

AQA Psychology A-level

Option 1: Gender

Notes



Gender

Part 1 – Sex and Gender:

- There is a clear-cut difference between sex and gender. Sex, on the one hand, is a biological term which describes the biological idea of being male or female. For example, different sexes will have different sex chromosomes, genotypes (XX or XY), gene expression, hormone types and levels. Gender, on the other hand, is a social construct and allows each individual to identify themselves as being either feminine or masculine. This in turn influences the way in which they behave, how they choose to dress themselves and also how they introduce themselves.
- Therefore, you cannot choose your sex, but you can choose your gender. Sex means that there are uncontrollable internal workings, whereas gender means that you have some control over how you behave and present yourself.
- With such differences between sex and gender comes gender-identity disorder, which occurs when a person's sex is not in accordance with their gender. To resolve this, individuals may identify as being transgender, and/or undergo gender transitioning. This changes the person's sexual identity through changing their reproductive organs and hormone levels.
- The fact that the majority of people view their sex and gender as being in accordance may have led to the development of sex-role stereotypes, which describes the expectations and perceptions that individuals and society have as to what is appropriate behaviour for each sex. This leads to the development of stereotypes, as to how each gender should behave e.g. women typically looking after the children and being more compassionate than men. However, this also results in a 'justification' for discriminatory practices on the basis of sex, such as denying women well-paid but potentially stressful work opportunities in the fear that they will not be able to manage.

Part 2 – Androgyny and the BSRI:

- Androgyny describes someone who, from a psychological standpoint, displays a balance of both 'masculine' and 'feminine' characteristics. This may include, for example, a woman who enjoys playing football, who actively researches the latest sports cars and who may also be aggressive.
- Therefore, androgyny can be viewed from two perspectives - personality and appearance. An androgynous personality is described above, whereas an androgynous appearance would be one which is obviously neither male nor female.
- In order to measure this 'balance', Bem (1974) developed the Bem Sex Role Inventory. 20 items represent typically male characteristics, the next 20 represent typically female characteristics and the final 20 represent neutral characteristics. Through a self-report 7-point Likert scale, participants rate their own personality, which is then measured across the two dimensions of androgyny (or undifferentiated) and masculinity (or femininity).

— The major methodological issue with Bem's scale is the fact that it is a self-report measure. Since androgyny is a type of gender and so can be considered a social construct, it is a very subjective idea and so each individual will have differing opinions about the 'extent' to which they are androgynous. This is in contrast with sex, which is biologically-determined and so can be objectively measured. Therefore, Bem's scale may be an unreliable measure of personality.

+ **However**, there is evidence supporting the reliability and validity of the scale. For example, the BSM underwent a pilot study with 1000 students who rated their personality according to the masculine, feminine and neutral characteristics, and found that the classification given by the BSM mostly agreed with the student's own



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perception of their personality, suggesting that the BSM measures what it intend to measure i.e. has high validity. The same occurred when the test was administered 1 month later, showing that the characteristics identified by Bem are not restricted to each testing period.

— Bem's BSRI may be considered an over-simplification of such a complex and subjective social construct as gender, as suggested by Golombok and Fivush (1994). These researchers suggested that the BSRI does not consider smaller, but still important, aspects of gender and androgyny, such as a person's interests. Therefore, the Personal Attribute Questionnaire (PAQ) may be a more suitable alternative, due to measuring personality along different, but more 'personal' dimensions i.e. expressivity and instrumentality.

Part 3 – The Role of Chromosomes and Hormones:

- Chromosomes are small sections of DNA, containing genes which code for proteins and hormones. Hormones are particularly important for the development of a foetus as either male or female.
- After fertilisation, the nucleus of the fertilised ovum is diploid, and so contains the full genetic set of 46 chromosomes, arranged in 23 pairs. The 23rd pair are described as the sex chromosomes or 'autosomal'. The genotype for females is XX, whilst the genotype for males is XY.
- The Y chromosome is particularly important because it signals the foetus to develop as a male, due to the presence and activation of the SRY gene which produces androgens. These male hormones trigger the development of the male reproductive organs (testes) and triggers the cascade for the production of testosterone (secreted from the adrenal glands) at higher concentrations, compared to females.
- High levels of testosterone have been closely associated with increased levels of aggression - a characteristic typical trait of males. This has served an evolutionary purpose, in terms of increasing the ability of the male to protect their female, reducing the likelihood that she will be impregnated by a competing male and so increasing the likelihood of the survival of the male's genes.
- Evidence for this link comes from animal studies where castration of male animals results in temperament changes, where they become calmer and less aggressive (the opposite was shown by Van de Pol et al).
- Oestrogen is the female sex hormone, and triggers the development of female reproductive organs (e.g. fallopian tubes, ovaries and the vagina) as well as triggering the increased irritability and emotion nature of women during menstruation, classified as PMS.
- Oxytocin has been described as the 'love hormone' because it provokes feelings of intimacy and closeness. Women have higher levels of oxytocin than men, which may contribute to the stereotype that women are more caring and affectionate than men, as well as the male focus on sex rather than intimacy in relationships.
- Oxytocin also has an evolutionary advantage - it is released in high concentrations before and after birth, allowing the mother to bond with her baby and recover from childbirth through the suppression of cortisol (the 'stress' hormone).

+ **There** is much evidence to support the idea that the types and concentrations of hormones present in the body and the developing foetus dictates the development of gender as either male or female. For example, Dabbs et al (1995) found that offenders who'd committed aggressive or sexually abusive crimes were more likely to have high levels of the male androgen testosterone. This is exactly what would be predicted by the current knowledge we have of the role of testosterone, and supports the differences between male and female characteristic traits being due to differences in hormonal concentrations.

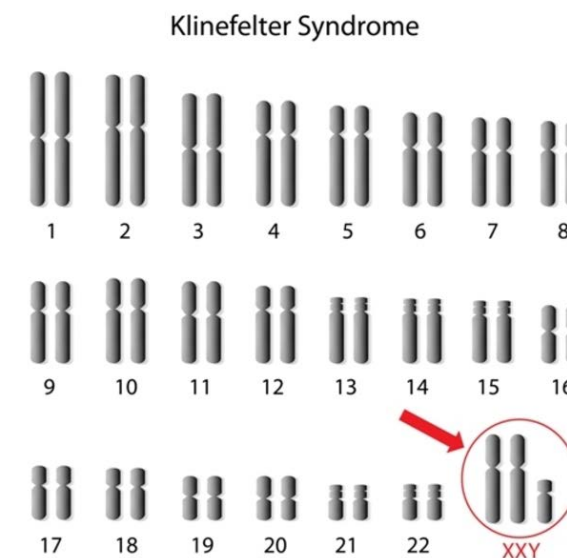
— However, explaining gender entirely in terms of the actions of chromosomes and hormones may be an oversimplification of such a complex social construct by ignoring differences within genders, and an example of biological determinism, as suggested by Maccoby and Jacklin (1974). In line with the idea of sex-role stereotypes, through the mechanism of social learning theory, we could accuse society of encouraging individuals with typically strong masculine or feminine characteristics to act as role models for young children, who would imitate these characteristics through the use of mediational processes (attention, retention, motivation and motor reproduction).



— The reliance on biology as an explanation for gender differences may act as a type of ‘scientific justification’ for discriminatory practices based on gender, especially concerning PMS. For example, Brescoll and Uhlman argue that PMS is simply a social construct, which medicalises female anger and therefore allows others, specifically men, to dismiss these feelings as simply ‘being hormonal’. This may lead to women being denied well-paid, highly stressful jobs in the view that they’ll be unable to handle it!

Part 4 – Atypical Sex Chromosome Patterns:

- The typical sex chromosome pattern for males is XY and for females, is XX. However, atypical sex chromosome patterns can result in Klinefelter’s Syndrome for males, and Turner’s Syndrome for females.
- Klinefelter’s Syndrome is characterised by the genotype XXY, and affects those who are biological males. However, due to this additional X chromosome, sufferers develop facial and physical characteristics similar to that of a female e.g. a soft face with no prominent jawline and gynecomastia (development of breasts, and therefore the associated risks of breast cancer). From a psychological viewpoint, individuals with Klinefelter’s Syndrome are generally clumsy (perhaps due to their long limbs) and achieve poorer than average scores on tests assessing visuo-spatial and reading skills. Therefore, the psychological and cognitive symptoms are generally negative.
- Turner’s Syndrome is classified as an absence of two copies of the X sex chromosome, resulting in only 45 chromosomes and a genotype of X0. Females with Turner’s Syndrome develop facial and physical characteristics similar to that of a male e.g. broad shoulders and neck, a lack of menstrual cycles or ovaries (resulting in sufferers being infertile, but still able to reproduce through IVF) and having the appearance of being ‘young’ and developmentally immature. Sufferers will display significantly advanced reading skills, but struggle with social communication and visuo-spatial tasks. Therefore, the psychological and cognitive symptoms can be positive!
- The key differences between the two syndromes are who they affect (males or females), the symptoms they produce, their effects on chromosome numbers (those with Klinefelter’s Syndrome still have the normal 46 chromosomes) and the positive or negative nature of these symptoms.



— The emphasis on biology and genetics as an explanation for the psychological and behavioural differences between sufferers of Klinefelter’s and Turner’s Syndrome compared with the neurotypical population, is another example of jumping to make causal conclusions, as well as being guilty of biological determinism. Social influences on the sufferers, and particularly the ways in which they’re treated by others, can determine the development of the symptoms. For example, the idea that those with Turner’s Syndrome facing problems with social communication may be more due to feelings of insecurity over their physical appearance, as opposed to the biological basis of the Syndrome.

— The syndromes resulting from atypical sex chromosome patterns have made considerable contributions towards the nature versus nurture debate. However, the key problem with this is the focus on determining what is atypical on the basis of what is ‘typical’. This is highly subjective, especially considering that gender is in fact a social construct, and so what may be typical in the eyes of one person, for example in terms of social skills in the case of Turner’s Syndrome, may be atypical in the eyes of another. This suggests that there is a lack of an objective method to measuring the utility of the contributions of these syndromes to the debate.



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+ An improved understanding of the biological basis and development of Klinefelter's and Turner's Syndrome may lead to the development of highly effective treatments for both. This includes the use of human growth hormone (of which sufferers of Turner's Syndrome are frequently deficient in) to help alleviate some of the associated symptoms, which may in turn reduce the psychological and social impairments in terms of social communication and 'fitting in'. Thus, this is a major practical application which can improve the quality of life and condition of sufferers.

Part 5 – Cognitive Explanations: Kohlberg's Theory:

- Kohlberg suggested that all children mature through the same 3 stages of gender development. This occurs inline with biologically-determined development in terms of physical appearance and intellectual/cognitive development (as discussed by Piaget in his sensorimotor, pre-operational, concrete operations and formal operations stages). Kohlberg argues that a child's understanding of gender becomes more advanced and accurate with time.
 - Stage 1 is the stage of gender identity, and occurs between the ages of 2 and 3 years old. At this point, the child is generally able to identify themselves as either male or female, but cannot do so for others. They also do not appreciate that their gender, as well as everyone else's genders, remains the same across time and different situations.
 - Stage 2 is the stage of gender stability, and occurs between the ages of 4 and 5 years old. At this point, the child appreciates that their own gender remains constant over time and place, but they do not understand that strangers can be 'female', for example, but still have male physical characteristics, such as short hair.
 - Stage 3 is the stage of gender constancy, and occurs at the age of 6 years old. The child appreciates that their gender, and the gender of everyone else, remains the same over time and place, and so are not confused by others who have characteristics of the opposite gender. They will seek out and imitate same-sex models to confirm their beliefs and expectations about appropriate behaviour.
 - Kohlberg suggested that through social learning theory, children imitate and develop the characteristics/personality traits of sex-role appropriate role models, who potentially have been identified as society or the media as being ideal or appropriate representations of what a male or female should be like. This may therefore be the beginning of the development of sex-role stereotypes, and so may not always be a positive outcome.
- + There is evidence to support Kohlberg's theory of gender development, and particularly the differences in behaviours displayed by children in the different stages. For example, Slaby and Frey (1975) found that children in Kohlberg's stage 2 of gender stability paid more attention and were more attracted to same sex-models who appeared on screens both at the same time, compared to children within the first stage of gender identity. This is in line with Kohlberg's prediction that children, once they have identified their gender and developed an appreciation that it is constant, will seek evidence to reinforce their beliefs e.g. from same-sex models through social learning theory.
- + Kohlberg may have encountered systematic errors when conducting the interviews from which he would base his theory upon. For example, since gender is such a complex construct, the interviewed children who were as young as 2-3 years old may have lacked an adequate understanding of gender to produce accurate and reliable results. Similarly, they may have lacked the appropriate vocabulary to express their views, which in turn could have created a false impression of their understanding of gender. This, alongside the problems of researcher bias due to Kohlberg conducting the interviews himself and having expectations (based upon his stages of intellectual development), means that the stages of gender development/identity are likely to be biased and lack ecological validity.

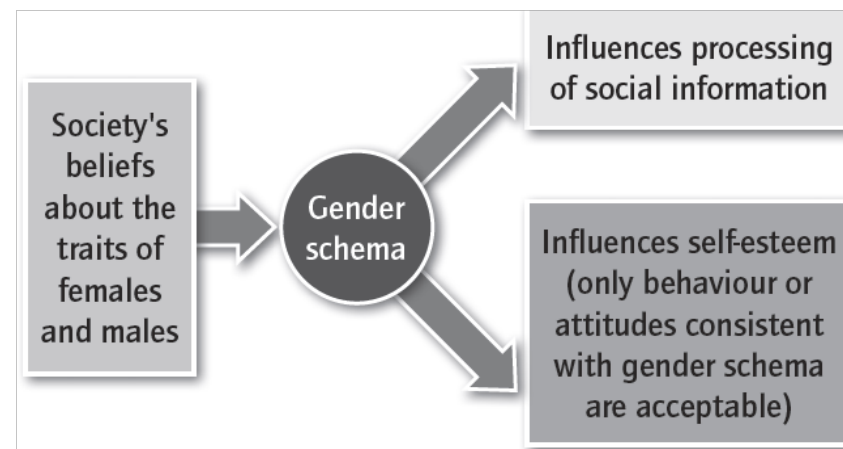
¹ Tanner JM, Whitehouse RH, Hughes PCR, *et al*/Effect of Human Growth Hormone Treatment for 1 to 7 Years on Growth of 100 Children, with Growth Hormone Deficiency, Low Birthweight, Inherited Smallness, Turner's Syndrome, and Other Complaints *Archives of Disease in Childhood* 1971;**46**:745-782.



- Kohlberg's stages of gender development and identity suffers from biological determinism as well as biological reductionism. This is because Kohlberg placed great emphasis on neurodevelopmental or maturational changes in the child, biological in origin, which were said to trigger transitions between the different stages. The theory also ignores the social influences, an example of determinism, which may affect the extent to which each child identifies with a specific gender e.g. parenting style, the parents' own gender identity, media portrayals of gender ideals and the various psychological and personality aspects of gender. Therefore, Kohlberg's theory may not be considered universal, as suggested by Munroe et al.
- An alternative but closely-linked explanation for gender development would be Piaget's theory of intellectual development. Egocentrism is the tendency of a pre-operational child to recall events from their own view and focus on their own perspective. Therefore, gender identity can be explained through egocentrism, as the child cannot take on the perspective of others to understand their gender identity too.

Part 6 – Cognitive Explanations: Gender Schema Theory (Martin and Halverson):

- Martin and Halverson agreed with Kohlberg in the idea that there is a positive correlation between increasing age and an increasingly sophisticated understanding of gender identity for each child, and so such an identity relies on experience.
 - These researchers also suggested that the development of gender identity is an active, rather than passive process. However, the key difference is that Martin and Halverson place far more emphasis on the development of schemas, as opposed to Kohlberg.
 - Schemas are mental frameworks of pre-conceived ideas and beliefs about certain people, object, situations or, in this case, gender identity. Martin and Halverson suggest that after a child begins to identify with a certain gender, around the age of 2 years old, they then actively seek out information and new experiences to help them confirm these beliefs, through increasingly sophisticated gender schemas. This is in contrast with Kohlberg, who believed that this 'searching' only occurs after stage 3 of gender constancy had been reached.
 - Initially, the child's gender identity schema is only likely to be based upon stereotypical male or female behaviours e.g. girls wearing pink and playing with dolls. However, as the child's schema becomes more comprehensive with experience, they have heightened self-esteem due to the increasing confirmation about their gender identity, which they receive from these schemas.
 - The development of children's gender identity schema creates an 'ingroup' (their own gender) and an 'outgroup' (other genders). Children between the ages of 3 and 7 years will generally only identify with their own ingroup, due to the self-esteem they gain from this, but develop an equal appreciation of the other outgroup at the age of 8.
- Gender schema theory takes on a hard determinist stance when explaining gender identity development. The theory suggests that, hypothetically, it should be possible to change a child's behaviour if you change their stereotypes or provide them with conflicting stimuli from the opposite gender. However, research, such as that conducted by Kane and Sanchez (1994) has found that schemas and pre-conceived ideas about



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gender roles and gender equality are very difficult to break and so have little impact on behaviour. This means that the idea of gender schemas takes a very rigid outlook on gender development.

- + **There** is evidence supporting the idea that gender schemas may actually change or distort memory. For example, Martin and Halverson found that children are more likely to remember gender-consistent, as opposed to gender-inconsistent, photos that have been displayed to them. Schemas may also impact the cognitive processing of gender-relevant information in such young children, as they have been shown the change the main characters in gender-inconsistent photographs to meet their own personal ideas and perceptions of gender constancy. This provides significant support for the influence of gender schemas.
- + **Gender** schema theory and Kohlberg's theory are best to be seen as complementary, rather than polar opposites. For example, Kohlberg's theory may explain the process of children acquiring motivation to confirm their gender identity, after reaching the stage of gender constancy, through seeking out experiences and role models which are gender-consistent. On the other hand, gender schema theory may describe a different process where such schemas distort the memory and perception of a child as to what is gender-consistent, to be followed up by Kohlberg's stages!

Part 7 – Psychodynamic Explanations of Gender Development:

- The psychodynamic approach suggests that all children mature through the same 5 psychosexual stages - oral, anal, phallic, latency and genital. Freud proposed that children's perception of gender identity develops in the phallic stage, before which they were considered 'bisexual' because they did not identify with either gender. Each psychosexual stage, including the phallic stage, is characterised by a conflict.
 - The Oedipus and Electra Complexes are the results of a child's attempt at resolving this conflict, and so occurs at the end of the phallic stage.
 - The Oedipus Complex suggests that boys suffer from castration anxiety and so fear their father, but at the same time despise their father for standing in the way of the boy realising their sexual desires felt towards the mother. However, as the child comes to terms with the fact that they will be unable to express their feelings, they instead identify with their father and internalise his values, through the process of internalisation.
 - Although females do not experience castration anxiety, they suffer from penis envy instead. This is where girls in the phallic stage despise their mother for not providing them with a penis (cutting of their penis at the same time as their mother had hers) and also for standing in the way of the child realising sexual desires towards their father. Therefore, in the same way as the Oedipus Complex, the girl identifies with the mother after accepting that she is not an 'obstacle' that can be removed.
 - Therefore, Freud placed great emphasis on the Oedipus and Electra Complexes as mechanisms of resolving the psychosexual conflict present in the phallic stage and thus in the development of gender identity.
 - These ideas can be supported using the case study of Little Hans, where Freud believed that Little Hans' phobia of horses was the result of the displacement (a defence mechanism) of castration anxiety from his father, onto the horse.
- Freud's psychodynamic explanations of gender development can be said to lack scientific rigour, as well as the emphasis on objectivity and replicability associated with the natural sciences. This is a particular problem with the case study of Little Hans - Freud conducted the interviews himself, drawing very subjective interpretations of the data, which is likely to have poor inter-rater reliability due to the multiple subjective conclusions which can be drawn. Therefore, the ideas of the Oedipus and Electra Complexes are far from universal, and is capable of little generalisability to the general population because a baseline comparison must be provided by further examples.
- There is a lack of clarity over the development of gender identity in females, particularly because the idea of an Electra Complex was developed by Jung, and not Freud. Horney has criticised the Electra Complex as suffering from androcentrism and gender bias, because it has assumed that girls have an innate predisposition to 'aspire' towards men, due to their penises, rather than conversely. For example, the same logic can be used to



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suggest that men are envious of the unique female ability to have children! Therefore, this may be considered a social construct, as opposed to a scientifically-proven maturational stage of gender development, which all children experience i.e. is not universal.

— There is also a lack of evidence supporting the idea of the Oedipus Complex. If a father was especially harsh, then it could be argued that this places more pressure on the boy to identify with the values of their father in order to resolve the increasingly large castration anxiety. However, Blakemore and Hill (2008) have demonstrated the opposite, where sons of more liberal fathers actually identify themselves as more masculine than those with strict fathers, which is not as predicted by Freud. Therefore, Freud's psychodynamic explanation of gender development appears to have little ecological validity and is not a universal concept.

Part 8 – Social Learning Explanation of Gender Development:

- Social Learning Theory suggests that learning occurs through experience and is learnt either directly (through operant or classical conditioning) or indirectly (through vicarious reinforcement). This process is facilitated by identified role models who may also be 'agents of socialisation' e.g. parents, teachers, best friends etc. Reinforcement increases the likelihood that the observed behaviours will be imitated, whilst punishment decreases this likelihood.
- One method of direct learning which is specific to gender development is differential reinforcement. This is where children are specifically rewarded by their parents or agent of socialisation, for displaying gender-appropriate behaviours e.g. girls being calm and affectionate towards others. This reinforces gender stereotypes and contributes to the child's gender identity.
- Learning can occur indirectly through vicarious reinforcement where, in the context of gender development, occurs when a child sees another same-sex child being rewarded for displaying gender-appropriate behaviours, who is considered to be a role model. The observer then imitates this modeled behaviour because they too want to achieve the same reward. This is facilitated by the 4 mediational (cognitive) processes which come between stimulus and response: attention, retention, motor reproduction and motivation.
- Role models are often socially desirable, the same sex as the observer, seen to have high social status or desirable characteristics e.g. popularity of wealth.

+ **There** is evidence supporting the idea that perceived gender-appropriate behaviours are vicariously reinforced by agents of socialisation. For example, Smith and Lloyd (1978) found that when 4-6 month olds were dressed up as girls, they were rewarded by adults for being 'pretty', calm and feminine, but when the same children were dressed up as boys, the adults rewarded them for playing with hammers, being aggressive and assertive. This demonstrates the significant social influence that children experience from an early age, which contributes to the formation of stereotypes and what is considered 'gender-appropriate' in that culture.

— A comparison with Freud's psychodynamic explanation of gender development would suggest there are significant differences. For example, the hallmark of the psychodynamic approach is the emphasis on unconscious internal conflicts between the different parts of the personality (Id, ego and superego) over which we have no control, as opposed to seemingly 'obvious' conscious mediational processes. Therefore, through the idea of psychic determinism, individuals are said to have no control over the resolution of such conflicts and therefore no control over their own gender development! This implies that unconscious forces are more important in gender development than the social influences of others, alongside the mechanisms of reinforcement.

— A comparison with the biological approach to explaining gender differences, specifically the role of atypical sex chromosome patterns and hormones such as androgens, suggests that SLT may suffer from an over-reliance on social influences on gender development. Therefore, it is now accepted that most researchers take a biosocial approach where they suggested innate biological differences can either be emphasised or even



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overridden through the mechanisms of SLT and (vicarious or differential) reinforcement. This means that SLT and the biological approach are at polar ends of the nature versus nurture debate, and that an interactionist 'middle-ground' would be a more accepted and accurate explanation of gender development.

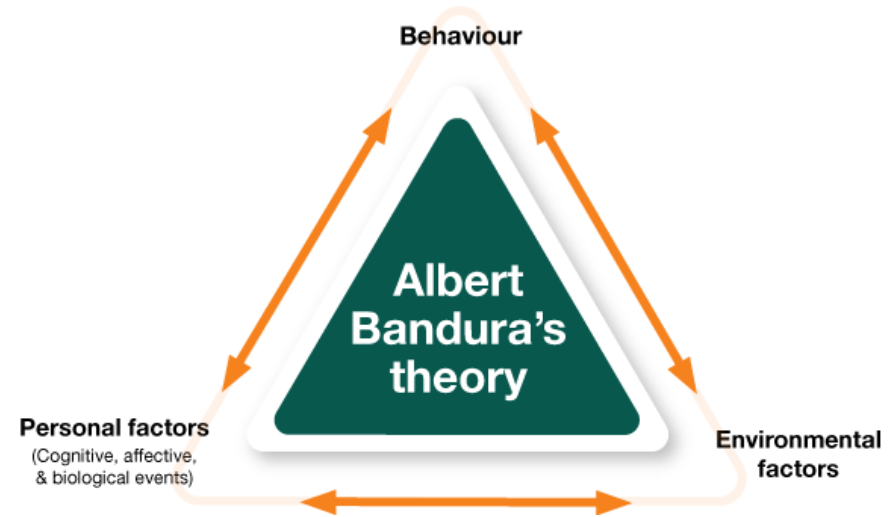
Part 9 – The Influence of Culture and Media on Gender Roles:

- Cross-cultural research can provide a useful insight into cultural differences in gender roles and therefore the potential role that media has to play. The foundation of such research was arguably established by Mead (1935) who found that within the same island of New Guinea, there were significant differences in the gender roles and temperaments of several tribes, such as the Arapesh and the Mundugumor. Therefore, gender may not entirely be biologically determined, but we are simply biologically predisposed towards identifying with one gender rather than the other, and this can be influenced by culture and media.
- However, there are also similarities between cultures concerning gender roles. For example, Munroe and Munroe (1975) suggested that the labour and tasks given to women and men, in the traditional sense, across various cultures is often determined by the traditional divide between men and women i.e. women tend to the house, whilst men are more skilled at manual labour.

— Mead's research may have suffered from observer bias and investigator effects because Mead had already developed hypotheses and so may have been more inclined to detail the behaviours which matched this hypothesis, as opposed to providing a true representation of the observed behaviours. Therefore, this reduces the validity of the conclusions that Mead drew about cultural differences in gender roles.

— Such cross-cultural research may also be guilty of imposed etic, as suggested by Bowlby. This is when researchers study behaviour from outside a specific group and generalise this as being universal. Just because cultural differences in gender roles exist within one culture does not necessarily mean that the same differences will occur in other cultures, or that there will be any differences at all!

- The media is heavily involved with shaping gender roles and stereotypes through the mechanism of social learning theory and by providing role models. Gender-appropriate behaviour displayed by role models is vicariously reinforced, and so is more likely to be copied by audience members of the same gender because they are motivated to achieve the same reward.
- The idea that the media provides 'gender-appropriate' stereotypes is supported by Bussey and Bandura (1999), who found that men are typically portrayed as independent thinkers whilst women are stereotyped as advice seekers. The effects of gender stereotyping is increased when the child is exposed to a larger variety of media and 'information giving' sources, as suggested by McGhee and Frueh (1980). The media also gives the audience a sense of the success they can achieve if they conform to these gender stereotypes, through the idea of self-efficacy, and so improves their self-confidence in their ability to achieve such behaviours.



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- The conclusions based on studies investigating the influence of media on gender roles must take into account the lack of control groups, because the vast majority of children are exposed to media on a consistent basis from a very young age. Therefore, there can be no statistical analysis to determine whether the influence of media is statistically significant and whether this influence is stronger than other confounding and extraneous variables which are also associated with media exposure e.g. the length and intensity of exposure.
- Not all media is used to reinforce traditional gender stereotypes e.g. 'Brave' (the movie) portrays a female character as relatively masculine, and so challenges the initial gender stereotype. However, Pingree (1978) demonstrated that female infants are more appreciative and accepting of media which presents other females in non-traditional roles, whilst male infants are more 'set in their ways', suggesting that there are significant gender differences in their perception of their own and the opposite gender's traditional stereotype and role.

Part 10: Atypical Gender Development:

- Gender identity disorder occurs when an individual believes that their biological sex is not in accordance with their gender, and so they choose to identify with the opposite gender. The distress and anxiety that comes from this means that GID is considered a psychological disorder.
- This disorder may have a genetic basis, as suggested by Zhou et al (1995). These researchers suggested that a potential cause for GID lies in the bed nucleus of the stria terminalis, which is significantly larger in males than in females, and was further supported by Kruijver et al (2000). If this dimorphic feature was to occur in females, then this may potentially cause the individual to favour identifying as a male, as opposed to a female.
- Genetic explanations have mainly focused on twin studies, as suggested by Coolidge et al (2002). These researchers found that GID occurred in 2.3% of 157 pairs of twins and that over half of such a prevalence could be explained by genetics. Considering that MZ twins share 100% of genes with each other, whilst DZ twins are 50% of their genes, this is also indicative of a biological/genetic basis for GID.
- There are two social-psychological explanations for GID: Psychoanalytic theory and cognitive explanations.
- Psychoanalytic theory was proposed by Ovesey and Person (1973) and later supported by Stoller (1973). This theory suggests that a key cause of GID amongst males is the fear of separation from the mother-figure during the critical period of attachment formation (i.e. the first 2 years of life) and so the child 'becomes' the mother themselves in order to reduce their anxiety, which may explain the preference of a male for identifying with a female gender.
- Liben and Bigler (2002) used a cognitive explanation - they suggested that the dual pathway occurs when children acquire attitudes and behaviours which are in accordance with gender stereotypes, whilst the personal pathway occurs when the child's interests exerts an influence on these traditional attitudes and behaviours, causing them to change due to their rapidly changing schemas on what it means to be male or female.
 - The findings from twin studies are not always conclusive because they cannot separate the effects of nature and nurture. For example, despite both dizygotic twins and ordinary siblings sharing 50% of their genes with each other, the former often have higher concordance rates than the latter. This may be due to DZ twins being more likely to be raised in a similar environment, and so exposed to the same social-psychological factors which may affect the development of GID. Therefore, twin studies should not be used to state that GID has a biological cause, but rather that there are biological vulnerabilities which must be paired with environmental stressors to increase the likelihood of developing GID, as proposed by the diathesis-stress model.
 - The focus on genetic factors means that such explanations are at risk of being guilty of biological determinism and therefore, oversimplifying the complex disorder that is GID. This suggests that a more holistic view should be taken when explaining GID, where multiple risk factors (both biological and social) are considered equally as each slightly increasing the likelihood of developing GID. This has links with the use of an interactionist diathesis-stress model, as discussed above.



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— The psychoanalytic theory proposed by Ovesey and Person may be considered limited and gender-biased because it only offers an explanation for the development of GID in males, because females (according to this theory) do not feel the same pressure to take on the role of the mother in fear of separation. This idea was supported by Rekers (1986), who suggested that GID in males is more motivated by the lack of a father during the critical period for attachment formation, as opposed to an absent mother. Therefore, the subjective nature of the unconscious concepts proposed by the psychoanalytic theory reduces the scientific credibility of such explanations.

