SimplyPsychology

A-LEVEL PSYCHOLOGY REVISION NOTES

Gender

AQA Psychology 7182 (A-level only)

2025 specification · spec section 4.3.3 · A-level Paper 3

Compiled by **Simply Psychology** · simplypsychology.org/gender.html

Contents

How to use these notes. Gender is an **A-level only** topic (Paper 3 option, AQA 7182). Key terms follow AQA's 2025 specification — note that several past-paper concepts have been removed or reworded.

Note on the 2025 specification — Gender is the most-changed Paper 3 topic. **Removed**: sex/gender as a separate concept; sex-role stereotypes; *androgyny* as a standalone bullet; Freud's psychodynamic explanation (Oedipus / Electra complex); the term *gender dysphoria*. **New**: *gender identities* (binary, non-binary, gender fluid); *diversity in sex development* (AIS, Klinefelter's, Turner's); and *gender incongruence* (replacing "gender dysphoria"). The Bem Sex Role Inventory is retained but now framed as a measurement instrument, not a freestanding "androgyny" topic.

AQA 2025 SPECIFICATION — GENDER CONTENT (A-LEVEL ONLY, PAPER 3)

- The role of **chromosomes and hormones** (testosterone, oestrogen and oxytocin) in biological sex. **Diversity in sex development**, including androgen insensitivity syndrome, Klinefelter's syndrome and Turner syndrome.
- **Gender identities**, including binary, non-binary and gender fluid. How gender has been measured using the **Bem Sex Role Inventory**.
- **Biological explanations of gender development**, including chromosomes and hormones.
- **Cognitive explanations of gender development**: Kohlberg's theory (gender identity, gender stability and gender constancy); Martin and Halverson's gender schema theory.
- **Social learning theory** as applied to gender development. The **influence of culture and media** on gender roles.
- **Gender incongruence**: biological and social/cultural explanations.

1 Chromosomes and Hormones in Biological Sex

> **SEX VS GENDER (BACKGROUND ONLY — NOT A 2025 SPEC BULLET)**
>
> **Biological sex** refers to the chromosomal, anatomical and hormonal characteristics with which a person is born. The 2025 spec covers biological sex through chromosomes and hormones, and decouples this from **gender identities** (Section 3).

Chromosomes

Humans have 23 pairs of chromosomes. The **23rd pair** determines biological sex:

- **XX** — typical female karyotype.
- **XY** — typical male karyotype.

The **Y chromosome** carries the **SRY gene** ("Sex-determining Region Y"). At about 6 weeks of foetal development, the SRY gene triggers the development of **testes**; in its absence, ovaries develop instead. The testes then produce testosterone, which drives the development of male reproductive anatomy.

Hormones — Three Key Examples

Hormone	Function in biological sex	Behavioural correlates
Testosterone	Produced mainly by the testes (smaller amounts by adrenal glands and ovaries). Drives development of male reproductive anatomy and secondary sex characteristics (muscle mass, deeper voice, facial hair).	Associated with aggression, risk-taking and competitive behaviour. **Wang et al. (2000)** — hypogonadal men given testosterone showed increased aggression and dominance.
Oestrogen	Produced mainly by the ovaries. Drives development of female reproductive anatomy, the menstrual cycle and secondary sex characteristics.	Associated with mood regulation. Fluctuations across the menstrual cycle have been linked to mood and emotional changes (PMS), although effect sizes are smaller than once claimed.
Oxytocin	Released by the pituitary gland in both sexes — but in much higher amounts in women, especially after childbirth and during breastfeeding.	Associated with mother–infant bonding, trust, social bonding and reducing the stress response. **Taylor (2000)** argued oxytocin underlies women's "tend-and-befriend" stress response.

Evaluation

Strength — biological evidence for hormonal effects (Wang et al. 2000). A major strength of the biological account is direct experimental evidence. Wang et al.'s (2000) finding that testosterone administration increased dominance and aggression in hypogonadal men supports a causal role for testosterone in male-typed behaviour. This is important because experimental manipulation (rather than correlation) shows the hormones cause the behaviour, not just accompany it. This strengthens the validity of the biological explanation.

Strength — applied value of hormone research. A further strength is applied value in medicine. Hormone replacement therapy is used to treat hypogonadism, menopause symptoms and aspects of gender-affirming care. Understanding hormonal effects on behaviour helps refine these treatments and predict side effects. This is important because applied success in medicine demonstrates the real-world impact of biological gender research.

Limitation — reductionism. A significant limitation is that focusing on chromosomes and hormones is **biologically reductionist**. Real-world gender development is influenced by social, cultural, cognitive and environmental factors as well as biology — reducing it to hormones and chromosomes oversimplifies. This is important because reductionist accounts can support deterministic claims that male/female behaviour is fixed by biology. This limits the explanatory range of the approach.

Limitation — correlational evidence for many hormone effects. A further limitation is that much hormone research is correlational. Higher testosterone correlates with aggression, but does not prove causation — aggressive behaviour itself can *raise* testosterone (Mazur and Booth 1998). This is important because the direction of causality between hormones and behaviour is often unclear. This weakens strong causal claims about testosterone (or oestrogen) "causing" particular behaviour patterns.

Limitation — overlap between sexes. A further limitation is that hormone levels overlap substantially between biological males and females. Some women have higher testosterone than some men; some men have higher oestrogen than some women. This is important because binary "male hormone" / "female hormone" claims are inaccurate — all three hormones are present in all bodies, just in different typical concentrations.

Conclusion. Chromosomes (XX/XY, SRY gene) and hormones (testosterone, oestrogen, oxytocin) provide the biological foundation of sex and influence many sex-typed behaviours. However, biological reductionism, correlational uncertainty and the substantial overlap between sexes mean biology is best understood as one influence among several, not the sole determinant of behaviour.

2 Diversity in Sex Development

The 2025 spec frames atypical chromosomal and hormonal patterns under the inclusive term **diversity in sex development** (formerly "atypical sex chromosome patterns" or "DSD"). The three required conditions are **androgen insensitivity syndrome (AIS)**, **Klinefelter's syndrome** and **Turner syndrome**.

Androgen Insensitivity Syndrome (AIS)

> **ANDROGEN INSENSITIVITY SYNDROME**
>
> AIS is a condition in which an individual has an **XY karyotype** (chromosomally male) but the cells of the body have **androgen receptors that do not respond** properly to testosterone. As a result, male reproductive anatomy does not develop typically.

- **Complete AIS (CAIS)** — cells do not respond to androgens at all. The person typically develops female external anatomy, is raised female, and identifies as female. They have no womb or ovaries, and have undescended testes.
- **Partial AIS (PAIS)** — cells partially respond to androgens. Anatomy can be ambiguous; assignment at birth varies.
- **Inheritance**: carried on the X chromosome; passed via the female line.
- **Frequency**: approximately 1 in 20,000 births.

AIS is theoretically important because it dissociates chromosomes (XY) from outward sex anatomy and from gender identity. Most people with CAIS identify as female despite having XY chromosomes.

Klinefelter's Syndrome (47,XXY)

> **KLINEFELTER'S SYNDROME**
>
> A condition in which a person has an **extra X chromosome** (47,XXY). The person is typically assigned male at birth and develops male anatomy, but with reduced testosterone and impaired fertility.

Physical features: tall stature; reduced facial and body hair; gynecomastia (some breast tissue); small testes; usually infertile.

Psychological features: often reported as quieter, less assertive, less aggressive than typical males; some cognitive differences (slower language development, reduced verbal IQ in some individuals).

Frequency: approximately 1 in 660 male births. Many cases are undiagnosed or diagnosed only in adulthood.

Turner Syndrome (45,X0)

> Turner syndrome
> A condition in which a person has only **one X chromosome** rather than two (45,X0). The person is typically assigned female at birth but lacks typical female reproductive development.

Physical features: short stature; webbed neck; broad chest; undeveloped ovaries (causing infertility); failure to menstruate without hormone treatment.

Psychological features: often reported as having higher-than-average verbal abilities; spatial and mathematical reasoning sometimes reduced; social and emotional development can be affected.

Frequency: approximately 1 in 2,500 female births.

Evaluation

Strength — diversity in sex development demonstrates the chromosomes–gender link is not absolute. A major strength of studying these conditions is what they reveal about typical development. The fact that most people with CAIS (XY karyotype) develop a female identity shows that chromosomes alone do not determine gender. This is important because it provides natural-experiment evidence on the relative contributions of biology and environment in gender development. This strengthens the case for an interactionist account.

Strength — practical / medical applications. A further strength is medical importance. Identifying and supporting individuals with diversity in sex development requires careful, evidence-based care — including counselling, hormone treatment where appropriate, and (in some cases) surgical decisions. Psychology research informs this care. This is important because the field has direct real-world value for affected individuals and families.

Limitation — small samples and individual variation. A significant limitation is that these conditions are rare (especially CAIS at 1 in 20,000), so most research uses small samples and reports may overstate average differences. There is substantial individual variation within each condition. This is important because group-level findings may not transfer to any particular individual. This limits the strength of generalisations.

Limitation — confounding from social and clinical factors. A further limitation is that people with diversity in sex development often face social stigma, medical interventions, and unique developmental trajectories. Behavioural differences attributed to "chromosomes" may actually result from these social/clinical experiences rather than the underlying biology. This is important because it makes drawing clean biology-vs-environment conclusions difficult.

Limitation — socially sensitive research. A further limitation is that research in this area is **socially sensitive**. Findings can be misused to stigmatise affected individuals, support biological-essentialist views of gender, or contribute to harmful surgical practices on intersex infants. This is important because psychologists have an ethical responsibility to communicate findings carefully and to support affected communities rather than pathologise them.

Conclusion. Diversity in sex development is a small but theoretically and clinically important field. Studying AIS, Klinefelter's and Turner's reveals that the typical XX/XY pathway is not the only one, and that chromosomes alone don't determine gender. Findings must be applied with care because of the social sensitivity of the research.

3 Gender Identities and the Bem Sex Role Inventory

The 2025 spec recognises that **gender identity** is distinct from biological sex. Gender identity is a person's *internal sense* of who they are in terms of gender. The spec requires knowledge of three identity categories: **binary, non-binary, and gender fluid**.

Three Gender-Identity Categories (2025 spec)

Identity	What it means	Example
Binary	A person identifies as *either* male *or* female. This includes both cisgender people (whose gender matches their birth-assigned sex) and binary trans people (e.g. a transgender woman who identifies as female).	A cisgender woman; a transgender man who identifies as male.
Non-binary	A person does not identify as exclusively male or exclusively female. They may use terms like genderqueer, agender, or simply "non-binary".	A person who identifies as neither male nor female and uses they/them pronouns.
Gender fluid	A person's gender identity is not fixed and may change over time — sometimes more masculine, sometimes more feminine, sometimes neither.	A person who feels female on some days, male on others, and sometimes neither.

The 2025 spec treats the **gender binary** (the assumption that everyone is either male or female) as a *social construct*. Oakley (1972) identified four mechanisms by which children are socialised into the binary: **manipulation** (handling boys and girls differently), **canalisation** (channelling them toward different toys), **verbal appellation** (calling them gendered names like "tough little boy") and **different activities**.

Measuring Gender — The Bem Sex Role Inventory (BSRI)

Sandra Bem (1974) developed the **Bem Sex Role Inventory**, the most widely used measure of gender characteristics in psychology research.

How the BSRI works

- **60 items**: 20 traditionally "masculine" traits (e.g. assertive, independent, athletic), 20 traditionally "feminine" traits (e.g. affectionate, gentle, sympathetic), and 20 filler items.
- Respondents rate themselves on each item on a 1–7 Likert scale.
- Scores produce four categories:
  - **Masculine** — high masculine, low feminine.
  - **Feminine** — high feminine, low masculine.
  - **Androgynous** — high on both.

- **Undifferentiated** — low on both.

2025 spec note: the BSRI is now framed as an example of how psychologists have **operationalised gender measurement**, NOT as a freestanding "androgyny" topic. Androgyny as a separate bullet has been removed.

Evaluation

Strength — BSRI was rigorously developed. A key strength of the BSRI is that Bem developed it carefully. She had 100 American judges rate hundreds of traits as desirable for males or females; items were included only if there was consensus. The inventory was then tested for reliability (test-retest after one month) and produced consistent results. This is important because it gives the BSRI a stronger psychometric foundation than many earlier gender measures. This strengthens the validity of the instrument.

Limitation — BSRI is dated and culturally specific. A significant limitation is that the BSRI was developed in 1974 with American samples. Concepts of "masculinity" and "femininity" have changed substantially since then and vary across cultures. The 20 "masculine" and 20 "feminine" items reflect 1970s American gender stereotypes — many of which would now be seen as outdated. This is important because the BSRI's items may not capture how gender is currently understood. This limits its temporal and cross-cultural validity.

Limitation — binary framework limits relevance to contemporary gender identity research. A further limitation is that the BSRI itself operates on a **two-dimensional framework** (masculine × feminine). This makes it possible to score "androgynous" but does not capture the full range of gender identities (non-binary, gender fluid). This is important because if the measurement instrument cannot represent contemporary gender identities, it cannot adequately operationalise modern conceptions of gender. This reduces the relevance of the BSRI for current gender-identity research.

Strength — gender-identity framework is more inclusive and evidence-based. A strength of the 2025 spec's inclusion of binary, non-binary and gender-fluid identities is that it reflects accumulating evidence on gender diversity. Large-scale surveys (e.g. Pew Research) have shown that around 5% of young adults identify as non-binary or gender-fluid; failing to include these identities in research samples produces an incomplete picture. This is important because including diverse identities supports more accurate psychology of gender.

Limitation — socially sensitive research on identity. A further limitation is that research on non-binary and gender-fluid identities is highly **socially sensitive**. Findings can be misused to support or deny the validity of these identities, with significant real-world impact. This is important because researchers have an ethical responsibility to handle findings with care.

Conclusion. The 2025 spec's treatment of gender identities is more inclusive than the older framework, and the BSRI remains a useful measurement instrument although it is dated. The shift from a binary "androgyny" framework to recognising binary, non-binary and gender-fluid identities reflects accumulating evidence and contemporary social understanding.

4 Biological Explanations of Gender Development

Biological explanations propose that gender-typed behaviour develops because of innate biological factors — primarily **chromosomes** and the action of **hormones** on the brain during prenatal development. This builds on Section 1 (biological sex) but focuses on how biology drives *behavioural* and *identity* development, not just anatomy.

The Role of Chromosomes

The XX/XY chromosome pair sets up gender development by triggering the development of testes or ovaries (via the SRY gene). The resulting differences in hormone production then influence the brain and body. Critically, gender development is *not* a direct effect of chromosomes — it is mediated by hormonal effects, particularly during the second trimester of pregnancy.

The Role of Hormones — Prenatal Exposure

The strongest evidence for biological explanations of gender development comes from research on **prenatal hormone exposure**. During a critical window in the second trimester, the developing foetal brain is exposed to testosterone — high in foetuses with testes, low in foetuses with ovaries. This produces a degree of **brain sexual dimorphism** — small but measurable differences in some brain structures.

Key research

- **Congenital Adrenal Hyperplasia (CAH)** — a condition in which the adrenal glands produce excess androgens during foetal development. Berenbaum and Bailey (2003) found that XX girls with CAH (exposed to higher prenatal androgens) showed more male-typed play behaviour than unaffected sisters — including preferring trucks over dolls.
- **Hines (2011)** reviewed prenatal hormone studies and concluded that prenatal testosterone has a measurable but modest effect on later gender-typed behaviour.
- **Brain sex theory** proposes that some gender-incongruent individuals have a brain anatomy more typical of the opposite biological sex (Zhou et al. 1995 — BSTc nucleus). See Section 8 for more.

Evaluation

Strength — CAH evidence supports prenatal hormone influence (Berenbaum and Bailey 2003). A major strength of the biological account is the natural experiment provided by CAH. XX girls with CAH have been exposed to higher prenatal testosterone than typical and show more male-typed behaviour — exactly as the biological account predicts. This is important because CAH provides a rare opportunity to study the effects of prenatal hormones while keeping chromosomes and socialisation otherwise constant. This strengthens the case for prenatal hormones in gender development.

Strength — biological account explains cross-cultural similarities. A further strength is that the biological account explains the considerable cross-cultural similarities in gender-typed behaviour (e.g. children's toy preferences differ by sex in most cultures studied). If gender were purely cultural, we would expect more variation between cultures. This is important because cross-cultural consistency suggests an underlying biological contribution. This strengthens the biological approach as a partial account.

Limitation — biological reductionism. A significant limitation is the reductionism of the biological approach. Reducing gender development to chromosomes and hormones ignores cognitive (Sections 5, 6), social-learning (Section 7) and cultural factors. This is important because real gender development involves all of these layers — biological accounts alone are incomplete. This supports an interactionist view.

Limitation — biological determinism. A further limitation is the deterministic implication. If biology drives gender development, this can be used to argue that gender-typed behaviour is fixed and natural, opposing efforts to change harmful gender stereotypes. This is important because it is socially sensitive — biological-determinist claims have been used historically to limit women's opportunities and to oppose support for trans and non-binary identities. Researchers must be careful about how findings are communicated.

Limitation — alternative cognitive and social-learning accounts. A further limitation is the existence of well-evidenced alternative accounts (cognitive — Sections 5–6; SLT — Section 7). Children develop gender schemas; they observe and imitate role models; they are shaped by culture and media. These accounts explain considerable gender-related behaviour without invoking biology, and provide better explanations of *variation* in gender behaviour across cultures and time.

Limitation — small effect sizes from prenatal hormones (Hines 2011). A further limitation is that prenatal hormone effects, while real, are modest in size. Most variation in gender behaviour is not explained by prenatal hormones. This is important because biological accounts can overstate the importance of prenatal exposure as a determinant of adult gender.

Conclusion. Biological explanations of gender development are well supported by CAH research and cross-cultural consistency in gender-typed behaviour, but the effect sizes are modest and the approach is reductionist. The best contemporary view is interactionist: biology contributes a foundation that cognitive, social-learning, cultural and media influences then shape.

5 Kohlberg's Cognitive Theory of Gender Development

Kohlberg (1966) proposed a cognitive-developmental theory of gender. Gender understanding develops in **three stages** as the child's thinking matures — paralleling Piaget's broader theory of cognitive development. Each stage marks a qualitative shift in how the child understands gender.

The Three Stages

Stage	Age	What the child understands
1. Gender identity	~2–3 years	The child can correctly label themselves and others as "boy" or "girl" based on outward appearance. But they do *not* understand that gender is stable over time. A 3-year-old boy might say he will be a mummy when he grows up.
2. Gender stability	~4–6 years	The child understands that gender is *stable over time* — a boy will become a man; a girl will become a woman. However, they may still believe gender can change with appearance: if a boy puts on a dress, they may think he becomes a girl.
3. Gender constancy	~6–7 years	The child fully understands that gender is *constant across both time and situations* — a person remains the same gender even if they change clothes, hair or activities. At this stage, the child actively seeks out gender-appropriate role models to learn from.

Once a child has reached **gender constancy**, they actively use their stable gender concept to guide their behaviour and to seek out information about how their gender behaves. Kohlberg argued that gender-typed behaviour increases sharply after gender constancy is achieved.

Key Research

Slaby and Frey (1975). Children aged 2–5 were rated for their level of gender constancy. They were then shown a film of male and female adults performing simple activities side-by-side. Children with higher gender constancy spent significantly more time watching the same-gender model — supporting Kohlberg's claim that gender constancy drives same-gender role-model preference.

Evaluation

Strength — supporting research (Slaby and Frey 1975). A key strength of Kohlberg's theory is supporting evidence from Slaby and Frey. Children high in gender constancy paid more attention to same-sex models — exactly as the theory predicts. This is important because if attention to gender-appropriate models begins only after gender constancy, this confirms Kohlberg's claim that the cognitive stage drives social learning rather than the other way round. This strengthens the validity of the theory.

Strength — cross-cultural support. A further strength is the broad cross-cultural support for Kohlberg's stages. **Munroe et al. (1984)** found the same sequence of stages in Kenyan, Samoan, Nepalese and Belizean children. This is important because if the stages reflect universal cognitive development, they should appear across cultures — and they do. This strengthens the validity of Kohlberg's stage-based account.

Limitation — gender-typed behaviour appears before constancy. A significant limitation is that gender-typed behaviour appears earlier than Kohlberg's theory predicts. **Bussey and Bandura (1992)** found that 4-year-olds already preferred to play with same-sex peers and gender-typed toys — well before they achieved gender constancy. This is important because if gender preferences emerge before constancy, the theory's central claim (that constancy drives gender-typed behaviour) is undermined. This supports gender schema theory (Section 6), which proposes that gender-typed behaviour can begin in stage 1.

Limitation — methodological problems with constancy testing. A further limitation is methodological. Standard constancy tests show a child a photo of a girl, then a manipulated photo of the same girl with short hair, and ask "Is this person a girl or a boy?" Younger children's answers may reflect what they think the experimenter wants, or confusion about the task — not their underlying gender concept. **Bem (1989)** showed that children given a "naked" version of the test (where genital information was provided) demonstrated gender constancy much earlier. This is important because the standard constancy task may underestimate young children's gender understanding.

Limitation — ignores social and biological factors. A further limitation is that Kohlberg's purely cognitive account ignores both biological influences (Section 4) and social learning (Section 7). Real gender development involves cognitive maturation *plus* hormonal foundations *plus* social modelling. This is important because a purely cognitive account is incomplete. This supports an interactionist view.

Limitation — based on a Western cognitive-developmental tradition. Although Munroe et al. found the stages cross-culturally, the theoretical framework was developed by Piaget and Kohlberg in Western contexts and treats individual cognitive maturation as central. Sociocultural theorists (Vygotsky and others) might argue that gender concepts are shaped by social interaction and language at every stage.

Conclusion. Kohlberg's stage theory captures an important cognitive component of gender development and has cross-cultural support. However, evidence that gender-typed behaviour appears before constancy and methodological issues with constancy testing have led most contemporary researchers to favour gender schema theory (Section 6) — which is more flexible about when gender-typed behaviour begins.

6 Martin and Halverson's Gender Schema Theory

Martin and Halverson (1981) proposed an alternative cognitive theory of gender development. Like Kohlberg, they argue cognition matters — but they propose that gender-typed behaviour begins much earlier, as soon as the child has formed a basic gender identity (stage 1 of Kohlberg).

> **GENDER SCHEMA**
>
> A **gender schema** is a mental framework that organises information about gender — what boys and girls typically do, like, look like and behave. Children build these schemas from observation of their environment, and then use them to guide and interpret their own behaviour.

Key Claims

- **Gender schemas develop early** — around age 2–3, as soon as the child can label themselves as a boy or a girl.
- **In-group / out-group** — children identify with their own gender (the *in-group*) and pay particular attention to in-group behaviours and avoid out-group ones.
- **Schemas guide behaviour** — once a child has a gender schema, it shapes their toy choices, peer preferences, dress and so on. This produces gender-typed behaviour *before* Kohlberg's constancy stage.
- **Schemas guide memory and attention** — children are more likely to remember information consistent with their gender schema, and to distort information that contradicts it.

Key Research

Martin and Halverson (1983) showed 5- and 6-year-olds pictures of "schema-consistent" activities (e.g. a boy playing with a truck) and "schema-inconsistent" activities (e.g. a girl playing with a truck). One week later, children were significantly more likely to remember *consistent* pictures correctly and to *change* inconsistent pictures (e.g. remembering the girl with the truck as a boy). This directly supports the claim that schemas guide memory and attention.

Damon and Hart (1988) — children below age 6 told a story about a boy who wanted to play with dolls. Children said "no other boys would play with him" and that "girls would think he was strange" — showing strong adherence to gender schemas and rigid in-group/out-group thinking.

Evaluation

Strength — research support (Martin and Halverson 1983). A key strength of gender schema theory is robust experimental support. Children's memory for gender-inconsistent images was significantly worse than for consistent images, and many "corrected" inconsistent images to match their schemas. This is important

because it directly demonstrates that schemas shape memory and attention, exactly as the theory predicts. This strengthens the validity of the theory.

Strength — explains gender-typed behaviour in young children. A further strength is that gender schema theory explains why even very young children (age 2–3) show clear gender preferences — long before they understand gender constancy. This is important because Kohlberg's theory predicts gender-typed behaviour mainly after constancy, but evidence (e.g. Bussey and Bandura 1992) shows it appears earlier. Schema theory accommodates this finding while Kohlberg's does not.

Strength — explains gender-stereotype rigidity in childhood. A further strength is that schema theory accounts for the often-extreme rigidity of children's gender beliefs (e.g. "boys cannot wear pink"; "girls cannot play football"). Once a schema is formed, it strongly resists contradicting evidence. This is important because parents and teachers often observe this rigidity, and the theory provides a clear mechanism.

Limitation — overstates the role of cognition. A significant limitation is that gender schema theory, like Kohlberg's, focuses on cognition and underplays biology and social learning. This is important because a fuller account must include hormonal foundations and the role of role models and culture. This restricts the theory to one part of gender development.

Limitation — does not explain individual differences. A further limitation is that schema theory does not adequately explain why children differ in their use of gender schemas. Some 5-year-olds are highly rigid; others are much more flexible. This is important because the theory predicts roughly similar schema use across children of similar age — but individual variation is substantial. This suggests other factors (parenting, modelling) shape schema rigidity.

Limitation — culturally bound (Hines and Kaufman 1994). A further limitation is that what counts as a "schema-consistent" gender activity is culturally specific. The truck/doll opposition that Martin and Halverson used in 1980s America is not universal. This is important because the content of gender schemas varies cross-culturally, even if the mechanism (schema-guided processing) is universal. This limits the generalisability of specific findings.

Limitation — direction of causality. A further limitation is that the relationship between schemas and behaviour may be bidirectional. Children's gender-typed behaviour may shape their schemas (through experience), not just the other way round. This is important because the theory claims schemas cause behaviour, but the evidence is largely correlational.

Conclusion. Gender schema theory is now the dominant cognitive account of gender development, explaining the early appearance and rigidity of gender-typed behaviour that Kohlberg's theory cannot easily handle. Its main limitations are reductionism to cognition and the lack of attention to individual differences and cultural specificity.

7 Social Learning Theory and the Influence of Culture and Media

Social Learning Theory (SLT) — developed by Bandura (1977) — applies the principles of observational learning to gender. Children learn gender behaviour by *observing and imitating* same-sex role models. The theory was central to Bandura's broader research on social learning (see Approaches in Psychology) and is one of the most influential accounts of gender socialisation.

Key Mechanisms

Mechanism	What it means
Imitation	Children copy the gender behaviour they see in adults and other children.
Identification	Children align themselves with same-sex role models — parents, older siblings, teachers, peers, media figures.
Vicarious reinforcement	Children learn from the consequences of others' gendered behaviour. If a girl is praised for being "ladylike", other girls are more likely to imitate. If a boy is teased for crying, other boys learn not to.
Direct reinforcement	Children's own gender behaviour is shaped by reward and punishment. A boy may be praised for assertive behaviour; a girl may be told off for being "rough".
Mediational processes	Attention, retention, motor reproduction and motivation (Bandura's four cognitive elements) determine whether observed behaviour is reproduced.

Key Research

Smith and Lloyd (1978) — "Baby X" study. Adults were given infants dressed in either pink or blue clothes; the babies were actually a mix of boys and girls. Adults systematically chose gender-typed toys (e.g. handing the "girl" a doll and the "boy" a rattle), regardless of the baby's actual sex. This demonstrated that adults provide differential gender-typed treatment from very early in development.

Williams (1986) — natural experiment in a Canadian town. A small town received television for the first time in the early 1970s. Williams measured gender-stereotyped attitudes in children before and two years after the introduction of TV. Children's attitudes became significantly more gender-stereotyped after exposure to TV, supporting the role of media in gender development.

The Influence of Culture

Different cultures construct gender differently:

- **Mead (1935)** — studied three tribes in Papua New Guinea: in the Arapesh, both sexes were gentle and cooperative; in the Mundugumor, both were aggressive; in the Tchambuli, women were dominant and men decorative. This challenges the idea that gender roles are universal and supports a social-learning account.
- **Hofstede (1980)** — large cross-cultural survey showing some cultures are more rigidly "masculine" (e.g. Japan, Austria) and others more "feminine" (e.g. Sweden, Norway). Gender roles vary substantially with cultural values.
- **Williams and Best (1990)** — surveyed 30 countries and found *similarities* in gender stereotypes (men perceived as more aggressive; women as more emotional) but also substantial cultural variation in how strongly these were endorsed.

The Influence of Media

Media is a major source of gender role models, particularly for children:

- **Bussey and Bandura (1999)** — children learn gender behaviours from television, films, video games and social media. Modern children spend many hours per week exposed to gendered media content.
- **Counter-stereotypical role models** — research has shown that exposure to counter-stereotypical media (e.g. female engineers, male nurses) can shift children's gender-related career aspirations and beliefs.
- **Social media influencers** — contemporary research (e.g. Ward and Aubrey 2017) shows that social-media influencers have become powerful sources of gender modelling for adolescents.

Evaluation

Strength — strong supporting research (Smith and Lloyd 1978; Williams 1986). A key strength of SLT is robust experimental and natural-experiment evidence. Smith and Lloyd showed adults treat infants differently based on perceived sex; Williams's TV-introduction study showed media exposure causes gender-stereotype increases. This is important because experimental and natural-experiment evidence both support a causal role for social learning. This strengthens the validity of SLT as an explanation of gender.

Strength — accounts for cultural and historical variation. A further strength is that SLT explains why gender roles vary so much across cultures (Mead; Hofstede) and across history. Biological accounts struggle to explain this — SLT predicts it directly. This is important because the biological approach (Section 4) and cognitive approach (Sections 5–6) both struggle to explain variation, where SLT excels.

Strength — applied value (counter-stereotypical role models). A further strength is the applied value of the theory. Anti-stereotype interventions (e.g. showing girls female scientists; showing boys male caregivers) draw directly on SLT and have measurable effects on aspirations. This is important because applied success in changing gender behaviour is strong indirect evidence the mechanism is real. This strengthens the case for SLT.

Limitation — doesn't explain biological foundations. A significant limitation is that SLT ignores biological influences on gender. CAH evidence (Section 4) shows prenatal hormones contribute to gender-typed behaviour; SLT alone cannot account for these effects. This is important because the cross-cultural similarities (e.g. boys' general preference for active play) suggest a biological foundation that SLT does not explain. This restricts the theory.

Limitation — overstates the passivity of the child. A further limitation is that early SLT framed children as passive recipients of social influences. Cognitive accounts (Sections 5–6) argue children actively construct gender concepts and seek out gender-relevant information. This is important because real children are clearly

active participants in their gender development, not just imitators. This limits SLT as a complete account.

Limitation — direction of causality (Williams 1986 reanalysis). A further limitation is the direction-of-causality issue. Children may seek out gender-typed media because they have already developed gender preferences — not the other way round. This is important because media-influence claims often rest on correlational data. Although natural experiments like Williams's strengthen the case, cleaner causal evidence is harder to come by.

Conclusion. SLT, with its emphasis on culture and media, is one of the strongest accounts of gender development. It is well evidenced, cross-culturally robust and applied successfully in counter-stereotyping interventions. Its main limitations are silence on biology and the over-passive view of the child — both better addressed by combining SLT with biological and cognitive accounts in an interactionist framework.

8 Gender Incongruence

> **GENDER INCONGRUENCE (2025 SPEC TERMINOLOGY)**
>
> **Gender incongruence** describes a marked and persistent mismatch between a person's experienced gender identity and the sex they were assigned at birth. The 2025 spec uses this term (consistent with ICD-11) in place of the older "gender dysphoria" framing.

The 2025 AQA spec requires **biological** AND **social/cultural** explanations of gender incongruence.

Biological Explanations

Brain-sex theory (Zhou et al. 1995)

Brain-sex theory proposes that gender incongruence reflects atypical brain development during prenatal hormone exposure. The brain's "sex" does not match the body's "sex". Key evidence:

- **Zhou et al. (1995)** — post-mortem study of the **BSTc nucleus** (part of the thalamus involved in emotion). Found the BSTc in trans women was similar in size to that of cisgender women, not cisgender men. Suggests a biological basis for the gender-incongruent identity.
- **Kruijver et al. (2000)** — replicated and extended Zhou's findings using neuron counts.

Genetic factors

Twin studies suggest a heritable component to gender incongruence. **Coolidge et al. (2002)** studied 314 twin pairs and estimated 62% of the variance in gender-incongruent behaviour was attributable to genetic factors. **Hare et al. (2009)** identified a longer version of the **androgen receptor gene** in some trans women, potentially reducing prenatal androgen exposure to the developing brain.

Prenatal hormone influences

Building on the CAH evidence (Section 4), some researchers propose that atypical prenatal hormone exposure during the critical period for brain sexual dimorphism may contribute to gender incongruence. The brain's organisation is set during this window, before genital anatomy fully develops.

Social and Cultural Explanations

Social constructionism

Social constructionist accounts argue that the rigid gender binary is itself a cultural construction — and that incongruence between a person's identity and the binary categories society offers can produce psychological distress. Cultures that recognise additional gender categories (e.g. **two-spirit** in some Native American cultures; **hijra** in South Asian cultures; **fa'afafine** in Samoa) historically had different patterns of gender experience than rigid binary cultures.

Psychoanalytic and family-systems accounts (historical)

Some older psychological accounts proposed that gender incongruence arose from family dynamics — e.g. **Stoller (1968)** argued that male-to-female gender incongruence was linked to particularly close mother–son relationships. These accounts are largely discredited today but remain in some textbooks.

Mead (1935) — cultural variability

Margaret Mead's research on Papua New Guinea tribes (Section 7) is also relevant here — different cultural constructions of gender produce different patterns of gender experience and identity.

Evaluation

Strength of biological explanations — converging evidence. A major strength of biological explanations is converging evidence from brain-anatomy, twin and genetic studies. Zhou et al.'s BSTc finding, replicated by Kruijver et al. and supported by Hare et al.'s androgen-receptor finding, builds a converging case. Coolidge et al.'s twin estimates suggest substantial heritability. This is important because evidence from multiple methodologies pointing in the same direction is stronger than any single study. This strengthens biological explanations as one part of the account.

Limitation — biological evidence is correlational and small-sample. A significant limitation is that brain-sex evidence rests on small post-mortem studies and the BSTc finding has not always been replicated cleanly. Hormone treatments received by trans participants before death may also affect brain anatomy, confounding the comparison. This is important because group-level differences observed do not necessarily indicate the *cause* of gender incongruence. This limits the strength of biological causal claims.

Strength of social/cultural explanations — cross-cultural variation. A strength of the social/cultural account is cross-cultural variation in gender categories. Cultures with more than two gender categories (two-spirit, hijra, fa'afafine) have historically integrated people whose identities did not fit a male/female binary, suggesting the binary itself is culturally constructed. This is important because purely biological accounts cannot easily explain why some cultures have more gender categories than others. This strengthens the social/cultural contribution.

Limitation — social/cultural accounts cannot explain individual variation. A limitation of the social/cultural account is that it does not explain why some individuals in a given culture experience gender incongruence and others do not. Most members of a binary-only culture identify with their assigned sex; only a minority do not. This is important because if culture were the sole driver, we would expect gender incongruence to be more uniform within a culture. This supports an interactionist view in which biology contributes to individual susceptibility.

Limitation — socially sensitive research (major concern). Gender-incongruence research is the most socially sensitive area in this topic. Findings can be used either to support trans rights (by demonstrating biological foundations) or to undermine them (by framing incongruence as a "disorder" or "delusion"). This is important because the research has direct implications for affected individuals' wellbeing, healthcare access and legal protections. Researchers must communicate findings with care and avoid pathologising language. The 2025 spec's adoption of "gender incongruence" (a more neutral term than "gender dysphoria" or "gender identity disorder") reflects this awareness.

Limitation — historical/cultural biases in older research. A further limitation is that much earlier research carried implicit pathologising or even hostile assumptions. Stoller's family-dynamics account, for example, treated gender incongruence as a problem to be explained by faulty family relationships. This is important

because old findings should be evaluated in light of current understanding, and researchers should acknowledge the cultural and historical context of past work.

Conclusion. Gender incongruence is best understood through an interactionist framework combining biological (brain, hormones, genes) and social/cultural factors. Modern research increasingly emphasises gender diversity as a normal aspect of human experience, and ethical handling of findings is essential given their direct impact on the lives of trans and non-binary people.

These revision notes were prepared for Simply Psychology and cover spec section 4.3.3 of the AQA Psychology 2025 specification (A-level only, Paper 3). Several previous bullets have been removed in 2025 (sex/gender separate concept, sex-role stereotypes, androgyny as a standalone bullet, Freud's psychodynamic explanation, "gender dysphoria"). New in 2025: gender identities (binary, non-binary, gender fluid), diversity in sex development, and gender incongruence. For deeper coverage of any topic, see simplypsychology.org/gender.html.