

Psychology of Personality and Individual Differences: Theory and Applications

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Week 9

Lecture 19: Gender and personality

I welcome you all to module 9 of this course. Module 9 is about the social and cultural aspects of personality, and it is the first lecture of this module; overall, it is lecture number 19. So, in today's lecture, we will be focusing on the concept of gender and personality, how gender is connected to personality and what gender differences are there in terms of personality. So, these are some of the things associated with this aspect that we will discuss in today's lecture.

Before discussing today's lecture, let me briefly recap the last lecture – lecture number 18. It was part of module 8, where we discussed some of the mini cognitive theories associated with personality. In that context, we talked about the idea of locus of control. Rotter proposed this, and we try to understand the difference between internal and external locus of control and how it impacts human behaviour. We also talked about the concept of learned helplessness. We also tried to understand how learning helplessness evolved from animal research, how it was then extended to human research, and how to implement this whole idea of learned helplessness in the human context; the concept of explanatory style also evolved out of the notion of learned helplessness.

So, in today's lecture, we will discuss the concept of gender, some of the ideas associated with gender assessment, and some of the historical background of gender research in terms of personality. We will look at fictional and factual ideas regarding personality differences between men and women. We will also be looking at some specific personality variables regarding gender differences.

Now, when we talk about studying sex and gender, we are discussing the issue of gender differences and understanding these differences in terms of specific behaviours. There are many political issues associated with it, as well as many controversial issues. In terms of studying sex differences, it remains very controversial, it's a highly debated topic in public discussions, media reports, and legal cases involving gender-specific issues like sexual harassment and so on.

The concern arises that findings on sex differences might be misused to justify political agendas, such as excluding women from leadership roles and so on. So, these are some of the fears associated with studying gender differences. Critics also argue that many of these findings often reflect gender stereotypes rather than actual gender differences. Some psychologists have suggested not researching gender differences, as it may not contribute productively to research.

People have been divided on studying gender differences because many political issues are involved. However, many other researchers argue that understanding sex differences is crucial for scientific progress and social change. Now, simply because there are particular controversies involved, there is a possibility of conflicts and debates. That should not be a hindrance or a blockage in studying these differences. Because there can be many actual differences that can contribute to our understanding and may have many applied implications. Feminist psychologists like Alice Eagly in 1995 contended that sex differences are accurate, consistent across studies, and should not be disregarded due to political concerns. If something is real, as a scientist, one should study it. One should not shy away from learning something simply because specific political agendas, issues, or controversies are associated with it. Eagly argues that denying these differences can hinder feminist and egalitarian movements by promoting a disconnected view of reality. So, if you want to understand a particular phenomenon, it has to be scientifically studied. If you shy away or, because of certain hindrances, you don't study it, we will not understand its reality. So, we will examine some of these issues in detail, particularly in the context of personality differences. So, what is the definition, and how is gender assessed?

So there has been some background. Traditionally, psychologists believed people develop personality traits based on their biological sex. With males being masculine and females being feminine. So, this was a traditional idea that the biological characteristics related to biological sex are connected to psychological traits. So, if somebody is male, then that person will show masculine qualities. If somebody is female, that person should show feminine attributes. That was the basic idea that was associated with the understanding of gender difference or sex difference in terms of the psychological traits related to it. However, the contemporary sense of gender recognises a more complex interaction between biological sex and personal feelings and social experiences. However, if you look at the modern understanding, it is not so straightforward. The relationship can be much more complex. A lot of recent research shows these complexities. We will touch upon some

of these complexities. The issue of sex versus gender—how are they the same, or are there differences?

Now, when we talk about the term 'sex,' we are talking about a biological classification determined by chromosomes and hormones. So biologically, somebody is male, somebody is female. This biological classification is used with the term 'sex.' When we talk about gender, it is more of a social classification. It has less to do with being biologically male or female and has more to do with the social aspects or personal feelings associated with a specific gender. So, gender is more of a social classification influenced by personal feelings and social experiences. So, the idea of gender is more of a social construct. When we use the word sex, we are talking about more of a biological construct. So, psychologists distinguish between male and female sex which is connected to the idea of gender. It may not always be correlated with the biological male or female. So, it is a social construction where masculine and feminine concepts are mainly associated with gender. It is more of a social gender. Historically, gender was viewed as a typology assuming a strict correspondence between gender and sex.

Most people assumed that if somebody was male biologically, he was by default masculine, and if somebody was female, by default, she was feminine. So that was the historical traditional view. Any deviation from this was considered problematic or some disorder or something like that. So, if somebody deviates from that if somebody is, let us say, male and shows specific feminine characteristics, and then it was considered as more of a deviation rather than the norm. So, that was a historical kind of conceptualisation.

Now, as time progressed, as research progressed, their whole measurement or identification of gender also evolved. So, there was a typology model which initially measured gender dichotomously. People were either masculine or feminine, aligning with their biological sex. So, that is a typical typology model. So, people were either masculine or feminine with alignment to their biological sex, which means male and female, then this bipolar model came later. Masculinity and femininity were combined into a single bipolar dimension, which means this model implies that the more masculine a person was, the less feminine they were, and vice versa. So, it's a bipolar model, which shows both masculinity and femininity are combined into a single bipolar dimension. So, one end is feminine, and another extreme is masculine characteristics, and if one increases, the other decreases. So, that was the idea of the bipolar model of gender measurement.

One typical example of this approach was used by the Minnesota Multiphasic Personality Inventory (MMPI), which we discussed in detail in the personality assessment. So, this is a very popular scale to measure personality, mainly related to psychological disorders and so on, in the clinical context. So, it measures masculinity and femininity on the scale also. The scale also measures masculinity and femininity using this bipolar concept. So, in this test, high masculinity scores for women and low scores for men indicate a kind of pathology.

So basically if somebody, some woman scores high on masculinity, and low score and if a man scores low on masculinity that means there is a deviation so it is considered some kind of pathology so this was kind of you know earlier development so this it was in line with the bipolar model the two-dimensional model also evolved which says in somewhere 1970s psychologist recognized the limitations of unidimensional models so in the unidimensional model basically the bipolar model that we talked about so there is an two extremes of the same thing one extreme is masculine another is feminine and if one increases other decreases so that was the idea in the two dimensional model it recognizes that earlier model was not accurate was capturing the precise picture of gender aspect so they propose that masculinity and femininity are separate dimensions they are not two ends of exact dimensions they are separate dimensions they are entirely different aspects So, we cannot say one increases other decreases. If you are saying this it means they are same thing - if one increases other decreases that means they are exact dimensions only two extremes. In a dimensional model, they are saying no, that wholly different dimensions one may not be correlated with the other; both may increase and decrease. It is not necessary that if one increases other should decrease, allowing the individual to exhibit traits from both spectrums. So, somebody may have high masculinity as well as maybe a high score in femininity and so on. Because these are two dimensions, both can have a high score, low score, whatever it is. When it is unidimensional, you cannot have both scores high. One score is high, and one should be low.

So, this approach acknowledges that a person can be high in traditional masculine and feminine traits. It is possible. So, that is called a two-dimensional model. It tries to capture more nuances of the gender aspect in this model. So, some key instruments that use this two-dimensional model measure masculinity and femininity as separate dimensions. Some of the scales popular in this context or use this model are called the personal attributes questionnaire (PAQ), which measures masculinity and femininity as separate scales.

Another very popular scale is called the Bem Sex-Role Inventory (BSRI). It also measures the traits as separate scales. Many studies show that these two scales yield similar and highly correlated results. So, that means both the scales were found to be valid and correlated to each other.

Additionally, also they found there is no correlation between masculinity and femininity scale. They also found that the correlation between masculinity and femininity is not very strong, or there is no correlation, which shows that both can be separate dimensions—supporting the notion that these are independent or separate dimensions. This two-dimensional model allows for a richer understanding of gender, recognising that people can embody a mix of masculinity and femininity traits regardless of their biological sex.

So regardless of what sex you have, either male or female, you can have a combination of genders, which is a social construct, so one may have masculinity high even though biologically one may be feminine. So, this gender classification can be understood using several categories based on masculinity and femininity scores. These categories are derived from measurement using measurement instruments like we have discussed, like the sketch we discussed. So, this classification system allows for a nuanced understanding of gender, recognising that individuals can exhibit diverse gender traits beyond traditional just binary conceptions of male-female.

So, there are many possibilities. For example, one classification could be based on these scales, this two-dimensional model. There could be a feminine sex-typed individual, which is a woman who scores high on femininity and low on masculinity. So, the typical traditional idea of gender and sex is where a female shows a high score on femininity and a low score on masculinity. So, the usual construct of a female. So, these are called feminine sex-typed. This is one possibility. There can be a masculine sex-typed, which means men who score high on masculinity and low on femininity. The typical traditional concept. Men with high masculinity and low femininity.

So, these could be two possibilities. Another is the Androgynous possibility, where individuals—possibly both men and women—score high in masculinity and femininity. So, they possess attributes associated with both genders. So, these people may be male or female biologically, but they have, psychologically, both feminine and masculine qualities with high scores on both.

These are called androgynous individuals. There could also be the possibility of undifferentiated individuals who are individuals who score low on both masculinity and

femininity. So, they neither have a high score on masculinity nor have a high score on femininity. So, they score low on both aspects. They are called as undifferentiated.

So, when we talk about gender, we mainly talk about its psychological and social aspects. There is also another possibility called cross-sex type, where the woman scores high in masculinity. So, this is the opposite of that woman, the biological female. These are called as a cross-typed individual. So, if you see this one, how do these dimensions come up? So basically, these are a combination of masculinity on one side and femininity on one side—so feminine low-high, masculinity low-high.

So, there can be four combinations. When females score both low masculinity and no femininity, this is the undifferentiated category. High masculine and low feminine is masculine sex type if male, cross-sex type if female. Low masculine and high feminine, so this is feminine sex type if female, cross-sex type if male. Combinations could lead to cross-typed or masculine sex type or feminine sex type individually. So, these are different possibilities with all the possible combinations of masculinity and femininity.

So, all these possibilities exist, and all kinds of individuals are there. So, this is something that when you talk about gender, it can be very complex. It is not always necessarily aligned with the biological male and female aspect. So, there can be multiple possibilities. Let us talk about some of the historical background of this whole gender difference study in the context of personality.

Before 1973, the study of sex differences received very little attention. Before the 70s, you know, people were not looking at gender differences or sex differences in the research context because that was not the trend at that time. Psychological research mainly used male participants typically university students.

So mostly, the research participants were male. So, gender differences were not a focus; even though females were there, the numbers were very low. Even with both sexes included, few research analyses reported sex-based differences. Some research even included both males and females, but they never focused on gender differences or analysed them. This began to change in the early 70s.

A significant turning point was in 1974 with the publication of a book, *The Psychology of Sex Differences* by Eleanor Maccoby and Carol Jacklin. So, this was a book dedicated to understanding or summarising research based on gender or sex differences at that time. This book was a turning point, mainly in the context of personality differences between

males and females or sex differences. They reviewed this basically in that book. Numerous studies on sex differences were reviewed, and many conclusions were made.

They tried to summarise all the studies on gender-sex differences in that book. So, this book was one of the first kind of turning points in terms of looking at gender differences or sex differences, typically in the context of various psychological constructs, including personality. Some of the conclusions in that book were based on whatever was available at that time. They found that women slightly outperformed men in verbal ability. So basically, women were better than males in verbal ability in terms of speaking.

While men had slight advantages in mathematical and spatial abilities - men tended to score higher on mathematical and spatial skills in terms of imagination, arranging objects in space, and so on. So, this was the finding at that time. They also reported that men were more aggressive than women but saw no significant sex difference in other personality traits or social behaviour. Deeming that the existing differences were minor or trivial.

So they found that, except for one or two things, like in the measures of aggression, there were no specific significant differences in other personality dimensions. They found most of the other differences are very trivial or may not be of any significance. So, the psychology of sex difference, this book spurred extensive research. So this was the book that was a turning point. After that, many researchers started looking at sex differences in their studies.

However, criticism was also directed at this book because it was published in the 1970s. Some critics argued that this book underrepresented the number of sex differences. So, many critics argued that many other differences were ignored in that book. And they questioned their findings on male aggression at that time as well. Many criticised the methods used in the book in terms of reaching those conclusions.

Though at that time it was standard, now, in the present context. Many of the methods are very crude and rudimentary. This book, however, influenced journals to change their reporting practices and mandated the calculation and reporting of sex differences. So, whatever it is, even though some people criticised it, this book stimulated a lot of research and even journals asked to report gender differences in the study. So, this led to an increase in the inclusion of female participants in the studies. So, female participants also actually increased in a lot of research.

This shift resulted in a surge of research on sex differences, with thousands of studies conducted. So, the trend changed after that. Now, let us see some of the traditional beliefs about gender differences in terms of specific personality dimensions or specific behavioural dimensions. So, these are all beliefs; these are not research findings. So, we will see some traditional beliefs and whether they hold in the research context.

So, some of the beliefs include, like, men are more agentic and instrumental, while women are expressive and communal. Communal in the sense that they have more of a community- and relationship-oriented approach. This is one thing in terms of personality. Men are more active, competitive, independent, and self-confident. Women are emotional, gentle, understanding, and devoted.

So, these are all traditional beliefs. Regarding social roles, there are beliefs that men are more in terms of leaders, financial providers, and heads of households. For social roles, women are considered caregivers, providing emotional support, homemakers, etc. Physical attributes: men are more athletic, brawny, broad-shouldered, and physically strong. For women, it is dainty, pretty, soft, graceful, and so on.

In terms of emotional experience, men experience more anger and pride. Women are more emotionally expressive and experience a broader range of other emotions. In terms of cognition, men are good at abstract thinking and problem-solving. Women are good at verbal reasoning, artistic pursuits, and so on. So, these are some of the summaries of traditional beliefs that exist in the collective psyche of the human mind.

We believe that men differ from females in specific roles. So, these are all traditional beliefs, many of which are stereotypes. Stereotypes, in the sense that these are generalised beliefs. Some people in a group show certain traits, and then you generalise it to everybody, which may not be accurate. When you talk about stereotypes, these are generalised beliefs.

Some people may show it, but then you are saying everybody in that group is like that, which may not be accurate. Most of these are related to gender stereotypes. While societal and media portrayals of gender roles are prevalent, a lot of these are also commonplace in societal beliefs, media roles, and so on. Psychological research offers a more nuanced understanding of personality differences between men and women. So, we will see some of the psychological research.

Fortunately, gender and gender differences are extensively studied topics. In psychology after the 70s, we have some empirical support for many gender differences, which we will

be talking about now. One thing before we talk about actual personality differences in terms of research: some research shows in terms of mental disorders, there are some clear-cut gender differences—what kind of disorder males experience and what type of disorder females experience in terms of prevalence, in terms of frequency. So, some research has shown that there is a possibility of gender differences. When examining mental disorders, there are notable differences in prevalence between males and females. That does not mean males and whatever disorder males experience, females cannot experience it—not that.

Only in the prevalence rate is there a difference. So, females experience more of this when we say something is more prevalent like that. So, men are more frequently affected by substance-related disorders like alcohol, drugs, and so on. Childhood disorders like intellectual disability, reading disorders, autism, and so on, and sexual and gender identity disorders, of these, paedophilia, fetishism, and so on, are more prevalent. So, these are not only male disorders, but the thing is, the prevalence is higher among males. If you see the data, in terms of numbers or percentages, males report this disorder more than females.

In contrast, mood disorders like panic disorders, bipolar disorder, anorexia, and bulimia, which are eating disorders, and depression are more prevalent among women. So, this is typical; a lot of research shows there can be some gender differences in terms of what kind of disorders are experienced more by males and females. So, there is at least some data available in that direction. Some other personality disorders, such as schizotypal personality disorder, antisocial personality disorder, narcissistic personality disorder, and compulsive personality disorder, are more common in men.

So, there are some personality disorders related to personality, like schizotypal, antisocial, narcissistic, and compulsive personality. These are more prevalent among males. On the other hand, some other personality disorders, like borderline personality disorder and histrionic personality disorder, are common in women. Despite these findings, these characteristics are not strictly indicative of personality. Only in the prevalence rate are there differences between males and females.

So, the question remains: there are differences in men's and women's personality traits. Whether there are actual differences? If so, in what ways? So, let us see the personality differences between men and women. What is factual, and what is fictional?

Let us see in the context of some research findings. So, men and women are perceived to differ in various aspects, as we have discussed some of the traditional beliefs associated with this, which may be in the context of behaviour, physical attributes, emotional

experiences, cognitions, occupation, interest and so on. However, are there, in actuality, are there such differences or if such differences exist, are they significant? So, let us see some of the research evidence. Janet Hyde did a meta-analysis in 2007 including extensive national studies revealed that 78% of the reported effects of gender difference are either small or non-significant.

So, meta-analysis is basically when a large number of studies in a particular area or particular topic when they further analyse to see the patterns in that specific area when they collect research when a lot of research is done in a particular area to find the patterns in that area where the researches are going what are the findings so meta-analysis is done it means analysis of the analysis and one such analysis in terms of sex difference or gender difference was done in 2007. One of the central conclusions of this meta-analysis is that about 78% of reported differences are Either minimal, which can be neglected or non-significant or non-significant. So, a lot of these are not very significant differences.

There are differences, but they may not be decisive regarding gender. So, some of the significant findings that they reported are summarised here. So, they found there are no gender differences in the characteristics that are mentioned or shown in the slide. So, they found in the impulsiveness dimension of neuroticism, there was no gender difference in—the gregariousness dimension of extroversion.

Then activity dimension of the extroversion. Intellect dimension of the openness. Order dimension of conscientiousness. General intelligence, mathematical ability, verbal ability, leadership effectiveness, self-confidence. In all these, there is no actual gender difference.

So, this was one of the findings. They found there are some gender differences observed in specific characteristics. This includes what is shown in the slide. Sympathy dimension of agreeableness; more specific details will be discussed a little later. Assertiveness dimension of extroversion, sexuality, non-verbal behaviour, aggressiveness, risk-taking, occupational preferences, and mental disorders—some of these we have already discussed.

Leadership style and leadership effectiveness: they found no difference, but in terms of style of leadership, they found some differences between genders, male and female. So, some differences were observed between males and females in these dimensions. They also found there may be gender differences based on certain contextual factors. There may be some differences in some of these characteristics, which include empathy. Emotional experience—what kind of emotions one experiences—anxiety, helping behaviour, influence, self-esteem, unique ability, etc. So, we will see some of these details later on.

So, it is said that there may be some gender differences in some of these characteristics, depending on the context. Now, the five-factor model of personality that we discussed in an earlier module, which is one of the most important and has received the highest empirical support, is the five-factor model in the trait theory of personality. Some research tried to understand, in these five factors of traits, how men and women differ in terms of this five-factor model. So, it is well understood that men and women differ in physical attributes, sexuality, and so on due to the difference in reproductive roles. However, what is surprising to many is that there are significant similarities between men and women in personality traits. They found that differences are unimportant and similarities are more than differences.

In terms of personality, data from an extensive study using the NEO Personality Inventory, which measures this five-factor model across 50 cultures, including the United States, reveals some of these differences. Now, this research only focused on the five-factor model traits, so these are the findings of this one. Here, a positive number means males scored higher than females, and a negative number means females scored higher than males. So, all these negative numbers are where females scored higher, and positive numbers mean males scored higher. These coefficients show the strength of the difference—to what extent they are different. So, in summary, there are significant or medium differences in this five-factor model. In some, the differences are minimal. In some, the differences are trivial.

So, you can see here all the data. So, in the neuroticism dimension of the five-factor model, mainly two anxiety and impulsiveness, neuroticism found a medium difference overall. So, minus means females scored higher than males in neuroticism. Among neuroticism, they also found impulsiveness. The difference is very trivial, and for anxiety, it is small, but overall, it is a medium difference. In the trait of extroversion, they found again minor differences, not much difference, and some of the dimensions of extroversions like

Gregariousness, the difference is very trivial. Gregariousness activity, the difference is very trivial. But assertiveness, they found the difference is significant. In assertiveness, the difference is substantial. So, they found males scored higher on assertiveness. So it, is a positive score that means males scored higher. Then comes openness. Again, the difference is very trivial. There is not much difference, actual difference. So the difference is very trivial.

In the construct of agreeableness, all these five dimensions are discussed in detail in the trait model, so I will not go into the definition of these traits here. In the agreeableness,

again, the difference is negligible. And except for one dimension of agreeableness, which is tender-mindedness. The difference is enormous. The minus score means women score higher on this dimension than males in the dimensions of tender-mindedness. In the dimension of conscientiousness, again, the difference is negligible. And in another dimension also, the difference is insignificant.

In the five-factor model also very few factors; there is a medium or significant difference. Most of them are in the category of small or trivial differences. So here, neuroticism shows precisely where there is a very significant gender difference, one can say. A woman scores higher than a male. Openness: there was no difference across all cultures.

Women tended to be slightly higher than males in conscientiousness, extroversion, and agreeableness. So this is like some of the summary. So, the difference is not very strong in most of these dimensions. As we have discussed, there are significant differences in some facets of these dimensions, like men scoring higher on assertiveness while women scoring higher on tender-mindedness. These two facets showed substantial differences in terms of males and females.

Slight differences exist in anxiety, trust, and order. Women scored higher on all three. Other facets, such as impulsiveness, gregariousness, activity, and openness to ideas, show only very trivial differences, which means there is not much difference. Overall, the conclusion is that men and women do not show very sharp differences in the five factors. Differences are not very noticeable, and similarities could be greater than the differences. So, this is about the five-factor model.

Now, we will see some of the possible gender differences in certain specific aspects of personality. So, we will first talk about aggression. What is the result? What are the research findings related to gender differences in terms of aggression, in terms of behaviours related to anger, and so on? Some of the consistent findings across countries include one of the most consistent findings, both in the US and other countries, is that men are more aggressive than women.

So, in terms of aggression. A lot of research shows that men show more aggression than females. The list of studies is extensive and includes ancient studies and very new studies. However, some of the meta-analyses date back to 1996. Many studies show that many nuanced aspects are associated with gender and aggression, so it is not very straightforward like men are high and women are low. These are very concise answers, and people try to discover many nuances in research. In real life, things are not so straightforward. For

example, when you talk about aggression, there can be different aspects to it: one is physical aggression, and one is verbal aggression.

Meta-analyses showed that men are more physically aggressive than women, with significant differences observed, but only slightly more verbally aggressive. So, in terms of verbal aggression, the difference is much less compared to physical aggression, except when women are directly threatened. When women are directly threatened, their aggression score is not much different, almost similar to males. In this case, the gender difference nearly disappears. In the context of unprovoked and directly threatened aggression, some research, like Bettencourt and Miller's meta-analysis, found that gender differences in aggression are most apparent under experimental conditions of unprovoked expression.

When no one is provoking, the gender difference is highest. But it vanishes when directly threatened; male-female differences are minimal in certain situations. Men are more likely to resort to physical aggression, whether provoked or not. So, in physical aggression, men consistently score higher. Verbal aggression, when prompted, women are slightly more likely to respond with verbal aggression.

So here women scored slightly higher than male in terms of verbal aggression. These are some of the meta-analyses done in most of the Western context, and this was like quite a few decades back study. Now, responses to different situations also have some differences observed, like physical attack, insult and negative evaluation. In that context, men and women respond almost equally aggressively when there is a physical attack, when there is an insult, and when there is a negative evaluation.

In the context of frustration, men are more likely to respond aggressively than males. Men are more likely to react aggressively in the context of insults about intelligence. So, some situational factors were also observed in terms of gender differences. There were also some differences observed in the laboratory and field studies. Most studies on aggression have been conducted in laboratory settings.

Many of these findings we discussed are primarily in the context of laboratory setting studies. Participants were showing a lot of artificial behaviour, which is possible when you put them in laboratory conditions. However, a later meta-analysis of field studies, now some other studies meta-analysis were also done on studies that were done on the actual world field studies and the large scale studies on nine different countries including India, Japan, Australia, Canada suggest that gender differences in aggression are more

pronounced than early meta-analysis indicated. They found more pronounced differences later in the field studies.

Regarding physical and verbal aggression, the result we discussed earlier was primarily based on laboratory studies in the context of field studies in more real-life settings. The analysis found that men exhibit more physical and verbal aggression than women, with effect sizes of overall aggression ranging from 0.4 to 0.6. So the difference is much more substantial in field studies compared to laboratory studies. Here, they found men exhibit higher verbal and physical aggression scores.

This is from direct data collected from peers, teachers, and observers and self-reports. So many sources of data showed this. The gender differences in aggression are most significant during young adulthood. So, this difference is much more substantial during young adulthood, from 18 to 22. Here, males score much higher than females.

With an effect size of 0.66, which is relatively high, and it tends to decrease with age. So, as age increases, this gender difference also decreases. Men show higher levels of physical aggression, with effect sizes ranging from 0.39 in self-reports to 0.84 in observer reports. So, overall, men showed more aggression in field studies, as the data shows. However, this gender difference is more significant during the young adulthood phase.

And this reduces as the age progresses. Then comes indirect or relational aggression in girls. So, this is one thing that was also observed in contrast during late childhood and adolescence. Girls tend to engage in more indirect and relational aggression than boys, with an effect size of 0.74. So indirect aggression, which is not directly physical aggression but more of something like, you know, observational studies reveal that girls are more likely than boys to intentionally harm others through social exclusion, gossip, or turning others against someone.

So these are not direct aggression but some indirect aggression, including social exclusion, gossiping turning others against someone and so on. In that context, particularly girls tend to score more on this during childhood and adolescence than boys. So, some differences were observed in the context of aggression and gender.

Now, let us see some of the differences in gender in terms of risk-taking behaviours. So, again, when we talk about sensation-seeking and risk-taking or risky behaviours, men generally score higher in impulsive sensation-seeking activities such as bungee jumping while on vacation. So mainly, the risk-taking behaviour is mostly again men more than

females. However, there are only slightly more likely than women to engage in daily risky behaviours that may have undesirable or dangerous outcomes. So when the behaviour comes which are in daily activities that are very unpleasant and perilous outcomes, there is not much difference in risk-taking behaviour which may include speeding or running, yellow lights and so on. So, there is not much difference. But in sensation-shaking activities like bungee jumping while on vacation, there is a much more substantial gender difference, with males scoring higher on those dimensions. Specific contextual and age-dependent differences could be there in the risk-taking behaviour and also in the context of gender. The extent of gender difference in risk-taking behaviours depends on the context also, like the type of risk involved and age.

Although small to medium effect sizes consistently showed that men take more risks than women, the most significant gender differences are observed in the actual risky behaviours people engage in, while the differences in attitudes towards risky activities are more minor. The difference is much more substantial when somebody takes risky behaviour in the behavioural action terms. But when attitudes are asked about specific risky behaviours, there is little difference. Also, research shows some trend changes in risk-taking behaviour between genders over time. So, the gender difference in risky behaviours has shown signs of decreasing over time.

So, that means women are taking much more risky behaviours as time progresses. The mean effect size of studies conducted from 1964 to 1980 was 0.20. compared to 0.13 for those undertaken from 81 to 97. So the difference between males and females regarding risky behaviour with time is decreasing. So maybe more recent studies and more future studies will show whether this difference now actually exists or not.

Now, let us come to the gender difference regarding empathy and tender-mindedness. So, when we talk about empathy, we are talking about to what extent we can understand others' perspectives—so putting yourself in the shoes of others. That is empathy. So tender-mindedness is more of an emotional quality regarding understanding others, emotional support, etc. One of the most significant personality differences observed is that women exhibit more empathy and sympathy than men. So, this quality is more expressed or reported by women. This tender-mindedness, a facet of agreeableness, shows the most significant gender difference across 50 cultures, including the United States. The effect sizes are 0.39, minus 0.39—basically, minus means women score higher for observed ratings—and minus 0.28 for self-ratings, and minus 0.92 in a meta-analysis using various measures of tender-mindedness.

So across different countries and cultures, it shows women score higher on empathy and tender-mindedness. This suggests that women are more empathetic to others' plight than men. These findings are based chiefly on self-report measures of feelings rather than the actual performance or accuracy of understanding others' emotions. So, it was primarily self-report studies. So probably, you know, things may change when we look at actual behaviour in the real world. So in terms of self-report and actual performance in empathy, there may be some possible differences. In the studies of empathic accuracy, participants view videotaped interactions and try to identify the emotions of the individuals involved. So this was the task given where videotapes were shown where people interact and when asked to identify the emotions involved in those interactions. Women reported greater accuracy in judging emotions than men, but actual performance shows no significant difference in the exact setting. Not much differences were observed.

This suggests that women may present themselves more empathic in self-reports, possibly due to gender role stereotypes. So that is also possible. Because of gender role stereotypes, self-presentation in terms of empathy and tender-mindedness is probably reported more by women than male. Even in actual performance, it may be, you know, not that difference was observed in actual performance.

Some earlier meta-analyses examined empathy across various tasks, including emotional responsiveness, physiological measures, facial expression, tone of voice, and self-report empathy. The results are inconsistent in all these cases, but one apparent effect emerged. That female showed more empathy on self-report measures and related measures of empathy. However, there was little gender difference in unobtrusive measures such as facial expressions or physiological distress.

So when physiological distress and those measures were included in addition to self-report, those other measures did not show much difference. Still, in terms of self-report, women reported much higher scores in terms of empathy than males. So, this pattern suggests that participants may behave in line with gender roles when they know empathy is being monitored. So that is also possible—maybe when somebody thinks they are being measured in a context more in tune with one's role, they are more likely to report it higher.

In the context of emotional contagion—to what extent emotion spreads—emotional contagion means the spread of emotion from one person to another. So, emotion is highly contagious; it spreads. If somebody is sad, the people nearby also become sad because

emotion gets transferred. If someone is happy, the people around that person also become pleased because emotion gets transferred. So, that is called emotional contagion.

Women are more likely to feel the emotions of those around them, as indicated by self-report measures of emotional contagion. So, emotional contagion is more likely to be detected by women than men. Women reported experiencing happiness, fear, anger, and sadness more frequently when around others experiencing these same emotions. So, they are more likely to detect others' feelings and experience them themselves in the context of non-verbal perceptiveness, non-verbal perceptiveness means in the context of body language.

Women also demonstrated more extraordinary non-verbal perceptiveness. They are better at reading body language and facial expressions, recognising faces, and expressing emotions non-verbally, mainly through facial expressions. So in the context of non-verbal perceptions and expression, women scored higher than male in all these aspects. Additionally, women engage in more eye contact during interaction than men. So, in many of these emotional aspects, most measures and research show this generally scored higher than males.

Now let us come to the gender difference in leadership effectiveness and style. So, in terms of leadership effectiveness, there is no significant gender difference. Both were effective in their ways when leadership roles came. So there is no actual difference found in any studied studies. But in terms of style, some differences were observed. So, while men and women are equally effective as leaders, they tend to exhibit some different leadership styles. Women are likelier to adopt a democratic leadership style, sharing power and decision-making with their team members with little higher than males. So more of a democratic leadership style is expressed by women, which is connected to decentralisation of power, sharing power and decision making with the team members, etc. In contrast, men are likelier to adopt an autocratic leadership style, making decisions more independently.

So this is a trend. Not that everybody will show like that. But when large-scale samples are studied, the trend is like that. More men show autocratic leadership as compared to women. More women show democratic leadership as compared to men. These are when averages are taken in a large sample. That doesn't mean every male will be autocratic and every female will be democratic. Not necessary. So task and social leadership—the differences in leadership styles—are context-dependent. So, men are more likely to emerge as leaders in task-oriented situations. Men are likelier to perform better in leadership, where the

primary goal is to complete tasks and maintain productivity. In those kinds of situations, generally, task-oriented males emerge as better leaders. On the other hand, women are more likely to emerge as leaders in socially oriented situations where they focus on working well together and maintaining group integrity. So, the context of effectiveness or style may differ. In certain situations, women perform better than men in leadership roles. So, the style could be different.

So, these are a summary of the findings that we already discussed. So, the effectiveness there is no difference, but in terms of style there is a difference. So, that is something that is observed. Now, what is the cause of gender difference? So, let us see at the end.

So, we have observed some gender differences, and in some contexts, there are no differences, but There is no doubt that there are certain gender differences in specific personality dimensions. So what are the reasons behind it? What are the causes?

One major cause is socialisation, how socialisation happens for males and females or girls and boys. So, socialisation theory says that boys and girls develop different personalities because parents, teachers and media reinforce them to adopt behaviours that are suitable per their gender or sex. So there is a constant portrayal that boys should be like this and girls should be like this.

So, specific socialisation processes always kind of project certain roles. So those are reinforced by parents, teachers, somewhere everywhere they get this indication that certain behaviours are appropriate for boys and girls. So, through the socialisation process, from childhood, a child learns to differentiate how a boy should behave and how a girl should behave. This leads to differences in their mindset.

So boys are typically encouraged to be masculine, receiving, let's say, something like baseball bats or cricket bats and trucks and being praised for rough play. In contrast, girls are encouraged to be feminine, receiving dolls and being commended for obedience and cuteness. So, this socialisation process is very different for boys and girls. So that also leads to differences in their mindset and personality differences emerge later. Boys are often punished for crying while girls are comforted, leading to the adoption of gender-specific behaviours over time. So slowly, over time, they grow accordingly.

They imbibe those ideas projected by others. Albert Bandura's social learning theory, discussed in an earlier module, also says that boys and girls learn behaviour by observing same-sex models from parents, teachers and peers. So they observe how females behave,

adult females behave, adult teacher behaves, adult peer or their peer groups, the similar genders behave. So, they kind of slowly learn by observing others. Boys observe male role models engaging in work, while girls observe female role models in domestic tasks. This further reinforces gender-specific behaviours.

There is also empirical evidence to support these ideas. Studies from the 1970s and 80s found that fathers engage in more physical play with sons than daughters. A trend that persists even today. Additionally, parents have historically provided gender-typical toys to their children. Boys received, let's say, cars and sports equipment, while girls received dolls and household items. Parents still view gender-typical toys as more desirable. So the kind of toys, the type of things, and the sports they engage in also differ. This kind of research shows not only in one culture but in almost every culture it is like this. So, these cross-cultural studies also indicate differential treatment for boys and girls.

So this also leads to possibly causing personality differences. However, the direction of causality in socialisation is questioned. It is unclear whether parents drive children's behaviour or vice versa. Whether it is because of the parents or the societal role that they become like that, or it may be the opposite also, in the sense that they have these preferences, so others give them. So, the direction may not be evident in all cases.

So, research by Jadwa et al. 2010 suggests inherent preferences might play a role. Infants showed sex-linked toy preferences. Boys may prefer certain things, so they are given those. So that is another way it is possible. This indicates that while socialisation is significant, some actual gender differences may exist regarding biological preferences. Social role theory comes from socialisation, which is connected to that only. So basically, what kind of roles do we get in our life as a male or female? So, it is related to socialisation only.

So, the social role theory says that sex differences arise because men and women are distributed into different occupational and family roles. They are given distinct roles in society. So the difference occurs because of those roles, different role assignments. Traditionally, men are expected to be breadwinners, and women are expected to be homemakers. Consequently, children learn behaviours associated with these roles, with girls becoming nurturing and emotionally supportive, boys becoming tough and aggressive, and so on.

So, these social roles may make them different regarding their psychological qualities and, ultimately, personality differences. Evidence supporting social role theory includes the continued distribution of men and women into other roles in various countries, as shown

in evidence from North America. Women tend to be more involved in domestic and childcare roles, while men are more engaged in occupational roles. So in all cultures, if you see these social roles, the different roles are given to males and females, which could also explain. So, accordingly, their psychological characteristics also differ.

Even in egalitarian societies like developed societies like Canada, women perform more housework than men. So even in countries where the difference between men and women is significantly less, even if you see the gender roles can very clearly be seen that more females do specific work and more males do particular types of work. Additionally, a study using an event sampling procedure found that social role assignment significantly influenced Dominant behaviour in both men and women. What kind of roles are given to men and women that determines their characteristics also.

So, characteristics may change even for males and females depending on what kind of roles are given. So people displayed for example people displayed more dominance when assigned to supervisor roles. More submissiveness when assigned to subordinate roles regardless of their gender. So, what kind of roles are given that influence their characteristics, whether male or female? So when females are even given kind of, you know in a supervisory role, they show specific dominant characteristics, which are dominant traits. Even when males are given subordinate roles, they show submissiveness or feminine qualities, and so on. Sometimes, the kind of roles given also determine behaviour, and because consistently females were given specific roles and males were given specific roles, that influenced their characteristics. The social role theory is increasingly testable in family and occupational dynamics because it changes today. Women are more in breadwinning roles, and men are assuming greater responsibilities for domestic duties. Nowadays, scenarios are changing in terms of the roles each gender plays.

Even in same-sex relationships or homosexual households, chores are allocated more equally, presumably due to less emphasis on traditional sex-typical behaviour. Now this is changing, so the patterns should also change. So, it is easier to see this social role theory today. Because roles are changing, that means characteristics should also change.

However, this prediction that sex differences will diminish as society becomes more equal or egalitarian has not been consistently supported. Research did not show very consistent support for this idea. For example, a study of more than 17,637 individuals in 55 cultures found that the most gender-egalitarian countries showed the most significant sex differences in personality. Even in countries with few gender differences in opportunities,

substantial sex differences were observed in personality characteristics. The surprising result suggests that personality traits and sex differences might be less critical in collectivist cultures and more freely expressed in more developed parts of the world.

So, this suggests that it is possible that in certain cultures, Personality trait differences might be less significant and more freely expressed in, let us say, developed cultures. So, even though they are equal, their inherent traits are freely expressed. So, certain cultural elements may play a role here. So the idea is socialisation and social roles can play a vital role. However, it still shows that there may be specific inherent differences between males and females regarding particular preferences. However, much of it could also be attributed to social roles or the kind of socialisation that a child goes through from childhood.

This can also help make these differences in psychological characteristics, which ultimately lead to personality differences. So, one factor is the socialisation aspect. Another suggestion is that there may also be actual hormonal differences—hormonal theory—which leads to these gender or sex differences in terms of behaviour. So, these hormonal theories of sex differences suggest that men and women exhibit different behaviours not due to social environment but because of their underlying physiological or hormonal differences in the body. These physiological differences, rather than social treatment, are believed to be the leading cause of these behavioural differences.

Several studies try to examine this link, particularly hormones related to testosterone, certain sex-linked behaviours and so on. Some studies show in-utero hormonal influence. This means when a child is in the uterus before birth. Evidence indicates that hormonal influence on sex differences begins in the uterus itself. For instance, congenital adrenal hyperplasia (CAH). It is a condition in females which results in hormonal masculinisation. So some females become more of a masculine quality in terms of physical attributes.

So this condition can happen, which leads to preferences for male-typical toys. And better performance in traditionally masculine cognitive tasks and occupations. So their behaviour also becomes much more masculine in terms of, which are very similar to masculine characteristics.

This may be because of the impact of in-utero hormonal influences, so even though biologically they are females, they become much more similar in terms of masculine qualities, which might have happened because of specific hormonal impacts on the child when she was in the uterus. This suggests that fetal hormone exposure can have a lasting effect on gender-related interests and abilities that can change specific differences. This is

one of the pieces of evidence that shows how hormones can make differences in even personality characteristics. Another aspect is circulating hormone levels that are there in the body, which can also lead to gender differences in terms of behaviour.

So, after puberty, men and women have significantly different levels of circulating testosterone as a hormone. Their levels are very different in males and females. That also impacts behaviour. So, women's testosterone levels are low in the lower range. That is about 200 to 440 picograms per millilitre.

Blood levels vary depending on the menstrual cycle phase, whereas men's are between 5,140 to 6,460 picograms. So the level is much higher—even more, somewhere around double what women have in terms of testosterone level. These differences are associated with traditional sex differences in behaviour, such as aggression, dopamine, dominance, and career choices. So, testosterone has an impact on all psychological characteristics. It influences or makes people more aggressive. This higher testosterone level may influence dominance, career choices, and all psychological traits.

That is why males show more of these characteristics compared to females. Higher testosterone levels in women are linked to pursuing male-typical. Some women, when testosterone levels increase, are connected with pursuing male-stereotypical careers and tremendous career success, while higher testosterone in both sexes is associated with greater dominance and aggressiveness. So even if a female has a higher testosterone level, it shows similar higher aggression and so on.

So, these hormones could play a role in terms of psychological characteristics. The problem with all of these studies is that it is challenging to find causation because these are primarily correlational studies where you see if one is high, then something else is high. So, if the testosterone level is high, then there is more aggression. So, there is a correlation. But is it causation?

Is it causing it or not? It is not so easy to make such a conclusion. While higher testosterone levels correlate with certain behaviours, causation is not easy to establish, or in most cases, it isn't easy and not established. Some studies suggest that an increase in testosterone follows a rise in status and dominance rather than preceding them. So it is possible the other way around can also happen. Research shows when you become highly dominant or when you achieve success in certain aspects of life, your testosterone level increases. So, is it because of testosterone that you are showing this quality, or is it because you are showing this quality that testosterone is increased? So, testosterone levels are rising.

Probably, it can be in both ways. For instance, sports fans of the winning team. They had higher testosterone levels than those whose team lost. So, it was found that for fans who associated themselves with a winning team, their testosterone levels increased compared to those associated with a losing team. So this bidirectional relationship indicates behaviour can influence hormonal levels and vice versa. So, it is possible that your behaviour can affect your hormonal levels, and sometimes hormonal levels can also impact your behaviour. So it can be in both ways. Possibly, there is a hormonal influence on gender differences because certain hormones can impact your psychological characteristics.

The last one is evolutionary theory, which tries to explain why gender differences exist in the first place and why it is happening. So, evolutionary theory mainly focuses on reproductive success. Anything that supports reproduction and the propagation of species is supported by nature. Nature wants the species to continue in the future. So, any characteristic that promotes the possibility of reproduction and future progression—future generations—nature will support that because that is the whole idea of nature.

It wants to evolve. It wants to go to the next phase. So, the evolutionary theory mostly looks at that aspect. So, evolutionary psychology says that human characteristics, whatever they are, evolved to solve adaptive problems related to survival and reproduction. Nature will promote anything that helps you to survive and reproduce. It will be passed on to the next generation. So, according to this perspective, both sexes, male and female, develop, in many cases, similar characteristics in response to common challenges. When there is a common challenge, they develop identical things. Like finding adequate food and shelter but will exhibit differences where they have faced distinct challenges.

Reproductive challenge because they face specific distinct difference reproductive difficulties throughout history, so they develop particular differences. Also, they face similar obstacles and have identical characteristics, and the traits that enhance reproductive success are more likely to be passed through to the next generation. This trait is a universal gender difference across various cultures and environments. So, anything that enhances the possibility of reproductive success is more likely to be passed on. If anything is related to the female gender, it will be passed on, which helps them to reproduce successfully. Anything related to male reproductive success will be passed on to the next generation.

So, reproductive challenges are different for both males and females. Women face substantial reproductive investment. They face much higher investment. They can only conceive once a month, carry a fetus for 9 months and provide extended care for a helpless

infant. So, the burden on them is much higher than for males. So, this high investment drives women to be selective about their mates, preferring partners who can offer resources and support.

Consequently, women generally place higher value on a mate's status and ambitions and are less inclined toward casual sex and so on. This is more likely because those characteristics will help them survive and promote their reproductive success. So nature will promote these kinds of characteristics. In contrast, men can reproduce with less biological investment, leading to different mating strategies. Evolutionary pressures have favoured men who seek multiple partners, engage in casual sex, and exhibit risk-taking and aggressive behaviours to compete for female partners and so on.

This is because their reproductive challenges are different from those of females. So that also leads to other characteristics in them. Men also prioritise physical attractiveness in mates, signalling health, fertility, etc. So biologically, evolution promotes certain things, specific signals, and specific characteristics for reproductive success; for both genders, it is different. In terms of psychological attributes like jealousy and infidelity, there are also gender differences.

Evolutionary psychology also explains sex differences in jealousy. Women are more affected by emotional infidelity, which threatens the security of their resources, while men are more concerned with sexual infidelity, which threatens the certainty of their paternity. So emotional infidelity—emotionally not supporting—is something that influences women more. Sexual infidelity is something that influences males more, mainly because it is related to their certainty of paternity and so on. So, evolutionary forces will influence those emotional behaviours.

These differences in jealousy have been consistently observed across cultures and have a significant effect. Both self-reported and physiological measures support this pattern, and so on. So these are kind of guided by evolutionary forces. So these are different theoretical explanations for why there might be gender differences in personality traits, and each has its own explanation. An integrative perspective can be more helpful in understanding gender differences.

The theoretical accounts we have examined seem very different. All are explained from various perspectives, but they are not incompatible. They are all touching on multiple aspects. So, to some extent, they operate at different levels of analysis.

Evolutionary psychology suggests why the sexes differ. Males and females differ. But it does not specify how they become different. Hormonal and socialisation theory explains in detail how these gender differences emerged. Males and females became different but it does not say why. So, the answer is given more clearly by evolutionary theory. This aspect is given a more precise explanation by socialisation theory. So, like this, these are all different theories. They are trying to explain various aspects of it.

An integrated theory of sex differences would look at different levels of analysis and can give a much better understanding of the reasons behind gender differences. So, these are a few things about gender differences in personality. We will discuss some other aspects in the following lecture on the socio-cultural aspect. With this, I stop here.

Thank you.