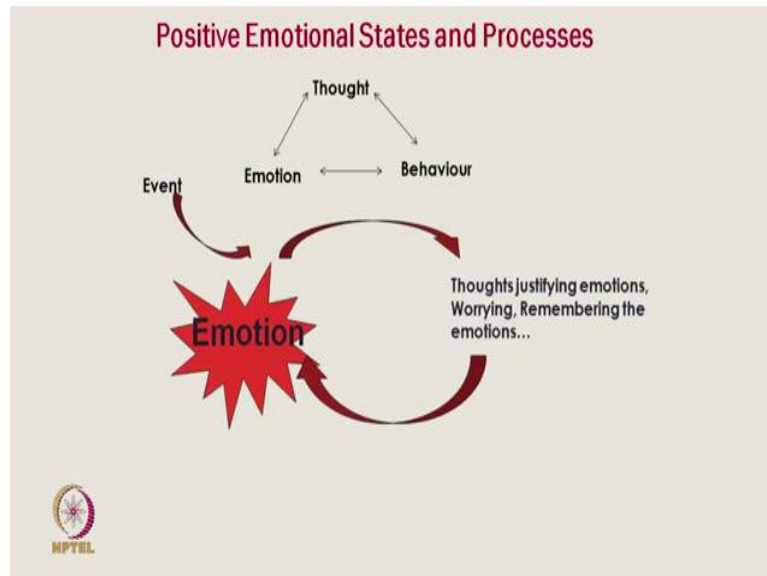


Positive Psychology
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Lecture – 10
Positive Emotional States and Processes: Part-1

In this course positive psychology, our next topic is positive emotional states and processes.

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Positive emotional states and processes are very important for us. As you know, thoughts, emotions, and behaviour, these are three main points or main topics which we discuss in psychology as well as in positive psychology. So, thoughts, emotion, and behaviour, they influence each other as well as being influenced by each other.

And that is why what kind of events we have in our life and what is our understanding or our thoughts about these certain events, that is very important because they are triggering a special type of, or specific type of emotions. For example, a particular situation, if we observe the situation as a happy event, we would be having mostly happy thoughts and these happy thoughts trigger our positive emotions.

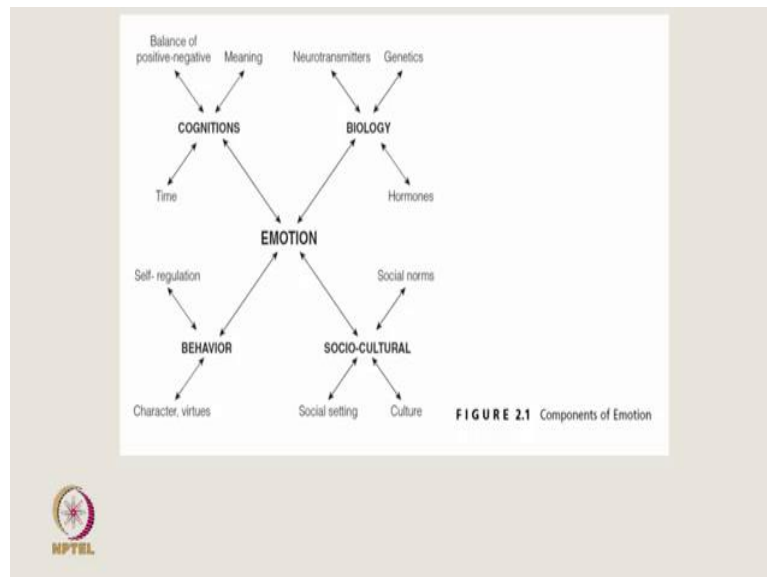
On the other hand, if we perceive certain situation as a stressor situation, or may be, you know, having some negativity, so that is why it would trigger our negative thoughts, may be worry, or remembering the negative emotions and all, and such kind of stressful situation, tension filled situation, anxiety-provoking situation.

All those situations after coming in our thoughts, similar kind of emotions they will trigger in our behaviour. It means scientific research tells us that positivity is very important. And that is why scholars have focused on positivity. Scientific research tells us that positivity does not simply reflect success and health.

It can also produce success and health. So, not only it is associated with our success and health, but positivity or positive emotions these are even producing success in our life, having, you know, positive health in terms of physical as well as psychological health. So, positivity spells the difference between whether you are languishing or flourishing in your life.

So, it means positive emotions are very important and this positivity or positive emotions or positive affectivity these are connected with our well-being also. So, if we have positivity in our life, then we are flourishing in our life. On the other hand, if we have lack of positivity in our life, then we may suffer, we may have languishing state of mind.

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So, that is why knowing about emotional states and processes is very important and being positive psychology course here our main focus would be on positive aspects of emotional reactions. Let us understand first emotion. There are various components of emotions. When we talk about different components these components are cognition, biology, behaviour, socio-cultural factors, etc.

When we say cognitive factors or cognition is important to understand emotional reactions, then there are some factors like balance of positive negative emotions, that is very important to know, to understand emotions, meaningful situations, time. On the other hand, when we talk about biological factors, then biological factors are again very important like neurotransmitters, hormonal changes in our body.

So, what kind of chemicals we have in our body, it has impact on our emotional reactions. So, that is why biological factors like certain kind of neurotransmitters, hormonal changes, as well as genetic factors are very important to understand emotions. Third component is behaviour.

When we say behaviour, it means self-regulation, our character strengths and virtues, and other positive or negative personality traits which are very important to understand our emotions. So, these are the behavioural aspects which certainly have impact on our emotional reactions. Fourth component is socio-cultural factors. Social norms, social setting, cultural factors, these are also very important to learn emotional reactions because during developmental stages we learn such kind of behaviours and that is why we have cultural differences.

So, certain emotional reactions may be more important and may be more highlighted in the particular social settings or socio-cultural settings as compared to other settings. So, that is why culture wise also we try to understand emotional reactions. So, it means consequently our emotions results from a complex interplay of biological, cognitive, behavioural, and socio-cultural processes.

So, for understanding emotional reactions, cognition, biological, behavioural and socio-cultural components are very important. For understanding emotions, there are various sub-components or certain ways to define emotions. Let us take one by one to understand emotion as well as positive emotions in detail. First component is positive affectivity.

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Positive Affectivity

- Positive affectivity, is a trait that reflects stable individual differences in positive emotional experience. i.e. cheerful, enthusiastic, energetic, confident, alert, happiness, excitement, vigor, and confidence.



Positive affectivity is a trait that reflects stable individual differences. So, positive affectivity is counted as a trait. Whenever we are saying a trait it means we are considering that this is stable behaviour in our personality. So, to some extent, when we say personality traits or may be, you know, affectivity or temperament traits, then we are saying that we are focusing more on the stable patterns in our behaviour.

So, positive affectivity is a trait that reflects stable individual differences in positive emotional experiences. There are various positive affectivities or may be traits as per positive affectivity, for example, cheerful enthusiasm, energetic, confident, alert, happiness, excitement, vigor, and confidence, and like that there could be various positive affectivity traits.

Meehl proposed that individual differences in hedonic capacity were present at birth and partly heritable. So, they are saying that these are stable patterns in our behaviour. Such kinds of traits are stable patterns in our behaviour and these are mainly contributed by hereditary factors.

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Temporal Stability & Cross-Situational Consistency

- Considerable evidence suggests that **personality continues to develop and evolve throughout the 20s**; accordingly, stability estimates are significantly lower prior to age 30 (Costa & McCrae, 1994).
- Studies on **older adults** have yielded impressive levels of stability (i. e., correlations in the **.60 to .80 range**), even across extremely long-time spans.



Let us know how hereditary factors are important for us. They are saying that there is temporal stability in our behaviour as well as we have cross-situational consistency. So, first to know how these traits are stable patterns in our behaviour let us understand certain studies on temporal stability and cross-situational consistency. This study says that considerable evidence suggests that personality continues to develop and evolve throughout the 20s.

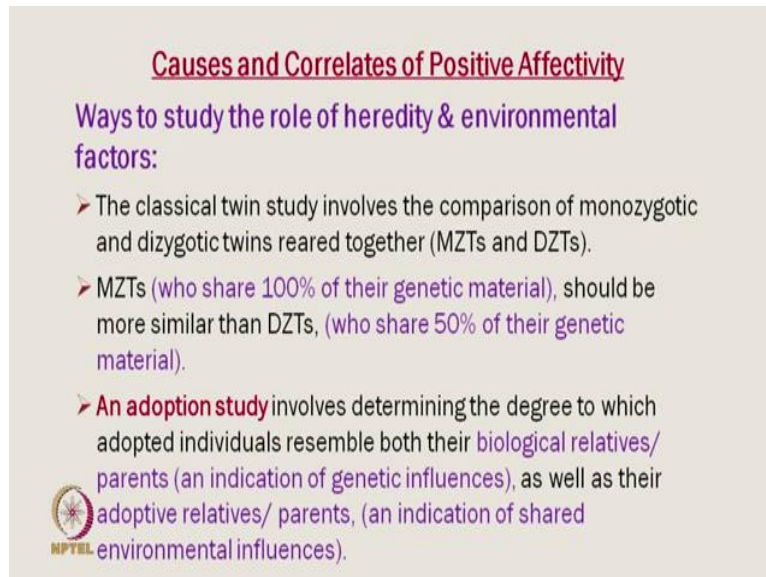
Accordingly, stability estimates are significantly lower prior to age 30. So, it means they are saying that during developing stages we do not have stable personality, but at particular stage at the stage of 30 years we have stability in our personality, and further studies are highlighting this position. Studies on older adults have yielded impressive level of stability, that correlation level was 0.6 to 0.8 range, even across extremely long-time spans.

It means after 30 years stability level is quite high as this study is showing that 0.6 to 0.8 range correlations they observed in this study. It means at the age of, say, 35 years positive affectivity is studied and then again at the age of 40, and then this study is saying that time-1 that is at the level of 35 years of age and time-2 that is at the age of 40 years old age, and this study is saying that there is chances to get quite stable patterns and high level of correlation between the behaviour of this person at the age of 35 and then at the age of 40.

So, this study is supporting that temporal stability. When we say temporal stability, it means that is our natural nature and, as per this nature, we have certain type of behaviour and that is consistency in our behaviour. So, to some extent, it is supporting our nature or individual's

nature to understand positive affectivity. There are various causes and correlates of positive affectivity.

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Causes and Correlates of Positive Affectivity

Ways to study the role of heredity & environmental factors:

- The classical twin study involves the comparison of monozygotic and dizygotic twins reared together (MZTs and DZTs).
- MZTs (who share 100% of their genetic material), should be more similar than DZTs, (who share 50% of their genetic material).
- **An adoption study** involves determining the degree to which adopted individuals resemble both their biological relatives/ parents (an indication of genetic influences), as well as their adoptive relatives/ parents, (an indication of shared environmental influences).

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Actually, they try to understand what is the role of heredity, what is the role of environmental factors, what is the role of their interaction, and through these studies they are saying whether we have stable patterns in our behaviour or we can change situation to situation our behaviour. So, to know causes and correlates of positive affectivity let us first understand ways to study the role of heredity and environmental factors.

There are various ways to study role of heredity and environmental factors. For example, the classical twin study involved the comparison of monozygotic and dizygotic twins reared together. You must be knowing the difference between monozygotic and dizygotic twins. Monozygotic twins who share 100% of their genes, that means that is one egg which has divided in two.

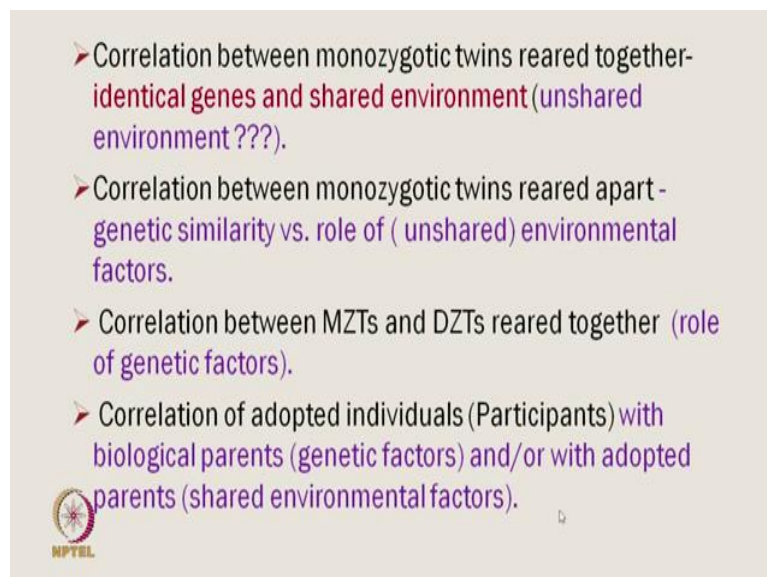
On the other hand, dizygotic who share 50% of their genetic material like other siblings. But when we compare monozygotic and dizygotic twins then dizygotic twins like monozygotic twins have similar environment before birth as well as after birth. So, this justification helps us to compare monozygotic twins with dizygotic twins rather than with other siblings. It means to study heritability we compare monozygotic and dizygotic twins.

Sometimes we take help of adoption studies. An adoption study involves determining the degree to which adopted individuals resemble both their biological relatives or parents which

indicate genetic influence as well as their adoptive relatives or parents, an indication of shared environmental influences. It means when we study resemblance of these participants with biological relatives and parents, then this resemblance reflects in terms of genetic influences.

On the other hand, when we compare them with adoptive relatives or parents, then it indicates shared environmental influences because participants were staying with these adoptive relatives and parents. That is why they have resemblance or similarity with their behaviour. If this resemblance is with biological relatives and parents, then that is genetic influences. So, that way we try to know what is the role of genetic factors, what is the role of environmental factors, and how these reveal their importance.

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- Correlation between monozygotic twins reared together - **identical genes and shared environment** (unshared environment ???).
- Correlation between monozygotic twins reared apart - **genetic similarity vs. role of (unshared) environmental factors.**
- Correlation between MZTs and DZTs reared together (**role of genetic factors**).
- Correlation of adopted individuals (Participants) **with biological parents (genetic factors) and/or with adopted parents (shared environmental factors).**

Let us know how these combinations work and what do we get through different combinations study. For example, when we have correlation between monozygotic twins who are reared together. So, in this case, they have 100% shared genes as well as shared environment. So, in this situation, we expect perfect 1 correlation.

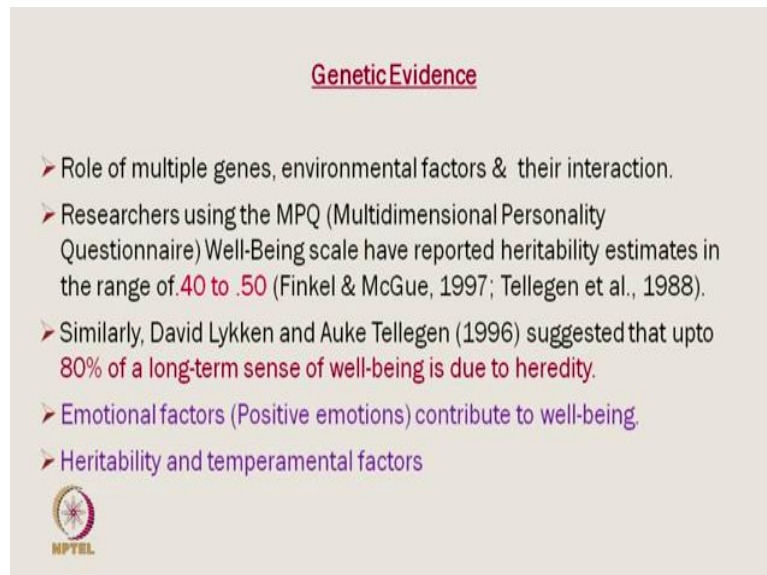
However, it has been observed that in some of these studies that is not perfect 1, it may be 0.9, 0.85, 0.87, or something lower than 1. So, in that situation, we define this rest of the percentage or uncorrelated variance, that is because of unshared environment. And we assume even in shared environment they have certain things which are not being shared here and that is why they have unshared environmental impact.

Second situation could be correlation between monozygotic twins reared apart. So, in this case, they have 100% similarity of genetic components, but role of unshared environment is there and that is why we could count, you know, correlation in terms of genes but the correlation which we could not get that is because of different environmental factors.

Third combination may be correlation between monozygotic twins and dizygotic twins reared together. So, role of genetic factors we could easily reveal because they were staying in the same environment, but monozygotic twins share their percentage of variance 100% and dizygotic twins only 50%. So, this change tells us role of genetic factors.


Correlation of adopted individual studies again help us to tell, you know, correlation with biological parents as well as with adoptive parents. Adoptive parents' correlation tells us shared environmental factors. On the other hand, correlation with biological parents tell us role of genetic factors. So, this is the way to understand role of heredity and environmental factors as well as certain interactions we reveal heritability through some statistical technique. So, let us understand now what are the genetic evidence about positive affectivity.

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Genetic Evidence

- Role of multiple genes, environmental factors & their interaction.
- Researchers using the MPQ (Multidimensional Personality Questionnaire) Well-Being scale have reported heritability estimates in the range of .40 to .50 (Finkel & McGue, 1997; Tellegen et al., 1988).
- Similarly, David Lykken and Auke Tellegen (1996) suggested that upto 80% of a long-term sense of well-being is due to heredity.
- Emotional factors (Positive emotions) contribute to well-being.
- Heritability and temperamental factors

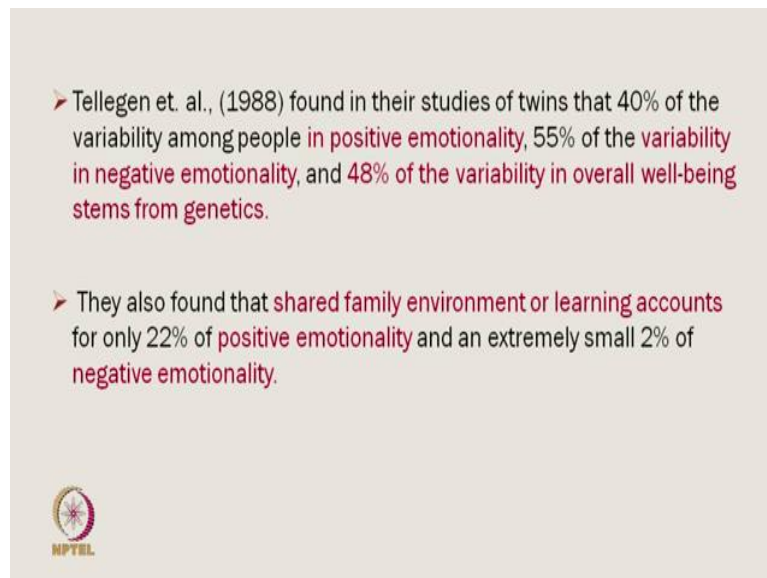
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Role of multiple genes, environmental factors and their interaction we have that is easily, you know, now we can understand. So, what studies are saying about it? Researchers using the scale and then they observed, they reported heritability estimates in the range of 0.4 to 0.5. So, they had, you know, psychological test that is multidimensional personality questionnaire well-being scale, and using this scale, they observed that heritability estimates are 0.4 to 0.5.

So, to some extent, we can say 50% role of hereditary factors as per this study. Similarly, another study suggested that up to 80% of the long-term sense of well-being is due to heredity. So again, you could say they are just giving 20% scope for environmental factors and other factors. Emotional factors are very important for us to understand, you know, well-being, because in happiness chapter you will find that positive emotion is a very important factor to, you know, contribute to the well-being.


When we are saying that well-being study is showing such kind of results, it means we are assuming that emotional factors are involved in these studies. It has been observed that temperamental factors have more heritability as compared to other personality factors. So, that is why genetic evidences are quite strong to understand positive affectivity.

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➤ Tellegen et. al., (1988) found in their studies of twins that 40% of the variability among people in positive emotionality, 55% of the variability in negative emotionality, and 48% of the variability in overall well-being stems from genetics.

➤ They also found that shared family environment or learning accounts for only 22% of positive emotionality and an extremely small 2% of negative emotionality.

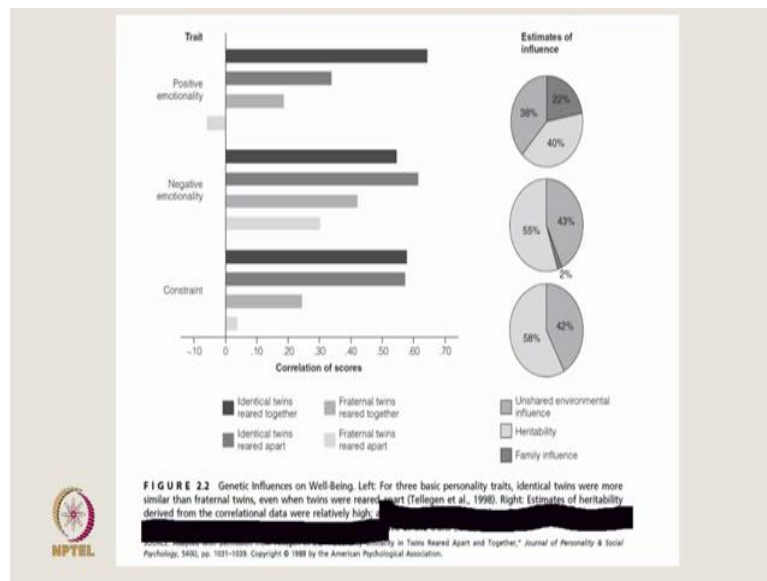


Then, there are some studies showing that positive emotionality has different variability, negative emotionality has different variability. That is, again, very interesting to know that positive emotionality and negative emotionality have different results. For example, Tellegen et al. 1988 found in their study of twins that 40% of variability among people in positive emotionality, 55% of variability in negative emotionality, and 48% of the variability in overall well-being stems from genetics.

So, it means this study is showing that positive emotionality and negative emotionality have different results. They also found that shared family environment or learning accounts for only 22% of positive emotionality and an extremely small 2% of negative emotionality. So, it means negative as well as positive emotionality they have different results in terms of

family-related environmental factors and in terms of genetic factors. That is really interesting factors for us.

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Now, next study, which is, you know, interesting one and can say summary of previous researches. So, in this study, they had various combinations and I think now you can easily understand, as per this combination, what does it mean? For example, identical twins reared together. So, we expect highest correlation here because same genes and same environmental factors they have or shared environment they had.

Second combination is identical twins reared apart, so they have 100% sharing of their genes but environment is unshared. Fraternal twins reared together, so 50% genes but environmental factors are shared in this case. Fraternal twins reared apart, so 50%, you know, genetic differences as well as they are staying in different environments.

So, by considering all such kind of factors then we are talking about what kind of correlations they have and we estimate even heritability. Through this process we know role of heredity, role of environmental factors, unshared environmental influence, shared environment influence, heritability, and this is the way to know role of heredity and environmental factor as well as in some studies we study interactions also.

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Neurobiological Basis of Positive Affectivity:

- ▶ Happy individuals tend to show relatively **greater resting activity in the left prefrontal cortex** than in the **right prefrontal area**.
- ▶ Dysphoric (**Dysphoria: An emotional state characterized by anxiety, depression, or unease**) individuals display **relatively greater right anterior activity**. (opp. Euphoria-state of joy or bliss)



Now, next point is another way to handle, you know, physiological reasons of positive affectivity. So, neurobiological basis of positive affectivity. Let us know what are the neurobiological factors for positive affectivity. It has been observed that happy individuals tend to show relatively greater resting activity in the left prefrontal cortex than the right prefrontal area. So, it means a particular part in our brain is active when we are happier.

On the other hand, another study is showing dysphoric. Dysphoric means an emotional state characterized by anxiety, depression, or unease. So, it means whenever we have, you know, abundance of negative emotions we can say individuals display relatively greater right interior activity opposite to euphoria, state of joy or bliss.

So, they are saying that in particular state of mind or in particular emotional reactions you have particular activation in your brain. So, it means study is showing that particular parts are related to our emotional reactions whether these are positive or these are negative. So, accordingly we have different areas which are getting stimulated during such kind of behaviour.

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The Biology of Emotions: Neurotransmitters and the Chemicals of Pleasure

- ▶ Empirical evidence indicates that at least some of our pleasurable responses are caused by the release of certain chemicals in the brain called *neurotransmitters*.
- ▶ Neurotransmitters are chemical messengers that relay information between nerve cells.
- ▶ Increased levels of the neurotransmitter *dopamine* has been implicated in the experience of happiness (Ashby, Isen, & Tulken, 1999).

Now, next point is the biology of emotions and in this case, we try to understand neurotransmitters and the chemicals of pleasure, which neurotransmitters or which chemical secretions in our brain we have when we are happy. Empirical evidence indicates that at least some of our pleasure responses are caused by the release of certain chemicals in the brain called neurotransmitters.

Neurotransmitters are chemical messengers that relay information between nerve cells and these neurotransmitters are different in different state of emotional reactions. Scholars have identified various neurotransmitters which are special for our happiness, for our positive emotions, for our negative emotions, etc. For example, increased level of the neurotransmitter dopamine has been implicated in the experience of happiness.

So, when we have increased level of dopamine, then we experience more happiness. So, to some extent, we are saying that there are some juices or some chemical reactions in our brain. When we have those types of chemical reactions, then we have particular type of mode. May be in some cases this neurotransmitter is dopamine which is helping us to have higher level of happiness or experiencing happiness.

Similarly, there are some other neurotransmitters which are actually triggering our negative emotions and some others triggering our positive emotions. So, that is very important to understand such kind of studies to know what are the biological or neurological basis of our happiness and positive affectivity.

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- Depue et al.(1994) found that various measures of **dopaminergic activity** (initiated by the neurotransmitter activity of dopamine or related substances) were strongly correlated with individual differences in **positive affectivity** but were unrelated to negative affectivity.
- Meehl (1975) said that some persons [are] **born with more “cerebral joy-juice.”**



Depue and his associates in 1994 found that various measures of dopaminergic activity were strongly correlated with individual differences in positive affectivity, but were unrelated to negative affectivity. This activity means initiated by the neurotransmitter activity of dopamine or related substances. So, they are saying that it means there are some particular neurotransmitters which are connected with positive affectivity only but not related to negative of affectivity. Meehl in 1975 focused on certain cerebral joy juices. Cerebral joy juices mean secretion of some special chemicals or neurotransmitters in our brain, and that is why we feel happier as compared to others.

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- In the mid-1970s, a team of researchers discovered that a variety of **endorphins** (hormones secreted from the brain that act as natural pain-killers) appear to increase pleasure and decrease the experience of pain.
- Endorphin levels also increase to as much as 200 percent during sexual intercourse (Pert, 1997).
- Recently a considerable amount of attention has been given to the effects of **the hormone oxytocin, or the “love hormone”**.



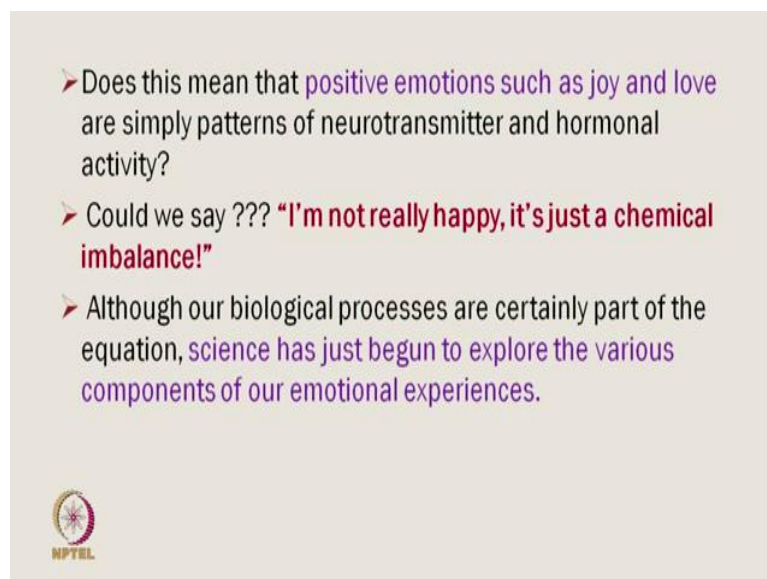
Similarly, there are some other studies showing the role of neurotransmitters. In the mid 1970s a team of researchers discovered that a variety of endorphins appear to increase pleasure and decrease the experience of pain. And this particular neurotransmitter is helpful

and its secretion is very important for us because it acts as natural painkiller and this is also helping us to experience pleasure and reduce or decrease the experience of pain.

Endorphin levels also increase to as much as 200% during sexual activities. So, there are certain activities, natural activities, through which it may be increased. Recently a considerable amount of attention has been given to the effects of the hormone oxytocin or the love hormone.

So, nowadays, scholars are taking interest in hormonal changes as well as in neurotransmitter changes in our body or can say broadly chemical changes in our body and how these chemical changes are triggering our positive or negative affectivity. So, that is main interest of scholars and lots of work is going on in this area.


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➤ Does this mean that positive emotions such as joy and love are simply patterns of neurotransmitter and hormonal activity?

➤ Could we say ??? "I'm not really happy, it's just a chemical imbalance!"

➤ Although our biological processes are certainly part of the equation, science has just begun to explore the various components of our emotional experiences.



However, does this mean that positive emotions such as joy and love are simply patterns of neurotransmitters and hormonal activity? If it is so, then could we say, I am not really happy, it is just a chemical imbalance. If it is so, then we are saying that it is, you know, due to biological factors or some, you know, physiological factors and we cannot do much, but that is not the case.


Although our biological processes are certainly part of the equation, science has just begun to explore the various components of our emotional experiences which I will discuss in next two slides where we give importance to some intentional activities, importance to yoga,

meditation or mindfulness. So, several other activities are there which may help us to have higher level of well-being.

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The "Happy" Brain:

- Researchers conducted significant research to determine which parts of the brain are involved in **positive emotions**.
- Specifically, the **left prefrontal cortex is more activated when we are happy** (see Lutz, Dunne, & Davidson, 2007).
- This area of the brain has also been associated **with greater ability to recover from negative emotions as well as enhanced ability to suppress negative emotions** (see Urry, Nitschke, Dolski et al., 2004).



Let us know state of happy brain also. Researchers conducted significant research to determine which parts of the brain are involved in positive emotions and they observed that the left prefrontal cortex is more activated when we are happy. So that is again, you know, sign of a happy brain if we have more activation in our left prefrontal cortex, then we are more happy. This area of the brain has also been associated with greater ability to recover from negative emotions as well as enhanced ability to suppress negative emotions.

So, to some extent, we can say this area is very important to have higher level of happiness and this activation in this area also helps us to recover from negative emotions as well as enhance the ability to suppress negative emotions. So, activation in this area is very important and supports positive direction in our behaviour.

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Can we make efforts to change our brain activities?

- In a unique series of studies involving long-term Buddhist meditators, Davidson found that people can train themselves to increase activation in the left prefrontal cortex of their brains.
- **Neuroplasticity:** Our brains can change throughout our lives as a result of our experiences. The term for this new idea is neuroplasticity.



Can we make efforts to change our brain activities? That is very important for us to know because earlier we were saying that there are certain changes in our brain in terms of neurotransmitters, in terms of particular areas activated, in terms of some hormonal changes and these are happening in our brain, and that is why we have certain mood on positive affectivity.

Now, next, which is very important for us to know, can we have certain intervention programs, can we have certain strategies through which we can change these brain activities? So, can we make efforts to change our brain activities. To know this factor is very, very important for us. In a unique series of studies involving long-term Buddhist meditators, Jonathan Davidson found that people can train themselves to increase activation in the left prefrontal cortex of their brains.

So, broadly, they are saying that by doing meditation one can easily increase activities in the left prefrontal cortex. They are also talking about neuroplasticity. Neuroplasticity means our brain can change throughout our lives as a result of our experiences and the term for this new idea is neuroplasticity.

Neuroplasticity means due to certain activities we may change our brain activities also. So, for example, through yoga, through meditation, through some other intentional activities, even we may have changes in our brain which is called neuroplasticity. Neuroplasticity is supported by this study also.

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➤ **Neurologist Oliver Sacks (2010) has said that:**

While it is often true that learning is easier in childhood, **neuroscientists now know that the brain does not stop growing, even in our later years.**

- Every time we practice **an old skill or learn a new one, existing neural connections are strengthened and, over time, neurons create more connections to other neurons.**
- These findings support **positive effect of yoga, meditation and other intervention strategies .**



Sacks in 2010 mentioned that while it is often true that learning is easier in childhood neuroscientists now know that the brain does not stop growing even in our later stages or later years. So, that is very important for us because during developing stages we assume there are some changes and our brain is also growing, so we have certain changes, but nowadays scholars are saying that every time we practice an old skill or learn a new one, existing neural connections are strengthened and over time neurons create more connections to other neurons. So, it supports brain plasticity.

These findings support positive effect of yoga, meditation, and other intervention strategies. So, that is why we can have certain changes even in our brain and such kind of things are helping us towards supporting the point that not only psychological benefits we have due to yoga, meditation and other intervention strategies, not only physiological changes, but also there are some brain activities which are favourable when we do yoga, meditation and all and I think this is best contribution from the neuroscientist where they are supporting various intervention strategies which are being promoted in applied positive psychology.

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Demographic and Environmental Correlates

- Age, gender, marital status, ethnicity, income and socioeconomic status.
- Lykken and Tellegen (1996) reported that **income, educational attainment, and socioeconomic status each accounted for less than 2% of the variance in scores on the MPQ (Multidimensional Personality Questionnaire)-Well Being scale.**



Now, next point is after knowing genetic factors' role what is the role of demographic and environmental correlates. Study is showing that it is not much. They have studied various, you know, demographic and environmental correlates like age, gender, marital status, ethnicity, income, social or economic status, etc., and this study is showing that income, educational attainment, and socio-economic status each accounted for less than 2% of the variance in scores on the MPQ, you know, multidimensional personality questionnaire well-being scale.

So, it means if we compare the role of genetic factors as well as demographic and environmental correlates, then we could say genetic factors definitely have higher percentage of variance as compared to demographic and environmental factors. I hope positive affectivity as well as how genetic and environmental factors are contributing to positive affectivity is clear to you.

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Positive Emotions

- Positive emotions (such as joy, interest, contentment, love etc.) are markers of optimal well-being.
- Emotions include subjective experience, Facial expressions, Physiological changes.
- **Affect**: Affect is a person`s immediate, physiological response to a stimulus and is typically based on underlying sense of arousal- (autonomic arousal).
- A basic difference is that **emotion** refers to cultural and social expression, whereas **affects** are of a biological and physiological nature, (Elspeth Probyn, 2005)



Next topic is positive emotions. In this class being positive psychology course, I am focusing more on positive aspects of emotional component. Positive emotions such as joy, interest, contentment, love, etc., are marker of optimal well-being. In all well-being modules you will find that positive emotion is very significant variable or very significant factor and it has been discussed a lot in happiness studies.

Emotions include subjective experience, facial expressions, and physiological changes. When I am saying emotional reactions or emotions it means you have certain subjective experiences. So, emotional subjective experiences maybe related to positive emotions, maybe related to negative emotions. Sometimes we observe some facial expressions also and some of these explanations are quite clear.

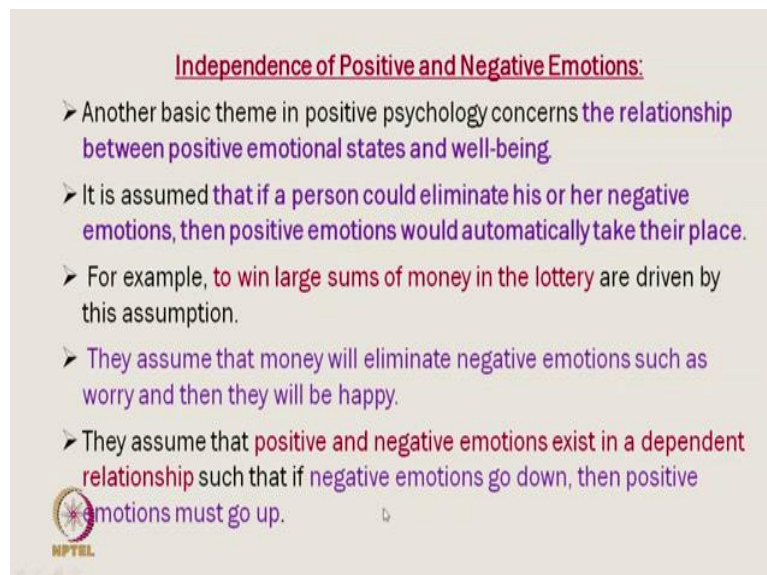
On the other hand, some physiological changes also we have as per our emotional reactions, and there are various studies in which they have observed that like galvanic skin response, heartbeat, pulse rate, and some other physiological indicators also we study when we study emotional reactions.

So, emotions include subjective experiences which are our, you know, personal experiences, facial expressions, as well as physiological changes which are captured by various physiological tools and we try to find out what kind of physiological reactions we have as per certain emotional reactions.

Now, next point is, which is again very important, difference between affect and emotions. However, affect and emotions are being used interchangeably in researches. Still they are saying that there could be significant difference between affect and emotion. Affect is a person's immediate physiological response to a stimulus and is typically based on underlying sense of arousal, that is autonomic arousal level.

On the other hand, when we say emotions, this refers to cultural and social expression, and in comparison, we could say affects focus more on biological and physiological nature. So, this difference could be counted. However, again, I am repeating there are various researches where they have used these two terms interchangeably.

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Independence of Positive and Negative Emotions:

- Another basic theme in positive psychology concerns the relationship between positive emotional states and well-being
- It is assumed that if a person could eliminate his or her negative emotions, then positive emotions would automatically take their place.
- For example, to win large sums of money in the lottery are driven by this assumption.
- They assume that money will eliminate negative emotions such as worry and then they will be happy.
- They assume that positive and negative emotions exist in a dependent relationship such that if negative emotions go down, then positive emotions must go up.

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Next, very interesting concept is independence of positive and negative emotions. Before showing independence of these two they are focusing on how do we consider connections or association between positive and negative emotions. Another basic theme in positive psychology concerns the relationship between positive emotional states and well-being, which is well established, but what about the connections between positive and negative emotions.

It is assumed that if a person could eliminate his or her negative emotions, then positive emotions would automatically take their place. There are some assumptions to prove this fact. For example, to win large sum of money in a lottery are driven by this assumption. So, if you have lots of money, then there is no scope to have negative emotions and you would

not be having worry, anxiety, tension, etc., and you would be happy only because you won the lottery.

They assume that positive and negative emotions exist in a dependent relationship such that if negative emotions go down, then positive emotions must go up. Clear cut assumption here is if you have high score on negative emotions, then automatically you would be having low score on positive emotions and vice versa. So, high score on positive emotion, then automatically you would be having low score on negative emotions. However, some studies are contradicting this fact.

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- However, Ulrich Schimmack (2008) reviewed several research studies that examined this notion and found that positive and negative emotions are relatively independent.
- He discovered that they tend to have distinct causes and can even occur together at the same time. For instance, a mother can easily feel both some degree of sadness and considerable joy at the wedding of her only daughter.
- Physiological studies have also found that positive and negative emotions are associated with different biological markers (Ryff, Love, Urry, et al., 2006).
- That is, how often a person feels positive emotions may have very little to do with how often that person feels negative emotions (Schimmack, 2008).

They are saying there is independence between positive and negative affects. For example, you know, Schimmack reviewed several research studies that examine this notion and found that positive and negative emotions are relatively independent. There is no connection which we are assuming as per our previous findings.

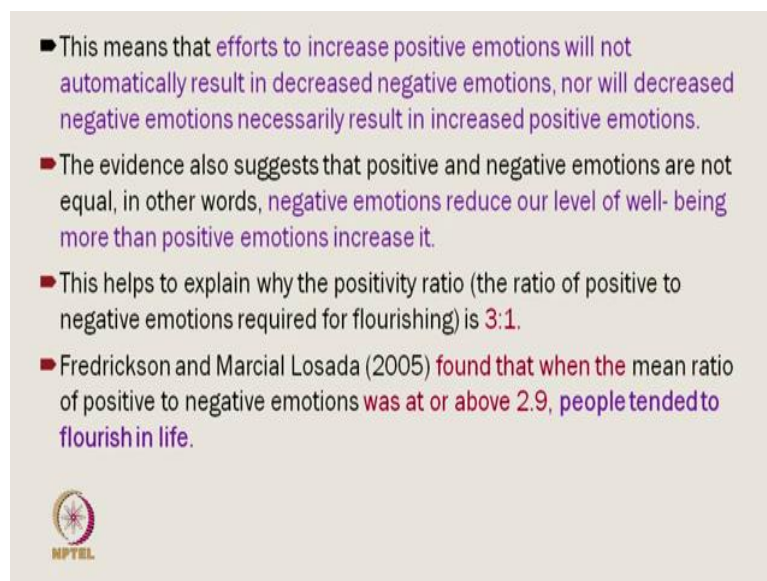
He discovered that they tend to have distinct causes and can even occur together at the same time. He has given some examples. For example, a mother can easily feel both some degree of sadness and considerable joy at the wedding of her only daughter. So, there are various occasions in our life where we have mixed feelings, mixed emotions, certain reasons of sadness or maybe stress, but other reasons to be happy.

So, they are saying that these emotions, negative as well as positive, are independent and we may have mixed emotions, some from negative emotions and some feelings from positive


emotions. Physiological studies have also supported this point. Physiological studies have also found that positive and negative emotions are associated with different biological markers.

So, if there are different biological markers, it means, to some extent, they are independent and that is why they may happen independently. Next, very interesting point is how often a person feels positive emotions may have very little to do with how often that person feels negative emotions. Very interesting point, it is.

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- ▶ This means that efforts to increase positive emotions will not automatically result in decreased negative emotions, nor will decreased negative emotions necessarily result in increased positive emotions.
- ▶ The evidence also suggests that positive and negative emotions are not equal, in other words, negative emotions reduce our level of well-being more than positive emotions increase it.
- ▶ This helps to explain why the positivity ratio (the ratio of positive to negative emotions required for flourishing) is 3:1.
- ▶ Fredrickson and Marcial Losada (2005) found that when the mean ratio of positive to negative emotions was at or above 2.9, people tended to flourish in life.



This means that efforts to increase positive emotions will not automatically result in decreased negative emotions nor will decreased negative emotions necessarily result in increased positive emotions. It does not mean when you have increment in positive emotions automatically your negative emotions will decrease, or when you have abundance or high level in your negative emotions automatically your negative emotions would decrease.

Again, I am repeating this statement because this statement is very very important to understand next studies. This means that efforts to increase positive emotions will not automatically result in decreased negative emotions nor will decreased negative emotions necessarily result in increased positive emotions. So, it means when we are increasing positive emotions, it does not mean automatically negative emotions would go down or vice versa. This is very important to know and understand how we can have such kind of components in our intervention programs.

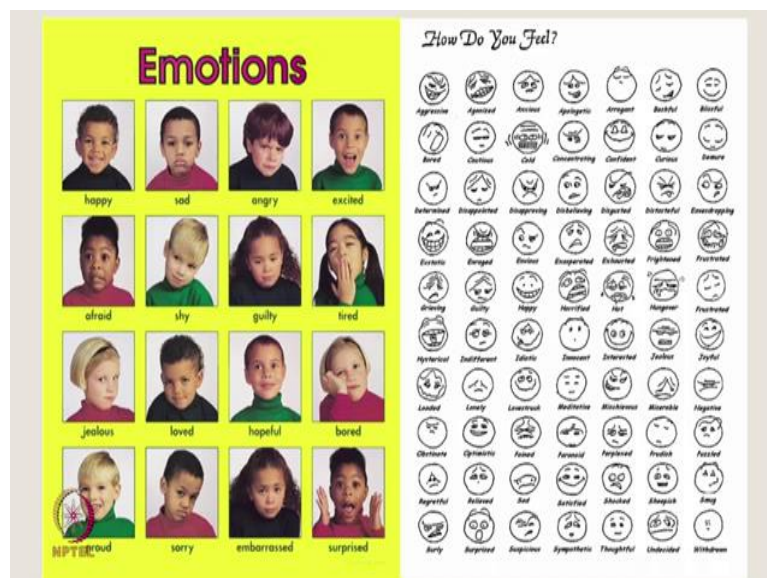
The evidence also suggests that positive and negative emotions are not equal. In other words, negative emotions reduce our level of well-being more than positive emotions increase it. This is the ratio which I will discuss in next points, but before that, this evidence is saying that positive and negative emotions are not equal.

Negative emotions reduce our level of well-being more and positive emotions increase it less. So, positive emotions role to improve our well-being is lesser as compared to negative emotions which are reducing our well-being. This helps to explain why the positivity ratio, the ratio of positive to negative emotions required for flourishing is 3:1.

This ratio is supporting that at least three times positive emotions for flourishing we should have as compared to our negative emotions. So, this ratio says we need to have three times more positive emotions as compared to negative emotions. And this is called Losada ratio. They found that when the mean ratio of positive to negative emotions was at or about 2.9 people tended to flourish in their life.

So, three times positive emotions we need to have as compared to negative emotions to flourish in our life. That is why abundance or higher level on positive emotion is very important for us to have in our flourishing life.

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There are various types of emotions, some of them are quite common or can say basic emotions. On the other hand, there are some others which are quite complicated and that is why we have a series of or a number of primary as well as secondary emotions.

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The Broaden-and-Build theory of Positive Emotions
by Barbara L. Fredrickson & her Associates

- It describes positive emotions in terms of **broadened thought-action repertoires** and describes their function in terms of building enduring personal resources.
- The first central claim of the broaden-and-build theory is that experiences of **positive emotions broaden a person's momentary thought-action repertoire.**
- **Positive Emotion----- Positive thought----- Positive action**



Now, after knowing positive emotions, let us know a theory which is quite famous theory in positive psychology by Barbara and her associates, the Broaden-and-Build theory of positive emotions. Through this theory you will find how do we have broaden-and-build style and it is contributing positively to our life.

So, how positive emotions, you know, broaden-and-build our lifestyle in positive direction, that is the main point here. It describes positive emotions in terms of broaden thoughts, action repertoires and describes their function in terms of building enduring personal resources.

So, basically, this theory is saying that when we are with positive emotions, when we have abundance of positive emotions, then it is broaden thought and action processes and these processes actually develop our personal resources which help us to have higher level of positive emotions. The first central claim of broaden-and-build theory is that experience of positive emotions broaden our personal momentary thought action repertoire. That is this theory's first claim.

It means positive emotions lead to positive thoughts and positive actions. So, let us know why positive emotions are an essential topic within the science of well-being, because they are actually helping us in various positive directions and that is why positive emotions are very important for us. Barbara and her associates mentioned that positive emotions are essential because they produce health, well-being, and fuel human flourishing.

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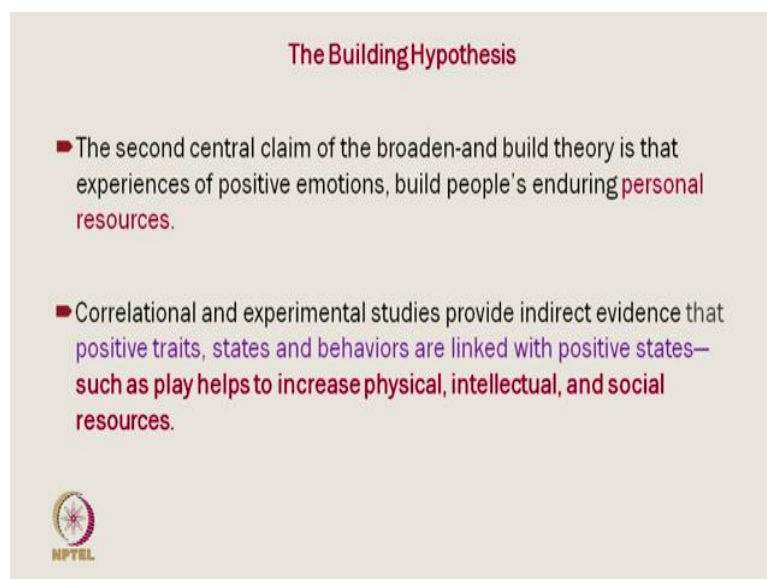
- Positive emotions are an essential topic within the science of well-being they...
 1. Produce health, well-being and fuel human flourishing
 2. Broaden people's attention and thinking
 3. Build resilience
 4. Build consequential personal resources
 5. Trigger upward spirals towards greater well-being in the future
- The broaden-and-build theory conveys how positive emotions move people forward and lift them to the higher ground of optimal well-being



So, these emotions are for our human flourishing. The second is broaden people's attention and thinking. So, we have broader or higher level of attention and thinking when we are with positive emotions. We build resilience when we are with positive emotions.


Build consequential personal resources when we are with positive emotions. Trigger upward spiral towards greater well-being in the future, so we have higher level of well-being. So it is just like spiral going upside when we are with positive emotions and this spiral we'll be discussing in the next slide.

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The Building Hypothesis

- The second central claim of the broaden-and build theory is that experiences of positive emotions, build people's enduring personal resources.
- Correlational and experimental studies provide indirect evidence that positive traits, states and behaviors are linked with positive states— such as play helps to increase physical, intellectual, and social resources.



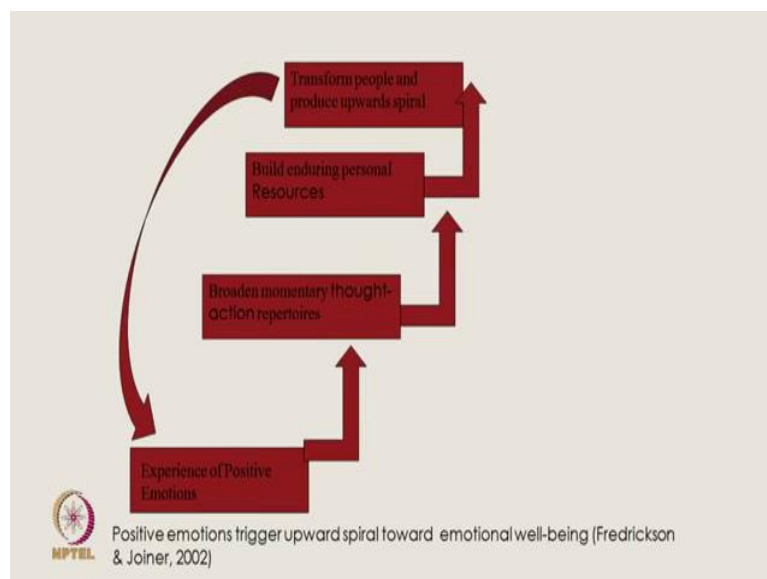
The broaden-and-build theory conveys how positive emotions move people forward and lift them to the higher ground of optimal well-being. So, the building hypothesis is the second

central claim of the broaden-and-build theory, it is that experiences of positive emotions build people's enduring personal resources which I discussed in the last slide.

Correlation and experimental studies provide indirect evidence that positive traits, states, and behaviours are linked with positive states such as play helps to increase physical, intellectual, and social resources. So, whenever we are playing and with positive emotions we are then in playing state of mind or playing activity help us to increase our physical, intellectual, and social resources.

So, during play, when we are with positive emotions this activity helps us to increase our physical health, our intellectual level, as well as social resources we develop during this process.

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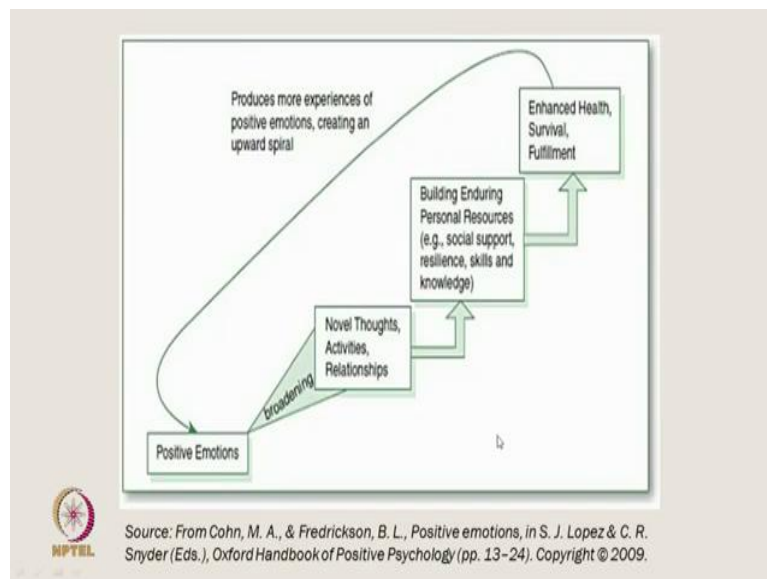


So, what this theory is, let us know in terms of this model as well as the next one so that we can understand a little bit more about this theory which is very interesting and very famous in positive psychology. So, this spiral is like this. Experience of positive emotions, we are with the state of positive emotions and because of these positive emotions we broaden momentary thought action repertoires.

So, we have broader, you know, mood of our thoughts and actions and because of broader view of our thoughts and actions or can say positive mood of our thoughts and actions it is actually increasing our resources. Build enduring personal resources. So, because of positive mood, positive thoughts, positive action, we are building enduring personal resources.

These personal resources, again, help us to transform and produce upwards spiral because we have developed certain resources. That is why we are a little bit more happy now and the spiral going in positive direction. That is why we are experiencing more positive emotions. So, that way, it is the positive spiral. Every day we are growing upside by using positive emotions.

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Similarly, the same model just to give a little bit more insight, because this theory is very important for us and we should learn what does it mean. First of all, positive emotions, positive emotions broadening the situation, and that is why we have novel thoughts, activities, as well as in positive emotions we are in positive mode that is why we are strengthening our relationships.

And because of this building enduring personal resources, resources may be in terms of social support, building resilience, skills, knowledge, and all these personal resources, building style helping us to have better health, better survival, better fulfilment. And this way this actually, again, produces more experience of positive emotions, creating an upward spiral. So, similarly, you know, it is again increasing our positive emotions.

Actually, this model is just opposite to the model for depression in which we have, you know, this spiral downside and everyday because of depression we are going in higher level of depression. And just opposite to this when we are with positive emotions every day we are

growing and adding some strengths in our personality which is helping in terms of our health, our quality of life, happiness, and all those things.

And that is why because of this happy and healthy mood or abundance of positive emotions, we have, this is actually increasing our positive emotions and this way it is contributing in positive direction. And there are some intervention programmes and strategies through which they want to develop such kind of positive emotions which are contributing in positive sense or in positive direction in different components of our life.

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Culture & Emotions

- ▶ People from all over the world have the same emotions.
- ▶ No matter where they're from, people feel happy, sad, surprised, angry, and disgusted. However, the same events do not always bring out the same emotions.
- ▶ **Individualistic cultures:** people feel comfortable revealing their feelings to others who are close to them, (e.g. United States & Canada).
- ▶ **Collectivistic cultures:** discourage expression of any negative emotions that might upset relationships among people who belong to the in-group (e.g. Japan and India)

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Next topic is culture and emotions because understanding emotions in terms of culture is very important. People from all over the world have the same emotions no matter where they are from. People feel happy, sad, surprised, angry, and disgusted. However, the same events do not always bring out the same emotions. So, certain events in different situations, different cultures, different countries, different societies may be observed or may be perceived differently by people.

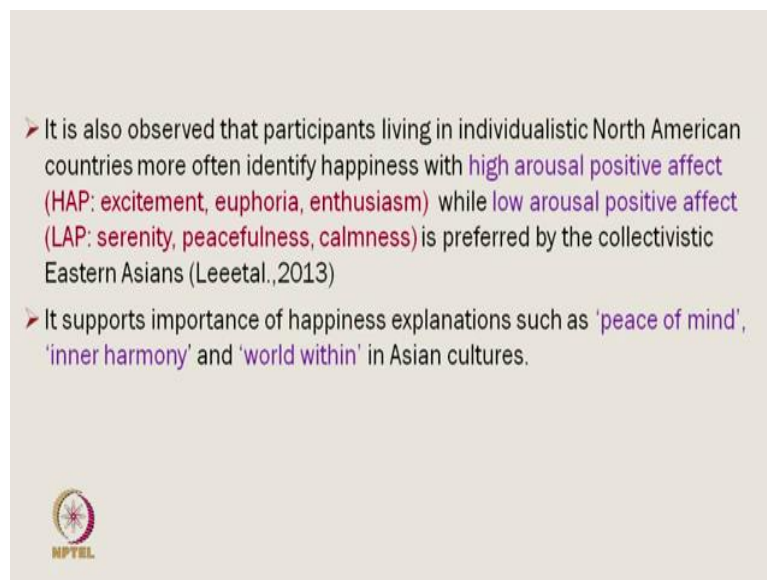
When we talk about the cultures, broadly we studying two basic cultures only, individualistic cultures and collectivistic cultures. Individualistic culture as well as collectivistic culture responses to emotions are different. For example, it has been observed that people feel comfortable revealing their feeling to others who are close to them and it happens in individualistic cultures like United States and Canada.

On the other hand, in collectivistic cultures, it has been observed they discourage expression of any negative emotions that might upset relationship among people who belong to the in-group like in Japan and India. So, it means we do not share negative emotions with our near and dear because we think this person may be, you know, unhappy to know about this thing.

So, we are not interested to make our near and dear ones unhappy, that is why we do not share or express our negative emotions in collectivistic cultures. So, they observe such kind of responses from collectivistic cultures like Japan and India. On the other hand, in individualistic culture, they are saying that they are comfortable to reveal such kind of feelings in their close relations, this data was from United States and Canada.


So, we can say how we share our emotional reactions differ from culture to culture and in terms of individualistic versus collectivistic culture these are significant differences.

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➤ It is also observed that participants living in individualistic North American countries more often identify happiness with high arousal positive affect (HAP: excitement, euphoria, enthusiasm) while low arousal positive affect (LAP: serenity, peacefulness, calmness) is preferred by the collectivistic Eastern Asians (Lee et al., 2013)

➤ It supports importance of happiness explanations such as 'peace of mind', 'inner harmony' and 'world within' in Asian cultures.



So, it is also observed that participants living in individualistic North American countries more often identify happiness with high arousal positive affect and these high arousal positive affect means excitement, euphoria, enthusiasm. So, they show high volume positive emotions to show happiness.

On the other hand, low arousal positive affects in eastern Asian cultures or in collectivistic culture has been observed like serenity, peacefulness, calmness, and this is the second difference between, you know, individualistic cultures versus collectivistic cultures. So,

broadly we can say, in individualistic cultures people feel happy or identify happiness with high arousal positive affect.

High arousal positive affect means excitement, euphoria, enthusiasm, showing high volume positive emotions. On the other hand, in collectivistic Eastern Asian cultures it has been observed that that is more, you know, serenity, peacefulness, calmness, and feel, you know, well within our peace and feeling quite calmness. It supports importance of happiness explanations such as peace of mind, inner harmony, world within in Asian cultures.

In Asian cultures, these are the models of happiness, not like mainstream or Western cultures where they have identified some external factors. In Asian cultures scholars are focused more on world within, peace of mind, inner harmony. These models will be discussed in happiness classes. So, that is why that is second difference between collectivistic and individualistic cultures. Individualistic culture shows high volume positive affect.

On the other hand, collectivistic cultures show low arousal positive affect which are positively correlated with happiness and that is why Asian scholars focus more on peace of mind, inner harmony, world within to understand happiness. Thank you very much. I will keep this topic continued in the next class.