a particular objective.

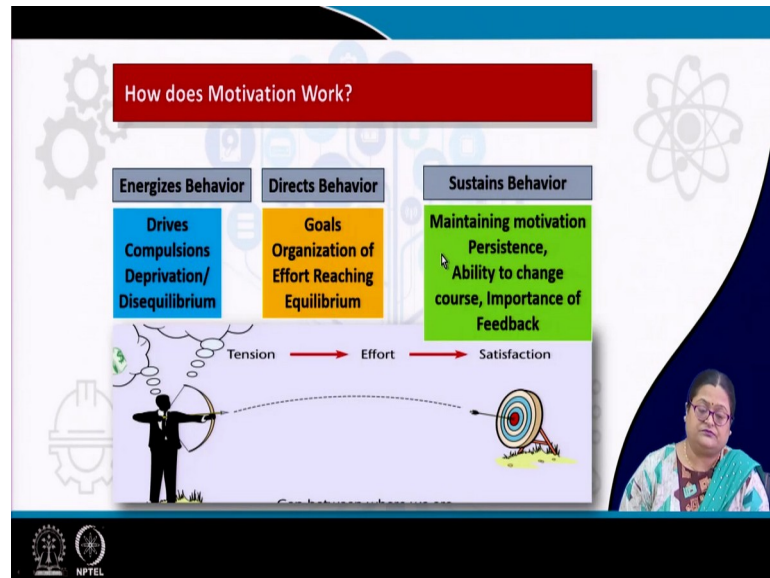
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**What does Motivation Consist of ?**

The slide contains two diagrams. The first is a Venn diagram with three overlapping circles labeled 'Direction' (yellow), 'Intensity' (green), and 'Persistence' (red). The second is a circular flow diagram with four boxes: 'Equilibrium' (orange), 'Motivation' (red), 'Need' (green), and 'Drive' (yellow), connected by arrows in a clockwise cycle. The NPTEL logo is in the bottom left corner.

The motivation as we have talked of consists of three things the intensity, the direction and the persistence and it is also like when you talk of the satisfaction need and drive equilibrium then we are talking of motivation also.

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Now, how does motivation work? Motivation energizes behaviour by the when there ever there is a drive, compulsions, deprivations or disequilibrium it energizes certain behaviour because it creates certain tension. Now, it is not only enough to have that disequilibrium, it should be having a directive behaviour.

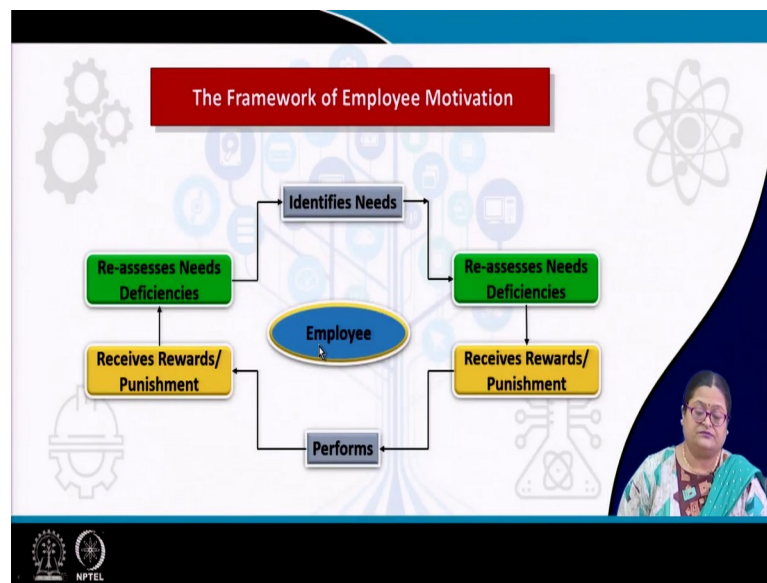
So, if you are dissatisfied, if you are like you are feeling like you are deprived then you are not doing anything to solve that issue may not be leading to motivation. So, the it energizes certain issues at hand, certain deprivations, certain occurrences may energize the behaviour, but that needs to be channelized properly directs behaviour towards the goals organisation of efforts reaching the equilibrium.

And, then ultimately it leads to the sustaining of the behaviour. So, it is not only having we can understand it is not like something which can be achieved overnight. So, it needs to be sustained. So, the maintaining motivation persistence ability to change course and the importance of feedback these are important things for like the tension through the effort it leads to satisfaction.



In order to reach that satisfaction, the motivation needs to be maintained, you should be persisting and ability to change the course of action, you should understand the feedback getting from the situation and try to modify yourself if required, and then follow the correct track. So, this is how the motivation works.

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And, the frame of employee motivation is first the needs are identified then it talks of like reassessing the needs and efficiencies and then after doing that you perform and then again you receive rewards and punishments for it and then you perform. And, after you perform you again receive a rewards and punishment and then again you reassess again the deficiencies and needs, and that give rise to a new set of needs.

So, what you find over here like whenever a need is identified. So, you have to here as the cognitive processes involved where after you get to identify you need you need to reassess your needs and deficiencies to find out whether it is like whether you can claim for it or whether it is justified or not and, here a cognitive process definitely gets involved.

And, after you have done that and based on this you may get a reward or punishment which will again motivate you to perform or not to perform. Then, after you have performed then what happens, you again based on your reward based on your performance you get a reward or punishment.

And, based on this reward or punishment that you receive you go back and assess again the needs or deficiencies where you went right, where you went wrong, what needs to be further explored, this kind of reassessment is done and again a set of new needs are identified. So, these goes on in this circular manner.

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The slide is titled "Nature of Motivation" in a red header. Below the title, there is a list of characteristics of motivation. To the right of the list is an illustration of a group of diverse people standing together, with one person in the foreground appearing to be in motion or leading. The slide also features various icons in the background, including gears, a lightbulb, and a network diagram. In the bottom right corner, there is a small video inset showing a woman speaking. The NPTEL logo is visible in the bottom left corner.

**Nature of Motivation**

Nature of Motivation are as follows-

- Based on motives
- Affected by motivating
- Goal directed behavior
- Related to satisfaction
- Person is motivated in totality
- Complex process

So, the nature of motivation is it is based on motives, it is affected by motivating, it is a goal directed behaviour related to satisfaction. So, the person is motivated in totality and it is a complex process; definitely, because if you are talking of the efforts taken perseverance, the feedback rewards and again taking a feedback, mapping of the outcome with the effort. These are complex processes and it is a holistic process like in totality of this whether you get motivated or you do not get motivated.

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**Different Forms of Motivation**

Minor Forms of Motivation are -

- Reward-based motivation
- Fear-based motivation
- Achievement-based motivation
- Power-based motivation
- Affiliation motivation
- Competence motivation
- Attitude motivation

The slide features a red header, an orange text box, and a graphic of seven colorful human figures in various poses. The background includes icons of gears, a hard hat, a brain, and a chemical structure. The NPTEL logo is in the bottom left corner, and a video feed of the presenter is in the bottom right corner.

So, there are different forms of motivation like the reward-based motivation, fear-based motivation, achievement-based motivation, power-based motivation, affiliation motivations, competence motivation and attitude motivation.

What you find over here is like you can these are important things which may be linked with the leadership processes also like you can have different routes to motivate a person depends on which is the correct route for that particular person.

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**Theories of Motivation Discussed in this Session**

- Hierarchy of Needs Theory (Maslow)
- Theory of X and Theory of Y by McGregor
- Herzberg's Two-Factor Theory
- Three Needs Theory of David McClelland
- Expectancy Theory
- Alderfer's ERG Theory

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So, the different theories of motivation are the hierarchy of needs theory, theory X and theory Y of McGregor, then Herzberg's two-factor theory, three needs theory of David McClelland, expectancy theory and Alderfer's ERG theory.

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**Hierarchy of Needs Theory (Maslow)**

**Hierarchy of Needs Theory**  
There is a hierarchy of five needs: physiological, safety, social, esteem, and self-actualization; as each need is substantially satisfied, the next need becomes dominant.

**Self-Actualization**  
The drive to become what one is capable of becoming

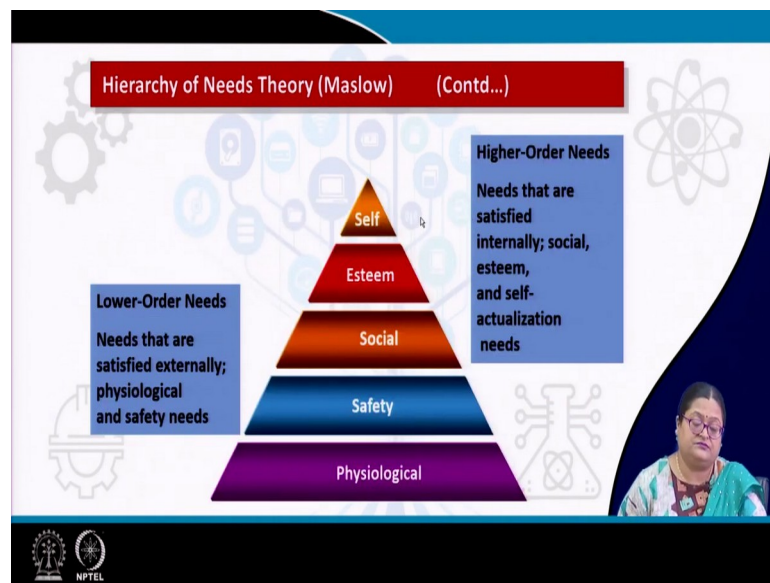
Hierarchy of needs theory as we all know of is given by Maslow primarily. So, it is it talks of there is a hierarchy of five needs – psychological needs, safety needs, social, esteem and self-actualization needs. So, as each need is substantially satisfied the next need becomes very dominant.

The self-actualization is the drive to become one what is one is capable of becoming is the highest state of the need theory, where it is like a self search of what you are and what you want to become, how would go for it. So, these are like important parts of theories of motivation.

And, when you talk of self actualization if it is a drive is self actualization then what happens? You always try to see like how you can improve on your past performances, what were the drawbacks, how you can train yourself in a much better way and move towards like what are your expectations from your life, what are the expectations from the relationships that you have and like how you want to the contribute to the purpose of the family to the purpose of the society. So, and how you want to see yourself at the end of the day.

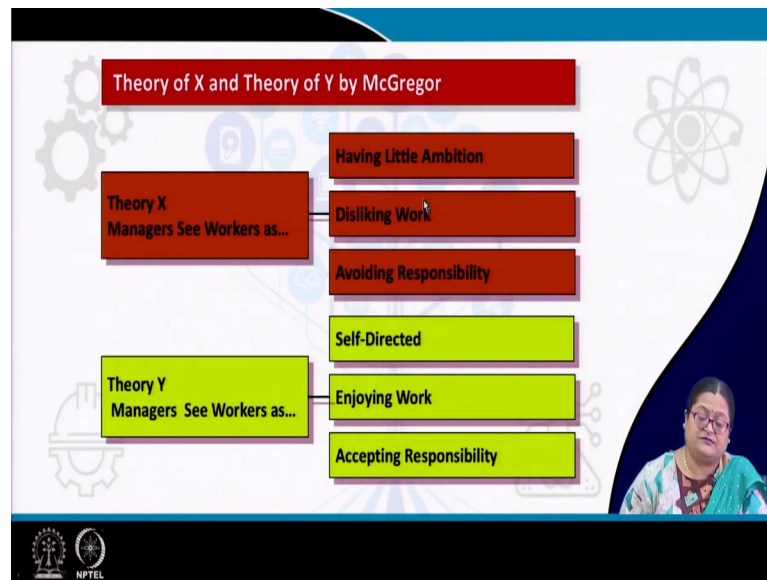
These are very important thoughts which are related to the self actualization process and the person who is driven by this like the motivated by in the self actualization is going to take a track, where he first goes through a self-search to understand his own level of interest, motivation, inclination to do certain things, rather than being like guided by some other people. He has definitely here going to take a suggestion, but at the end of the day the decision that is being made is by that person.

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The hierarchy of need theory we are very familiar with this theory. So, the lower order needs theory is the needs that are satisfied externally physiological and safety needs. The higher order needs are those needs that are satisfied internally like the social esteem, the self esteem and the self actualization needs.

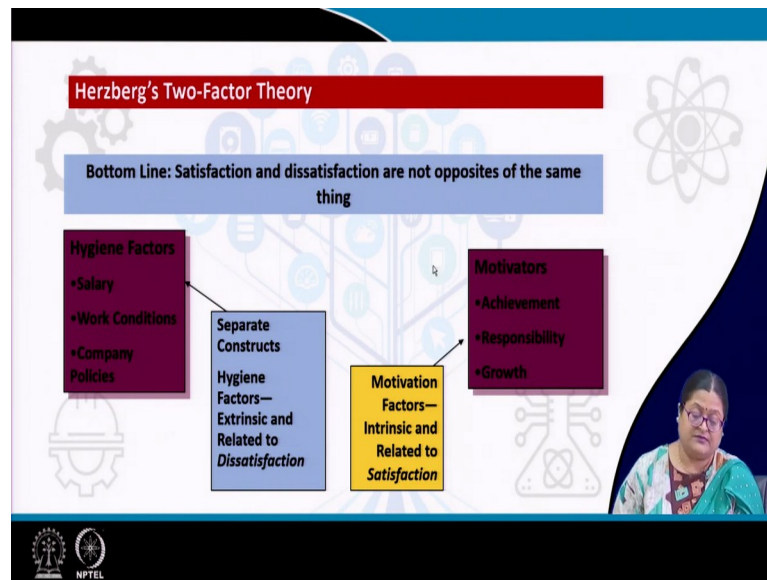
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Also, we have a set of theory which we call the McGregor's theory X and theory Y is in classification of people based on whether really, they like working or do not like working and what is the level of supervision required for them. So, theory X tells that the managers C workers as having little ambition dislike work and avoiding responsibility, while theory Y states that manager C works as workers are self directed enjoying work and accepting responsibility.

So, it is this perception of the manager about their employees is definitely going to affect their communication with these employees, the treatments of the employees and how do they exchange ideas with each other. So, all these are going to be affected by this mindset that the manager may have about the workers like whether they are they want to be directed and or whether they want to be like independent and who are capable of taking self directions.

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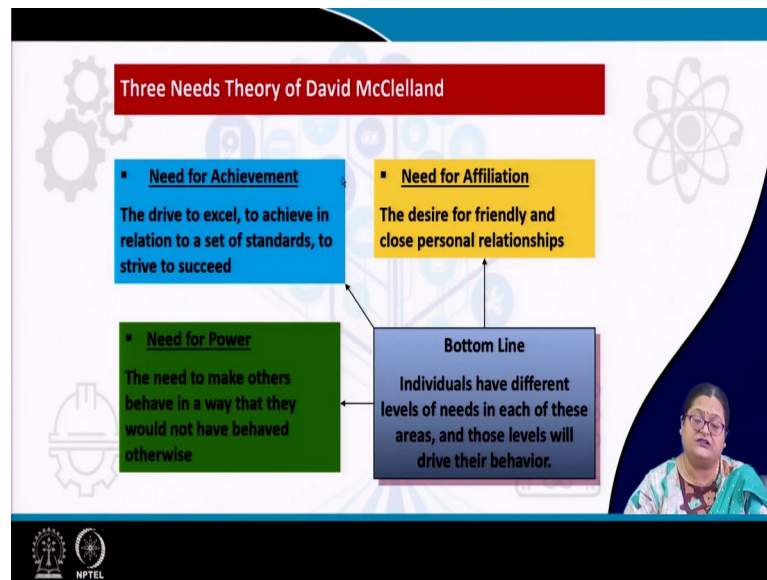


Whenever we are talking of the two-factor theory, we have to remember that satisfaction and the satisfaction are not the opposites of the same thing. So, these are two different levels that are going and it should not be like confused as the opposites of each other.

So, as a whole as a result we have two different factors; one is called the hygiene factors which are like salary working conditions and company policies which are extrinsic to the individuals per se role and leading to the satisfaction and not satisfaction and these are extrinsic to it. But these can prevent dissatisfaction, but we may not guarantee like this will provide satisfaction.

So, when you are talking of the motivation factors like achievement, responsibility, growth. So, these are factors which are more related to the in intrinsic level and it is related to satisfaction. So, whenever we are talking of like satisfaction in work situations, we need to think of like the motivators which are there and wherever we are talking of efforts taken to reduce the dissatisfaction, then we focus more on the hygiene factors.

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David McClelland gave a three-need theory. So, which is the need for achievement, need for affiliation, need for power. So, why we are going to study it over here is as we told like if you want to delegate certain responsibilities, if you want to coordinate certain activities, if you have to plan for certain things – at each and every stage what we understand like maybe all kinds of responsibilities may not be given to all kind of people.

So, some people are more capable of doing certain things while some people are much better in other things. So, if we can differentiate these roles properly and accordingly like we try to communicate with them, then maybe they will be able to take up their responsibilities in a much better way.

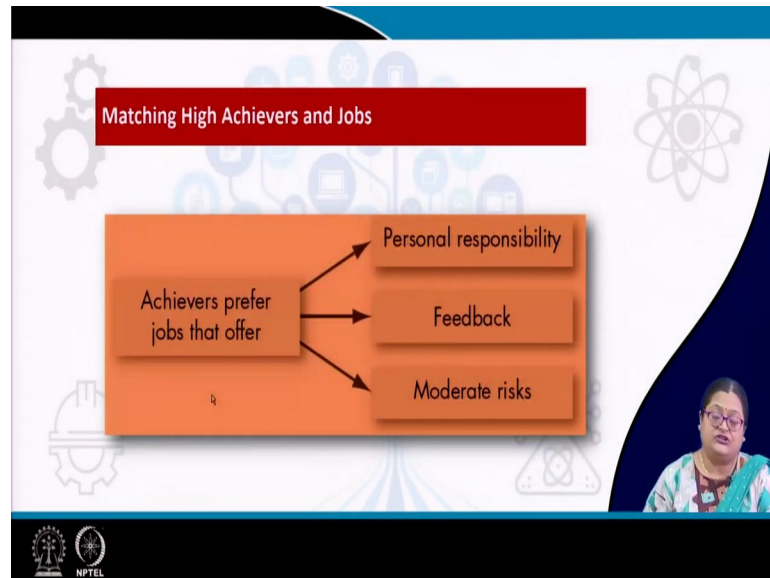
So, in that respect only like, we are discussing McClelland's new theory of need theory. It is not that we are suggesting like this is good or that is better, but what we focus here is different peoples have different needs and those needs should be addressed accordingly.

So, what we find over here there are three main kinds of needs. So, like the need for achievement which is the drive to excel to achieve in relation to setup of standards to strive for succeed. The need for power is the need to make others behave in a way that they would not have behaved otherwise and a need for affiliation is the desire for friendly and close personal relationship.



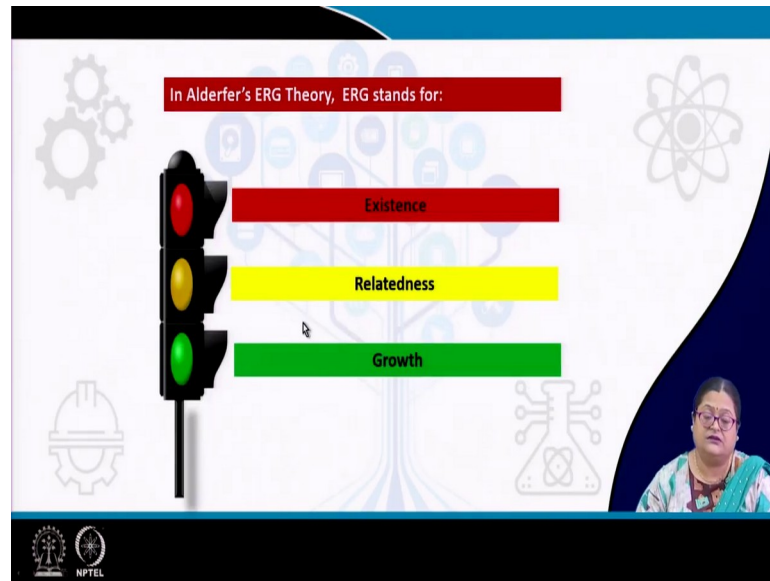
So, again we can see from here different people may join different groups because they have a difference in needs. So, it is very important if you are going to do a leadership program for teams or if you have to motivate your teams. So, these are again the three factors which you need to consider within the whether it could be realized or not needs to be considered within the scope of the organisation.

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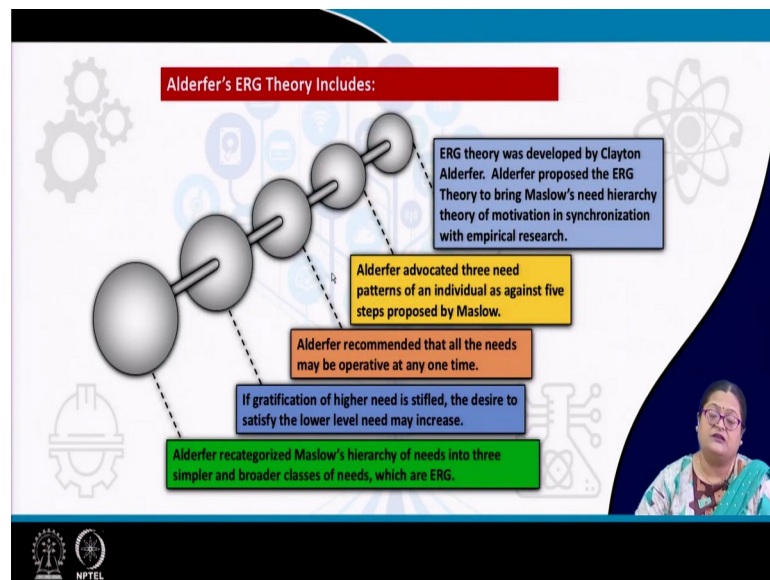
Now, matching high achievers and jobs. So, high achievers prefer jobs that offer personal responsibility, feedback and moderate risk, but for a single achiever we need to understand which of the factors which is driving that person to an achievement, whether it is a single factor or a combination of factors need to be seen.

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So, next we look into Alderfer's ERG theory where ERG stands for existence, then relatedness and growth. These are the three needs which are driving people for or it is motivating people.

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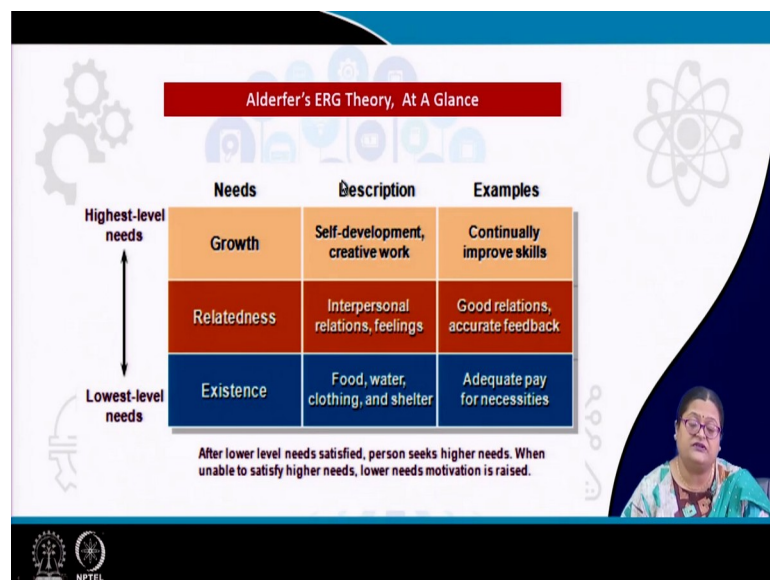


So, according to Alderfer's ERG theory which was developed by Clayton Alderfer, it tries to like bring Maslow's need hierarchy theory in synchronization with the empirical research.

So, he tried to propose three levels of needs as compared to five level of needs proposed by Maslow. So, in Maslow's hierarchy like it is that like unless and until the lower-level needs are satisfied one cannot move up to the higher-level needs, but Alderfer advocated like the all the needs may be operative at once at any one time.

So, if the gratification of the higher need is stifled, the desire to satisfy the lower need may increase to certain extent and he reclassified Maslow's hierarchy into three simpler and broad classes of needs which we talk of as existence, relatedness and growth needs; ERG.

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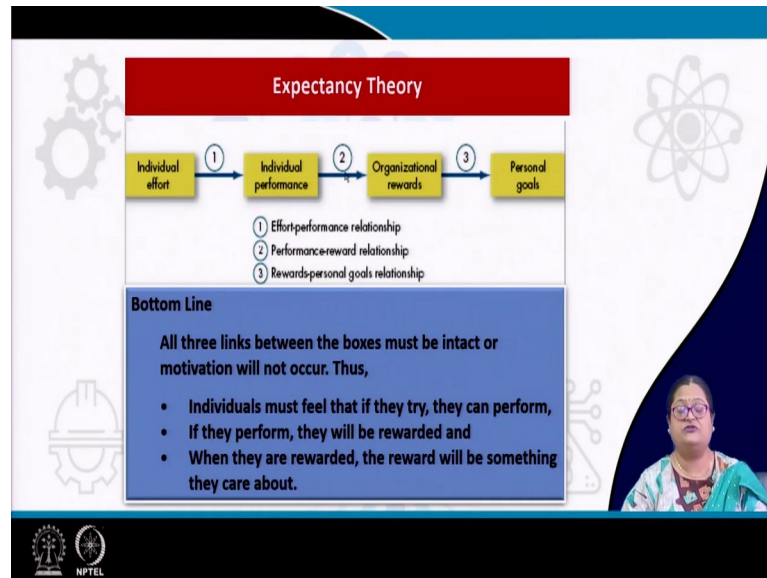


So, at a glance we can see like the highest level of need is the growth needs, in between is the relatedness needs and the lowest level of need is the existence need. And, of course, like the descriptions we find growth need we are talking of self development, creative work; in relatedness needs, we are talking of interpersonal relations and feelings and in lowest level needs you are talking of food, water, clothing and shelter.

So, examples are also like when you are talking of self development it is continuously improving one skill, when you are talking of relationships relatedness we are talking of good relations and accurate feedback and when you are talking of lowest level of needs, we are talking of adequacy of pay for necessities.

So, after the lower-level needs are satisfied people who are moving for higher level needs, but when the higher-level needs are not satisfied people may try to fall back on some of the lower-level needs and these lower-level motivations may be raised.

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So, next we move on to the process theories which we talk of the expectancy theories of motivation. So, generally if we see these theories whenever we talking of Maslow's theories, whenever we are talking of al Alderfer's theories or rather when we discussed about this achiever, McClelland theories all these theories are discussing of like what motivates.

But, whenever we are talking of like how it motivates, what is the process which of motivation then we need to discuss about the process theories. So, one of the important process theories is that of the expectancy theory which talks of the individual efforts will lead to individual performance and individual performance will lead to organisational reward and that reward again will be as act as a motivator for the personal goals.

So, there is an effort performance relationship performance reward relationship and rewards personal goals relationship. So, it is very important. So, that like the all the three links are working like the effort is leading to performance, performance is leading to reward and the reward is leading to fulfillment of personal goals.

So, all these links three links should be activated so that the motivation happens. So, individuals must feel that if they try, they can perform if they perform, they will be rewarded and when they are rewarded the reward will be something that you really care about. So, that is what is the base for the expectancy theory.

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**Four Ways of Increasing Self-efficacy (Bandura)**

1. Enactive Mastery
2. Vicarious Modeling
3. Verbal Persuasion
4. Arousal

**Basic Premise/Mechanism of Pygmalion and Galatea Effects**

Next is whenever we are talking till now, we were discussing about how people get motivated and we were discussing of theories where we are getting motivated and the focus is on the single person himself or herself like whether what motivates or how the person gets motivate, but we can get motivated by seeing others in our social situations also.

So, this is this was given by Bandura as a part of the social learning theory and of which like one of the important ways of increasing self efficacy of the person is like enactive mastery by acting on the or rehearsing on the components of mastery that you can observe in others. Then vicarious modeling is observing others and get to understand what is important.

Then verbal persuasion, like you are talking to yourself and you are telling like yes you can, you will be able to do it and like you are getting charged up for reaching that purpose. So, these are the basic premises of the Pygmalion and the Galatea effects also.

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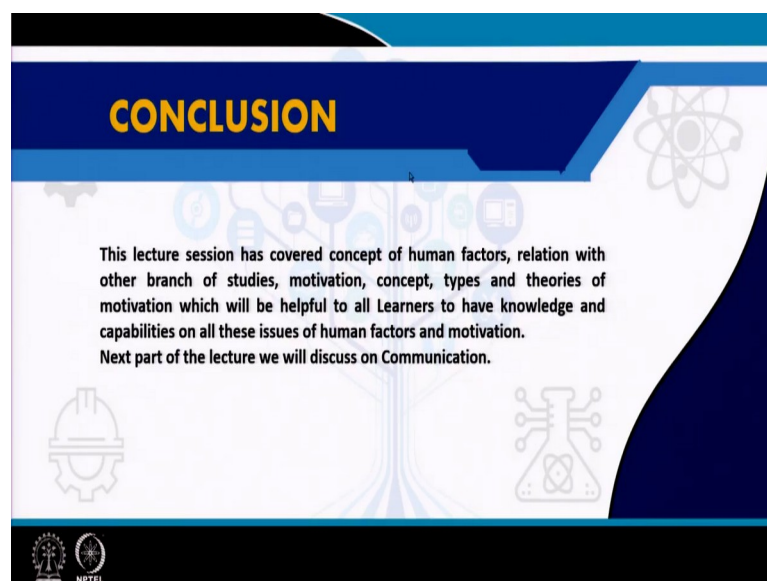


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**CONCLUSION**

This lecture session has covered concept of human factors, relation with other branch of studies, motivation, concept, types and theories of motivation which will be helpful to all Learners to have knowledge and capabilities on all these issues of human factors and motivation.  
Next part of the lecture we will discuss on Communication.

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So, in this discussion what we have done? We have given you some overview of the different concepts of motivation and theories of motivation which is helpful to all the learners. So, motivation by itself is a very vast topic to be discussed which itself is a course detailed discussion which what we generally do in our organisational behaviour courses.

So, if you are interested you can always follow the NPTEL videos that which are done by me in our earlier or rational behaviour or human behaviour in management courses.

So, for reference or the detailed discussions on motivation here we tried to focus on some of the aspects, so that you get aware of the fact like human factors and motivations are important factors which needs to be people need to be aware of which they need to consider as leaders in order to see like the whatever principles of management they are taking off.

So, that can be executed properly that can be implemented properly because without having a proper motivated workforce, employees who is willing to perform for the organisation, he will not be able to apply the principles of management properly and get the fullest results out of it.

So, the next session we are going to discuss one of the similarly important topics which is that on communication, because we understand leadership, then the team behaviour, motivation and communication together are very important facilitators rather we will place it over here as facilitators for the principles of management to be fully practiced in its proper form in the organisation.

Thank you.