AQA Psychology A-level

Option 3: Aggression

Summary Notes

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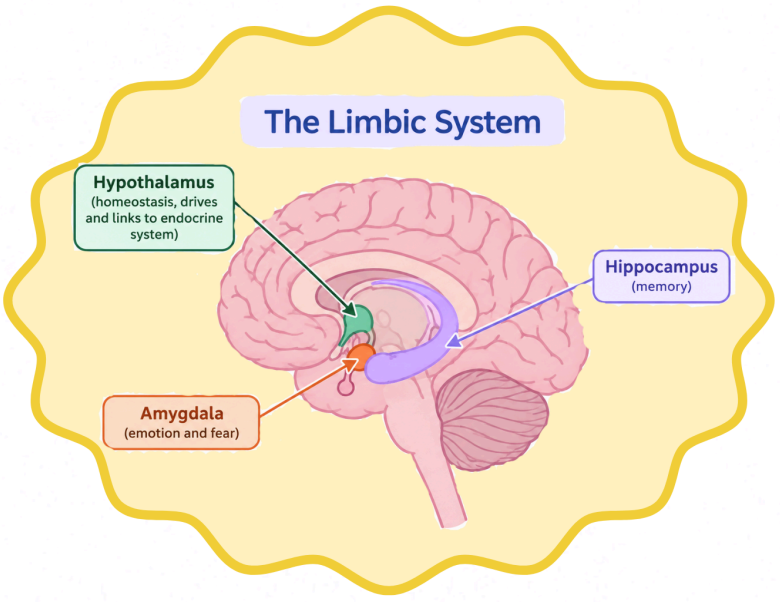
Part 1 — Neural and Hormonal Mechanisms in Aggression

1. Neural mechanisms

Limbic system

The limbic system is involved in emotion and emotional behaviour. Several structures within it are relevant to aggression, particularly the amygdala.

Brain Area	Role in Aggression
Amygdala	Processes emotion, threat and provocation. Increased activity can produce a stronger emotional response, which may increase the likelihood of **aggressive behaviour.** ➔ The amygdala is particularly important when an individual experiences threat or provocation.
Hypothalamus	Regulates **emotional and physiological responses**, including activation of the **fight-or-flight response**. It can therefore contribute to the physiological arousal associated with aggression.
Orbitofrontal Cortex	Helps with **decision-making and impulse control**. It regulates emotional responses and helps **inhibit inappropriate behaviour**, including aggressive impulses.



Gospic et al. (2011) — Key Study

Aim: To investigate the role of the **amygdala** in aggressive responses to **unfair treatment**.

Procedure:

- Participants played the **Ultimatum Game**, where they had to decide whether to accept or reject monetary offers from another person. Some offers were deliberately **unfair**, creating social provocation.
- Participants' **amygdala activity** was measured using **fMRI**. Some participants were also given **benzodiazepines**, which reduce amygdala activity.

Findings:

- Unfair offers produced increased **amygdala activity**.
- Participants were more likely to **reject unfair offers**.
- Benzodiazepines reduced the amygdala response to unfair offers.

Conclusion: The findings suggest that the **amygdala is involved in emotional responses to provocation**, which may contribute to aggressive behaviour. They also suggest that reducing amygdala activity can reduce the emotional response to provocation.

2. Neural and Hormonal Mechanisms

Serotonin is a neurotransmitter involved in regulating **mood, emotion and impulse control**. In relation to aggression, **reduced serotonin activity** is associated with poorer control of impulsive behaviour.

Serotonin activity	Effect on behaviour
Normal activity	Helps regulate **emotion and impulse control**, making it easier to inhibit inappropriate aggressive responses
Reduced activity	Can lead to **poorer impulse control** and greater **disinhibition**, increasing the likelihood of impulsive aggression.

Linnoila et al. (1983) / Virkkunen et al. (1994) – Key Study

Aim: To investigate whether serotonin functioning was associated with **violent behaviour**.

Procedure:

- He compared **16 men convicted of violent crimes**, **22 men who had attempted suicide** and **39 healthy men**.
- Serotonin functioning was assessed by measuring **5-HIAA**, a **breakdown product of serotonin,** in their cerebrospinal fluid.

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- The **lowest 5-HIAA levels** were found in men who had committed particularly severe violence.

Conclusion: Low serotonin functioning may be associated with **poor emotional regulation and impulsive aggression**

Testosterone

Testosterone is an **androgen hormone** produced mainly by the **testes in males**, although females also produce smaller amounts in the ovaries and adrenal glands. It is associated with:

- **Dominance**
- **Competitiveness**
- **Aggression**

Higher levels of testosterone may increase the likelihood of responding aggressively, particularly in situations involving **competition or threat**.

Testosterone can affect brain areas involved in **emotion and aggression**, including the **amygdala**. It may increase sensitivity to **threat or provocation**, making an aggressive response more likely.

Higher testosterone → increased sensitivity to provocation → greater likelihood of aggression

Important point: Testosterone does **not directly cause aggression**. Its effect may depend on other factors, including the **situation, the individual's personality and other biological mechanisms**. This is why testosterone is better understood as **increasing the likelihood of aggression** rather than determining it.

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AO3 - EVALUATION

A strength of the neural explanation is that there is **research support for the role of serotonin**. **Berman et al. (2009)** found that participants given the serotonin agonist **paroxetine** behaved less aggressively than a control group, delivering fewer and less intense electric shocks during a laboratory task. This supports the idea that **increasing serotonin can reduce aggressive behaviour**, suggesting that serotonin plays a role in regulating aggression. Therefore, the neural explanation has **research support**, increasing its validity.

A strength of the biological explanation is that there is **research support for a link between testosterone and aggression**. **Dolan et al. (2001)** found that violent prisoners in maximum-security prisons had **higher testosterone levels** than their non-violent counterparts. This supports the idea that testosterone is associated with aggressive behaviour, as individuals who had committed violent offences tended to have higher levels of the hormone. Therefore, the findings provide support for the **biological explanation of aggression**.

A strength of the biological explanation is that it has **real-world applications**. Understanding the role of neurotransmitters such as **serotonin** and hormones such as **testosterone** may help researchers develop treatments for individuals who display persistent or problematic aggression. This means biological knowledge could contribute to methods of **reducing and managing aggressive behaviour**. Therefore, the explanation has practical value because it can be applied to the treatment and management of aggression.

A limitation of the neural explanation is that it may be **reductionist**. The explanation places emphasis on individual brain areas such as the **limbic system**, but aggression is likely to involve interactions between several areas of the brain. **Gospic et al. (2011)** suggested that the **orbitofrontal cortex (OFC)** is also important because it is involved in controlling impulsive behaviour and is linked to serotonin. This suggests that focusing on the limbic system alone provides an **incomplete explanation** of aggression. Therefore, the neural explanation may lack **validity** because it oversimplifies the complex neural processes involved in aggressive behaviour.

Another consideration is that **testosterone does not appear to influence aggression on its own**. **Carre and Mehta (2011)** proposed the **Dual Hormone Hypothesis**, suggesting that testosterone is more strongly associated with aggression when **cortisol levels are low**. This indicates that the relationship between hormones and aggression is more complex than simply assuming that higher testosterone causes greater aggression. Therefore, the biological explanation may be **too simplistic** if it focuses on individual hormones rather than how they interact.

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Part 2 — Genetic Factors in Aggression

Aggression appears to have a **genetic component**, meaning some people may inherit a greater **vulnerability to aggressive behaviour**. However, genes are unlikely to determine aggression on their own, as environmental factors also influence behaviour.

1. Twin studies

Monozygotic (MZ) twins share almost **100% of their genes**, whereas **dizygotic (DZ) twins** share around **50%**. Therefore, if MZ twins show greater similarity in aggressive behaviour than DZ twins, this suggests that **genetic factors contribute to aggression**.

Coccaro et al. (1997) found concordance rates of around **50% for MZ twins**, compared with **19% for DZ twins**, for physical aggression. The greater similarity between MZ twins suggests that aggression has a **heritable component**.

2. Adoption studies

Adoption studies allow researchers to compare **genetic influences** with **environmental influences**, because adopted individuals grow up apart from their biological parents.

Rhee and Waldman (2002) conducted a **meta-analysis of adoption studies** and estimated that genetic factors accounted for around **41% of the variation in aggressive behaviour**. This provides further evidence that aggression is partly influenced by **genetic factors**.

However, this does not mean that aggression is **genetically determined**. The remaining variation is influenced by **environmental factors**, showing that genes are only one part of the explanation.

3. The MAOA gene

The **MAOA gene** is a **candidate gene** associated with aggression. It codes for the **MAOA enzyme**, which helps break down neurotransmitters such as **serotonin** after they have been released into the synapse.

A particular version of the gene is the **MAOA-L (low-activity) variant**. This produces **less active MAOA enzymes**, meaning neurotransmitters are broken down less efficiently. Low MAOA activity has been associated with **greater impulsive aggression**, particularly when combined with environmental stressors.

Brunner et al. (1993) – **Key study**

Aim	To investigate the link between the **MAOA gene** and **aggressive behaviour**.
Participants	A **Dutch family** in which several male relatives showed **impulsive violent behaviour**, including aggression, attempted rape and arson.
Procedure	Researchers took **blood samples** from family members and examined the **MAOA gene** and the amount of **MAOA enzyme** produced. They also compared the genetic findings with relatives who did not display the same pattern of behaviour.
Findings	• The affected males were found to have a **mutation in the MAOA gene**. • This mutation prevented the normal production of the **MAOA enzyme**, resulting in a **severe deficiency of MAOA activity**. • The unaffected family members did not show the same abnormality. • MAOA normally helps break down neurotransmitters such as **serotonin, dopamine and noradrenaline**, so the mutation would alter the normal functioning of these neurotransmitters.
Conclusion	The study suggests that abnormalities in the **MAOA gene** can be associated with **impulsive aggressive behaviour**.

MAOA-L and Environmental factors

It is important to note **Brunner et al. (1993)** **studied a rare MAOA** mutation in a small, **unusual family,** meaning the findings may not apply to the wider population

A more common version of the genetic explanation focuses on **MAOA-L** and its interaction with the environment.

- **Caspi et al. (2002)** found that males with the **MAOA-L variant** were more likely to develop antisocial and violent behaviour **when they had also experienced childhood maltreatment**. Those with MAOA-L but without maltreatment did not show the same increased risk.

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AO3 - EVALUATION

A strength of the genetic explanation is that there is **research support for the role of the MAOA gene**. **Mertins et al. (2011)** found that participants with **high MAOA activity** behaved more prosocially in a money-lending game, showing greater compassion and making fewer refusals. This supports the idea that MAOA activity is linked to behaviour, as **higher MAOA activity was associated with less aggressive behaviour**. Therefore, the evidence supports a relationship between **MAOA activity and aggression**.

A further strength is that research supports the **biological mechanism behind MAOA**. **Godar et al. (2014)** found that mice with the **MAOA gene switched off** became hyperaggressive, potentially because reduced MAOA activity leaves more **serotonin in the synaptic cleft**. The fact that **fluoxetine** could reverse this effect provides further support for the link between MAOA, serotonin and aggression. Therefore, the findings increase the **validity** of the proposed relationship between the MAOA gene and aggressive behaviour, although the use of animals limits its generalisability to humans.

A limitation of the genetic explanation is that it may be **too deterministic** because it places too much emphasis on inherited genes as the cause of aggression. However, an **interactionist approach** suggests that genetic vulnerability needs to interact with **environmental factors** before aggressive behaviour develops. **Frazzetto et al. (2007)** found that low MAOA activity was associated with increased aggression only in individuals who had also experienced **traumatic childhood events**. This suggests that having a genetic vulnerability alone is **not sufficient to cause aggression**. Therefore, the genetic explanation is incomplete because it does not fully consider the role of **environmental influences**.

A further limitation of the genetic explanation is that it may have **limited practical usefulness**. Although identifying genetic vulnerabilities such as low **MAOA activity** may help explain why some individuals are more prone to aggression, genes cannot easily be changed. In contrast, environmental factors such as **childhood experiences and social situations** can be targeted through interventions. Therefore, the genetic explanation may be less useful for **preventing and reducing aggression**, as identifying a genetic vulnerability does not necessarily provide a way to change the behaviour.

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Part 3 — The Ethological Explanation of Aggression

The ethological approach explains aggression as an **innate, adaptive behaviour** that has evolved because it improves the survival of individuals and species.

Aggression is considered **adaptive for two main reasons**:

1. Survival: Aggression can increase an individual's access to **territory, food and mates**, improving their chances of survival and reproduction. Aggression between rival groups can also result in defeated individuals moving to new areas, increasing the resources available to the species.

2. Social status: Aggression can help establish **dominance within a hierarchy**, giving individuals higher social status and greater access to resources and mates. **Pettit et al. (1988)** found that young children used aggressive tactics in playgrounds to **assert dominance, influence others and get their own way**.

Ritualistic aggression

- Aggressive encounters do not always result in **serious injury or death**. In many species, aggression follows a predictable pattern known as **ritualistic aggression**.
- After losing a confrontation, the weaker animal may show **appeasement behaviour** to signal submission. For example, a defeated wolf may expose its **neck** to the dominant animal. This reduces the likelihood of further attack and prevents unnecessary injury, making aggression **adaptive**.

Releasers, IRMs and FAPs

Aggressive behaviour can be triggered by a specific **stimulus**, known as a **releaser**.

- **Releaser:** a specific **stimulus** that triggers an innate response.
- **Innate Releasing Mechanism (IRM):** an **inborn mechanism** that recognises the releaser and activates the behavioural response.
- **Fixed Action Pattern (FAP):** the **specific sequence of behaviour** that follows. It is **innate, stereotyped and largely unaffected by learning**.

Tinbergen (1951) – Key study

Aim	To investigate whether a specific **releaser** triggers aggressive behaviour in male sticklebacks.
Sample	**Male three-spined stickleback fish** during the breeding season
Procedure	• Male sticklebacks were placed in a tank containing their **territory**. • Tinbergen introduced different **models of intruding fish** into the tank. • The models varied in **shape, size and colour**. • Some models were realistic, while others were deliberately **unrealistic**. • Some models had a **red underside**, while others did not. • The males' **aggressive responses** towards each model were recorded.
Findings	• Males attacked models with a **red underside**, even when the rest of the model did not look like a real stickleback. • This suggested that the **red colouring**, rather than the overall appearance of the fish, was responsible for triggering aggression.
Conclusion	The **red underside acts as a releaser**, triggering an **innate releasing mechanism (IRM)** and producing a **fixed action pattern (FAP)** of aggression. This supports the idea that some aggressive behaviour is **innate rather than learned**.

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AO3 - EVALUATION

A strength of the ethological explanation is that there is **research support for innate aggressive behaviour**. **Goodall (2010)** observed chimpanzees in Gombe Stream National Park and found that rival communities sometimes **systematically killed members of other groups**, even when victims displayed appeasement signals. This suggests that aggressive behaviour can continue once an **innate releasing mechanism (IRM)** has been activated. Therefore, the findings support the idea that some aggression may be **biologically programmed**.

A further strength is that there is **evidence linking biological mechanisms to aggression**. **Bremner (1993)** found a relationship between **MAOA activity and aggressive behaviour**, suggesting that differences in the functioning of the MAOA system may contribute to an individual's tendency towards aggression. This supports the wider ethological argument that aggression has an **innate biological basis**, rather than being entirely learned from the environment. Therefore, research into biological factors provides **support for the idea that aggression has an underlying biological mechanism**.

A limitation is that **Fixed Action Patterns may not actually be completely fixed**. **Hunt (1973)** found that the duration of behaviours within a FAP could vary between individuals and depending on the animal being targeted. This suggests that **environmental and social factors** can influence how an aggressive response develops after an IRM has been activated. Therefore, describing aggressive behaviour as a **fixed sequence** may be too simplistic and reduces the validity of the explanation.

A further limitation is that **ritualistic aggression does not always prevent serious attacks**. **Goodall (2010)** observed chimpanzee groups systematically killing members of rival communities despite the victims displaying **appeasement signals**. This challenges the idea that aggression follows a predictable sequence of releaser → IRM → FAP, because the expected **ritualistic signals did not stop the aggression**. Therefore, the ethological explanation may have **limited predictive validity** because it cannot fully explain why aggression sometimes escalates beyond the predicted FAP.

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Part 4 — Evolutionary Explanations of Human Aggression

Evolutionary explanations suggest that **sexual jealousy may be stronger in males** because of **paternity uncertainty**. Unlike women, men can never be completely certain that a child is genetically theirs. This creates a risk of **cuckoldry**, where a man invests time and resources in raising another man's child. From an evolutionary perspective, this could reduce **reproductive success**, so behaviours that reduce the risk of infidelity may have become **adaptive**.

Buss (1988) identified two key categories of **mate-retention** strategies:

1. **Direct Guarding -** Monitoring a partner, insisting on knowing **where they are** or **who they are with**, and restricting contact with potential rivals

2. **Negative inducements -** Using **threats, intimidation or punishment** to discourage infidelity, including threats of suicide or violence.

Aggression can therefore be used as a **male retention strategy**, particularly when a male believes that his partner may be unfaithful.

Shackelford et al. (2005) – Key study

Aim	To investigate the relationship between **male retention strategies** and **aggression within relationships**.
Participants	**107 married couples** who had been married for **less than one year**.
Procedure	• Both husbands and wives completed the **Mate Retention Inventory (MRI)**, reporting on their own and their partner's mate-retention behaviours. • The MRI measured **104 specific behaviours**, which were grouped into different mate-retention tactics. • The researchers then examined whether the use of these behaviours was associated with **violence against partners**.
Findings	There was a **positive correlation** between husbands' use of male retention strategies and wives' reports of partner influence. Higher levels of **mate-retention behaviour** were also associated with a greater likelihood of **aggression** within the relationship
Conclusion	The findings support the evolutionary view that **male retention strategies** may be linked to aggression, as males may use aggressive or controlling behaviours to reduce the risk of **infidelity and cuckoldry**.

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Bullying as an adaptive behaviour

From an **evolutionary perspective**, some forms of bullying may have developed because they can provide **social or reproductive advantages**. For example, aggression may help an individual establish **status, dominance or access to resources** by reducing competition from others.

Volk et al. (2012) suggested that bullying can sometimes provide these potential advantages. However, this does **not** mean that all bullying is caused by evolutionary factors, or that bullying is beneficial in modern society. Factors such as **family environment, peer relationships and social learning** can also influence bullying.

Therefore, the evolutionary explanation may help explain **why aggressive behaviour can sometimes provide advantages**, but it should not be used as a complete explanation of bullying.

AO3 - EVALUATION

A strength of the evolutionary explanation is that it can **explain gender differences in aggression**. **Campbell (1999)** suggested that females are more likely to use **verbal rather than physical aggression** because physical confrontation could put both the woman and her offspring at greater risk. This means that less physically aggressive strategies may have provided a **survival advantage**. Therefore, the evolutionary explanation can help explain why **different forms of aggression may have developed in males and females**.

A further strength is that there is **research support for the link between sexual jealousy and aggression**. **Shackelford (2005)** found that **male retention strategies**, which can develop in response to sexual jealousy, were associated with aggressive behaviour towards female partners and potential rivals. This supports the evolutionary idea that some aggression may have developed as a way of **protecting relationships and reproductive opportunities**. Therefore, the research provides support for the role of **evolutionary pressures in aggression**.

A limitation of evolutionary explanations is that they can be **gender biased**. Some explanations suggest that male aggression is an evolved strategy for **mate retention or protecting reproductive opportunities**, which risks making male violence appear **natural or inevitable**. This can be socially sensitive because it may be interpreted as **excusing or justifying violence against women**, rather than recognising that aggressive behaviour is also influenced by social and cultural factors. Therefore, evolutionary explanations may lack **social sensitivity** when explaining gender differences in aggression.

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A further limitation is that evolutionary explanations may be **too deterministic about gender differences**. They can suggest that males are naturally more aggressive and females are naturally more passive, despite evidence that **social expectations and cultural norms** influence how aggression is expressed. For example, societies differ in what forms of aggression are considered acceptable for men and women. Therefore, evolutionary explanations may **underestimate the influence of socialisation**, making them less complete as an explanation of aggression.

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Part 5 — Social Psychological Explanations of Aggression: Frustration-Aggression Hypothesis

The **frustration-aggression hypothesis** was originally proposed by **Dollard et al. (1939)**. It suggests that **frustration always leads to aggression**, and that **aggression is always caused by frustration**.

Frustration occurs when an individual's **goal-directed behaviour is blocked**. A **goal** can be **anything a person is trying to achieve**, from everyday tasks (e.g. getting to school on time but the bus breaks down) to long-term ambitions (e.g. getting a promotion). **Dollard et al. (1939)** suggested that frustration creates an **aggressive drive**, similar to biological drives such as hunger or thirst. Aggression can then reduce this drive through **catharsis**, restoring a sense of balance.

Displacement of aggression

Aggression cannot always be directed towards the **source of frustration**. The source may be:

- **Too powerful** – attacking a teacher or employer could result in punishment.
- **Unavailable** – the source may no longer be present.
- **Abstract** – the cause may be something that cannot be physically attacked, such as the government or financial problems.

As a result, aggression may be **displaced onto a different target** that is weaker and immediately available.

For example, a student who is frustrated after being told off by a teacher may go home and argue with a younger sibling instead, as there are likely to be fewer repercussions.

Berkowitz's reformulation

Berkowitz (1989) argued that frustration does **not always lead directly to aggression**. Instead, frustration creates a **readiness for aggression** by producing negative emotions such as anger.

An **aggressive cue** in the environment may then trigger the aggressive response. Examples include

- **weapons**
- **insults, threats**
- **aggressive behaviour**
- **violent images**

Berkowitz particularly emphasised **weapons** as aggressive cues, which can make an aggressive response more likely when an individual is already **frustrated or angry**.

Key idea: Frustration creates the **readiness for aggression**, but an **aggressive cue** may be needed for aggression to actually occur.

Berkowitz and LePage (1967) - Key study

Aim	To investigate whether **aggressive cues** increase aggressive behaviour
Participants	**Male university students**
Procedure	• Participants were first **angered** by receiving electric shocks from a confederate. • They were then given the opportunity to administer shocks to the confederate. • In one condition, a **rifle and revolver** were visible in the room. • In the control condition, the weapons were **absent**. • The intensity of the shocks given was used as a measure of **aggression**.
Findings	Participants who had been angered gave **stronger shocks when the weapons were present** than when they were absent.
Conclusion	**Aggressive cues**, such as weapons, can increase aggressive behaviour in people who are already **angry or frustrated**.

AO3 - EVALUATION

A strength of the frustration-aggression explanation is that there is **research support for the role of frustration in aggression**. **Dill and Anderson (1995)** found that participants showed more aggressive behaviour when frustration was **unjustified** than when it was justified. This suggests that aggression is more likely when people perceive the frustration as **unfair**, rather than frustration automatically causing aggression. Therefore, the explanation has research support but also recognises that **how frustration is perceived** affects aggression.

A further strength is that **Berkowitz's Negative Affect Theory provides a more comprehensive explanation** of aggression. **Berkowitz (1989)** argued that aggression can result from **negative affect more generally**, including emotions such as **pain, jealousy and anger**, rather than frustration alone. Negative affect can also produce non-aggressive responses, such as sadness or withdrawal. Therefore, the theory can explain a **wider range of aggressive behaviour** than the original frustration-aggression hypothesis.

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A limitation is that **not all frustration leads to aggression**. **Dill and Anderson (1995)** found that participants were more aggressive when frustration was **unjustified** than when it was justified. This suggests that factors such as **whether the frustration is seen as reasonable or unfair** influence whether aggression occurs. Therefore, the original frustration-aggression hypothesis is **too simplistic**, as it suggests a more direct relationship between frustration and aggression than the evidence supports.

A further limitation is that the explanation may **underestimate the role of individual differences**. People can experience the same frustrating situation but respond very differently, with some becoming aggressive while others remain calm or respond through withdrawal. This suggests that factors such as **personality, previous learning and social norms** may influence whether negative affect results in aggression. Therefore, frustration or negative affect alone cannot fully explain **why some individuals become aggressive while others do not**.

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Part 6 — Social Psychology Explanations of Aggression: Social Learning Theory (SLT)

Bandura (1977) suggested that **aggression is learned through observation and imitation**. Children can observe aggressive behaviour performed by **role models** and later reproduce it themselves, particularly when they see that the aggression is **rewarded**.

Aggression can be learned **directly** through **reinforcement and punishment**, or indirectly through **vicarious reinforcement**. If an aggressive behaviour is rewarded, it is more likely to be repeated. If it is punished, the observer is less likely to reproduce it.

Vicarious reinforcement occurs when a person sees a role model being **rewarded for aggression**. The observer learns that aggression can be an effective way of achieving a desired outcome and is therefore more likely to imitate it. For example, a child may see another child being aggressive and getting **toys, attention or status** as a result, increasing the likelihood that they will behave aggressively themselves.

Role Models

Children are more likely to imitate role models who:

- are **similar to them**, particularly the same sex;
- have **high social status**;
- are **successful, attractive or powerful**;
- receive **rewards** for their behaviour.

The process of **identification** means that the observer feels similar to or wants to be like the role model, increasing the likelihood of imitation.

Mediational Processes

Bandura (1977) proposed four **cognitive processes** that mediate between observing a behaviour and reproducing it:

Process	Link to Aggression
Attention	The child must **notice the aggressive behaviour** of the role model.
Retention	The child must **remember the aggressive behaviour** so it can be reproduced later.
Motor Reproduction	The child must have the **ability to carry out the aggressive behaviour** they observed.
Motivation	The child must have a **reason to behave aggressively**, such as expecting a reward or seeing that the model was rewarded.

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This means a child can **observe aggression at one point and reproduce it later**, even when the role model is no longer present.

Bandura, Ross & Ross (1961) – Bobo doll experiment

Aim	To investigate whether children would **imitate aggressive behaviour** displayed by an adult role model.
Participants	**72 children aged 3–6 years** from Stanford University Nursery School
Procedure	• Children were placed into **aggressive, non-aggressive or control conditions**. • In the aggressive condition, children watched an adult **hit, kick and verbally attack a Bobo doll**. • In the non-aggressive condition, children watched an adult behaving calmly and not attacking the doll. • The children were then placed in a room containing the **Bobo doll and other toys** and were observed for aggressive behaviour.
Findings	Children who had observed the **aggressive model** reproduced more **physical and verbal aggression** towards the Bobo doll than children in the non-aggressive condition. Children were also more likely to imitate a **same-sex model**.
Conclusion	Aggression can be **learned through observing and imitating aggressive role models**, supporting Social Learning Theory as an explanation of aggressive behaviour.

AO3 - EVALUATION

A strength of Social Learning Theory is that it has **real-world applications for reducing aggression**. If aggression is learned through **observation, imitation and reinforcement**, then aggressive behaviour can potentially be reduced by providing children with **positive and non-aggressive role models**. This can be applied in **schools, parenting programmes and the media**, where children can be encouraged to observe and imitate compassionate behaviours instead. Therefore, SLT has practical value because it suggests ways of **preventing and reducing aggressive behaviour**.

A further strength is that there is **research support for the role of modelling**. **Bandura et al. (1961)** found that children who observed an adult behaving aggressively towards a Bobo doll were more likely to imitate the aggressive behaviour than children who had observed a non-aggressive model. This supports the key SLT processes of **observation and imitation**, suggesting that aggressive behaviour can be learned from role models. Therefore, the findings provide support for SLT as an explanation of aggression.

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A limitation of SLT is that it may **underestimate biological factors**. In Bandura's Bobo doll study, **boys were generally more aggressive than girls**, regardless of the model they observed. This could be partly explained by biological differences, such as **testosterone**, which has been associated with aggression. **Virkkunen et al. (1994)** found a relationship between testosterone levels and aggressive behaviour. Therefore, SLT may be an **incomplete explanation** because it does not fully account for biological influences on aggression.

A further limitation is that the **Bobo doll study may have low ecological validity**. The children were placed in an artificial situation where they observed an adult behaving aggressively towards a doll that was specifically designed to be hit. This may have created **demand characteristics**, as the children may have believed that hitting the doll was the behaviour expected of them. Therefore, the aggression shown in the experiment may not reflect **real-world aggressive behaviour**, reducing the validity of using the study to support SLT as a general explanation of aggression.

Part 7 — Social Psychological Explanations of Aggression: De-Individuation

Deindividuation occurs when individuals feel **anonymous and less personally responsible** for their behaviour because they are part of a crowd or group. This can reduce the influence of **social norms** and make aggressive or antisocial behaviour more likely.

Le Bon (1895) suggested that crowd behaviour can lead to a **loss of personal responsibility**, because responsibility is spread across the group. An individual may also feel less worried about **retaliation or punishment** because they are anonymous within the crowd. This can remove the usual restraints on behaviour and increase the likelihood of **aggression**.

Zimbardo (1969) developed this idea, arguing that entering a group can make behaviour more **disinhibited and anti-normative**. Anonymity reduces the likelihood that individuals will be identified and judged for their behaviour, making them less concerned about the **consequences of their actions**.

Deindividuation can affect **self-awareness** in two ways. **Private self-awareness** decreases, meaning individuals become less focused on their own **beliefs, values and standards** and more influenced by the group. **Public self-awareness** also decreases because anonymity makes individuals less concerned about **how others see or judge them**.

Dodd (1985) – **Key study**

Aim	To investigate whether **anonymity** makes people more likely to behave in ways that go against normal social rules.
Participants	**226 psychology undergraduates**.
Procedure	Participants were asked what they would do if they could remain **completely anonymous** and had free choice over their actions. Their responses were categorised according to whether the behaviour was **antisocial**, **prosocial** or neutral.
Findings	**36%** of participants proposed behaving in an **antisocial** way, whereas only **9%** suggested behaving in a strongly **prosocial** way, such as helping poor people
Conclusion	Anonymity can reduce normal behavioural restraints and make **antisocial behaviour** more likely, supporting the role of deindividuation in aggressive behaviour.

AO3 - EVALUATION

A strength of **de-individuation theory** is that it has **real-world applications to aggression in online environments**. **Douglas and McGarty (2001)** found that, in chatroom studies, people who **concealed their identities** were more likely to send violent and aggressive messages. This suggests that anonymity can reduce **personal responsibility and self-awareness**, increasing disinhibition. Therefore, the theory can help explain aggression online and has practical applications for **moderating anonymous social media and online communities**.

A further strength is that there is **research support for the role of anonymity and social cues**. **Johnson and Downing (1979)** found that participants wearing **KKK uniforms** delivered more intense electric shocks than those wearing nurse uniforms. This demonstrates that the effects of anonymity can depend on the **social meaning of the group identity**, rather than simply anonymity itself. Therefore, the findings support the idea that **situational factors can influence aggressive behaviour**.

A limitation is that de-individuation may **overemphasise the loss of personal identity**. **Johnson and Downing (1979)** found that participants wearing KKK uniforms were more aggressive than those wearing nurse uniforms, despite both groups being anonymous. This suggests that people do not simply lose their identity when de-individuated; instead, **the social identity associated with the group can influence behaviour**. Therefore, de-individuation alone cannot fully explain aggression.

A further limitation is that **de-individuation does not necessarily produce aggression**. **Spears and Lea (1992)** proposed the **Social Identity Model of De-Individuation Effects (SIDE)**, arguing that anonymity can make people identify more strongly with a group and therefore **conform to its norms**. If the group norm is aggressive, aggression may increase, but if the group norm is **prosocial**, behaviour may become more helpful instead. Therefore, de-individuation is only a **partial explanation of aggression**, as the behaviour depends on the norms of the group.

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Part 8 — Institutional Aggression in Prisons

Aggression in prisons can be explained through either **dispositional factors**, which focus on characteristics the individual brings into prison, or **situational factors**, which focus on the prison environment itself.

1. Importation model

Irwin and Cressey (1962) proposed the **importation model**, which suggests that aggression in prison is mainly influenced by **individual characteristics** that prisoners bring with them, rather than being caused by the prison environment.

Prisoners may already have characteristics that increase their likelihood of aggression, such as **drug abuse, childhood trauma, poverty and previous criminal behaviour**. These characteristics may continue to influence their behaviour in prison, where aggression can become a way of gaining **status and respect** within the prison hierarchy.

Thomas and McManimon (2005) argued that prisoners' behaviour in prison reflects the **dispositions they already possess**, meaning that some prisoners may remain aggressive regardless of the specific prison environment.

DeLisi et al. (2011) – Key study

Aim	To investigate whether **dispositional characteristics** are associated with aggressive behaviour among juvenile offenders.
Participants	**813 juvenile offenders** compared with a control group.
Procedure	The researchers examined the offenders' **background characteristics,** including **experiences of childhood trauma** and levels **of irritability,** and compared these with their involvement in violent behaviour and suicide.
Findings	Dispositional characteristics such as **childhood trauma and irritability** were associated with a **greater risk of violent behaviour** and suicide.
Conclusion	Individual characteristics may be **important predictors** of aggression, supporting the importation model.

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2. Deprivation model

The **deprivation model**, as proposed by **Sykes (1958)**, provides a **situational explanation** of institutional aggression. It suggests that aggression can develop because prisoners are deprived of important aspects of normal life.

Sykes identified five **pains of imprisonment**:

- **Loss of liberty** – prisoners cannot freely choose where they go or what they do.
- **Loss of goods and services** – access to possessions, entertainment and other resources is restricted.
- **Loss of heterosexual relationships** – normal sexual relationships are restricted.
- **Loss of autonomy** – prisoners have little control over their daily lives.
- **Loss of security** – prisoners may feel threatened by other prisoners and the prison environment.



These deprivations can create **frustration and competition**. For example, limited access to goods or services may increase competition between prisoners, while restrictions on freedom and autonomy can create frustration.

Aggression may therefore become a way of **gaining resources, establishing status or responding to frustration**.

AO3 - EVALUATION

A strength of the **importation model** is that there is **research support for the role of dispositional factors** in prison aggression. **Cunningham et al. (2010)** examined **35 homicides in Texas prisons** and found that violent incidents were strongly associated with **dispositional factors**, such as gang affiliation and age, rather than situational deprivations alone. This suggests that prisoners' characteristics and experiences can interact with the prison environment to influence aggressive behaviour. Therefore, the importation model provides a useful explanation of why **some prisoners may be more likely to behave aggressively than others**.

A further strength is that the importation model can have **practical applications for managing aggression in prisons**. If prisoners bring existing **attitudes, values and behavioural tendencies** into prison, identifying individuals who may be more vulnerable to aggression could allow prisons to provide **targeted support, conflict-management programmes and closer supervision**. This could help reduce aggressive incidents and improve **prisoner and staff safety**.

A limitation of the importation model is that it **underestimates situational factors within prisons**. **Dilulio (1991)** proposed the **Administrative Control Model (ACM)**, arguing that poor prison management can contribute to aggression. For example, **inconsistent enforcement of rules** and psychological distance between prison officers and inmates may create frustration and conflict. Therefore, aggression cannot be explained entirely by characteristics that prisoners bring with them, making the importation model **too dispositional**.

A further limitation is that a more accurate explanation may be **interactionist, combining both dispositional and situational factors**. **Dobbs and Waid (2002)** argued that prison aggression is likely to result from an interaction between the individual and their environment. For example, the **stress, unfamiliarity and deprivation of prison life** may increase the influence of existing aggressive tendencies. Therefore, neither the importation model nor the situational deprivation model alone provides a **complete explanation** of prison aggression.

Part 9 — Media Influences on Aggression: The Effects of Computer Games

Violent video games may have a particularly strong influence on aggression because they are interactive. Unlike television or films, where the individual is mainly a **passive observer**, video games require the player to **actively participate** in the aggressive behaviour. Players may repeatedly perform actions such as shooting, fighting or killing, and these actions are often **rewarded**, meaning the player learns that aggression can be an effective way of achieving goals.

The effects of violent video games can include increased **aggressive thoughts, feelings, physiological arousal and behaviour**. **Anderson and Dill (2000)** found that participants who played the violent game **Wolfenstein 3D** subsequently behaved more aggressively than those who played a non-violent game. This was measured using the **competitive reaction-time task**, where participants could punish an opponent with unpleasant noise. Those who played the violent game selected **longer and more intense blasts**, suggesting greater subsequent aggression.

Research also suggests that these effects are not limited to one particular study or type of participant. **Bushman et al. (2006)** conducted a **meta-analysis of 431 studies involving over 68,000 participants** and found that exposure to violent media was associated with increased **aggressive behaviour, thoughts, feelings and physiological arousal**. The effects were found across different forms of media, including **television, video games, music and comic books**.

AO3 - EVALUATION

A strength is that the findings have **real-world applications**. If violent games can increase aggressive behaviour through processes such as **desensitisation and the development of aggressive cognitive scripts**, parents and schools can help children manage their exposure to violent content. For example, **age ratings and parental controls** can be used to limit access to inappropriate games. This means research into computer games can contribute to **practical strategies for reducing aggressive behaviour**.

A further strength of the computer game explanation is that **violent game exposure can predict later aggressive behaviour**. **Gentile et al. (2004)** found that children who played more violent video games subsequently showed **higher levels of aggressive behaviour**, even after taking into account factors such as previous aggression. This suggests that exposure to violent games may contribute to **changes in aggression over time**, rather than simply attracting already-aggressive individuals. Therefore, the explanation has **predictive validity**, as exposure to violent games can help predict future aggressive behaviour.

A limitation is that violent and non-violent games may differ in **more than just their level of violence**. **Przybylski (2014)** argued that games can differ in factors such as **complexity, difficulty and engagement**. A more complex game may require greater concentration and produce stronger cognitive involvement, which could affect aggression independently of its violent content. Therefore, researchers may struggle to establish whether **violence itself** causes increased aggression, reducing the validity of cause-and-effect conclusions.

A further limitation of the media explanation is that much of the **supporting evidence is correlational.** People who regularly consume violent media may already have characteristics such as **impulsivity, hostility or a preference for aggressive behaviour**, meaning that these factors could explain both their media choices and their aggression. This creates a problem of **cause and effect**, as it is difficult to establish whether violent media causes aggression or whether more aggressive individuals simply choose more violent media. Therefore, the explanation may **overestimate the causal role of media exposure**.

Another limitation is that experimental research often has **low ecological validity**. Participants may play a violent game in an artificial laboratory setting and then complete an unrealistic measure of aggression, such as **choosing the intensity and duration of a noise blast** to supposedly punish another participant. In real life, aggressive behaviour can have consequences such as **retaliation, punishment and social disapproval**, which are often absent in laboratory tasks. Therefore, participants may behave differently in the laboratory, meaning the findings may **not accurately represent how violent media influences aggression in everyday life**.

Part 10 — Media Influences on Aggression: Desensitisation, Disinhibition and Cognitive Priming

Repeated exposure to **aggressive and violent media** may influence aggression through several psychological processes.

These processes explain **how exposure to violent media can change the way individuals think, feel and respond to aggression**. Three important mechanisms are **desensitisation, disinhibition and cognitive priming**.

1. Desensitisation

Desensitisation occurs when repeated exposure to **violent or aggressive media** reduces an individual's emotional response to violence. Over time, violence may become **less shocking and more acceptable**, while empathy towards victims can decrease.

Funk et al. (2004) found that greater exposure to **violent video games** was associated with **lower empathy** and stronger **pro-violence attitudes** in children. This supports the idea that repeated exposure to violent media may make aggression seem more normal.

2. Disinhibition

Disinhibition occurs when the normal **restraints against aggression are weakened**. Violent media may contribute to this by showing aggression as **rewarded, justified or without serious consequences**.

Through **Social Learning Theory**, individuals may learn that aggression is an **acceptable or effective response**. Repeated exposure can therefore weaken the influence of **social norms** that would normally discourage aggressive behaviour.

3. Cognitive priming

Cognitive priming refers to the idea that exposure to aggressive media can temporarily make **aggressive thoughts and ideas more accessible in memory**.

For example, after seeing an aggressive interaction, aggressive concepts may become more readily activated. If the individual later encounters a frustrating or provocative situation, these previously activated ideas may influence how they **interpret the situation and respond**.

Huesmann (1998) proposed that repeated exposure to aggressive behaviour can lead to the development of **aggressive scripts**. These scripts are stored in memory and act as a guide for how aggressive situations are expected to **"play out"**. When an individual encounters an appropriate **aggressive cue**, the script can be automatically activated, making an aggressive response more likely.

The Three Mechanisms

Mechanism	What happens?	Possible effect
Desensitisation	Repeated exposure makes violence seem **less shocking**.	Reduced **empathy** and greater acceptance of violence
Disinhibition	Aggressive behaviour becomes less restricted by **social norms**	Aggression becomes **more acceptable**.
Cognitive priming	Aggressive ideas become more **accessible in memory**.	Aggressive responses become **more likely and automatic**.

AO3 - EVALUATION

A strength of research into **desensitisation and disinhibition** is that it has **real-world applications**. If repeated exposure to aggressive media can make aggression seem more **normal and acceptable**, parents, schools and policymakers can reduce children's exposure to inappropriate content through **age ratings, parental controls and media education**. This could reduce the likelihood that aggressive behaviour is learned or accepted as normal. Therefore, research into desensitisation and disinhibition has **practical applications for reducing aggression**.

A strength of the **media effects explanation** is that there is **research support for desensitisation**. **Krahé (2011)** found that individuals who regularly viewed aggressive media showed **more positive arousal and less anxiety** when watching aggressive scenes in the laboratory than those without a history of regular exposure. This suggests that repeated exposure can reduce the **negative emotional response normally associated with aggression**, making aggressive behaviour seem more acceptable. Therefore, desensitisation may help explain how repeated exposure to aggressive media can contribute to **disinhibition and changes in social norms**.

A further strength is that the explanation has **real-world applications for reducing aggression**. **Bushman and Anderson (2001)** argued that repeated exposure to violent media can strengthen **aggressive cognitive scripts** and reduce emotional responses to victims. This suggests that interventions could focus on **challenging hostile attribution biases and encouraging children to question aggressive media messages**. This could be applied in **schools, parenting programmes and media education** to reduce the likelihood that aggressive behaviour is seen as normal or acceptable. Therefore, the explanation has useful **practical applications** for reducing media-related aggression.

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A limitation of the **media effects explanation** is that **unrealistic violence may not have the same effect as realistic violence**. **Huesmann (1986)** argued that children are more likely to develop aggressive **cognitive scripts** when the violence they observe is perceived as realistic. For example, children may recognise that cartoon characters can be **squeezed, flattened or punched so hard that their eyes pop out** without experiencing realistic pain or consequences. This means that children may not interpret cartoon aggression as a realistic model for their own behaviour. Therefore, the effects of media violence may depend on **how realistic the violence appears**, reducing the validity of assuming that all violent media produces the same effects.

A second limitation is that **individual differences may affect how strongly people respond to aggressive media**. Not everyone who watches violent media becomes more aggressive, suggesting that media exposure alone may not be sufficient to explain aggressive behaviour. Factors such as **personality, previous experiences and family environment** may influence whether aggressive media affects an individual. Therefore, the media effects explanation may be **too deterministic**, as it does not fully account for why some individuals are more affected by violent media than others.