SL IB Psychology

The Individual & the Group

Contents

Social Identity Theory

Social Identity theory

What is social identity theory?

- **Social identity theory (SIT)** refers to the identity an individual forms of themselves based on their **group memberships**
- An individual's social identity is a combination of the various different ingroups to which they belong e.g. family, college, psychology class, rugby team etc.
- An individual is likely to have a **range** of different social identities based on each specific group to which they belong - e.g. within a family group an individual can have the social identity of mother/daughter/sister/aunt/cousin/niece
- An individual may choose their ingroups (joining a drama club, supporting a football team) but there are many ingroups over which an individual has no control - e.g. nationality, given sex at birth, ethnicity, age group
- Groups to which an individual does not belong are known as outgroups
- Negative attitudes towards outgroups can lead to **prejudice** and **discrimination**

What are the processes of social identity theory?

- **Social categorisation** is the process by which people arrange others into groups according to specific **group characteristics** e.g. Millennials, Boomers, Americans, Italians, punks, hippies etc.
- Social categorisation can be a starting point by which **stereotypes** form e.g.
  - *Americans are all loud, burger-eating patriots; Boomers are smug and self-satisfied; hippies are all lazy, unwashed layabouts*
- Social categorisation occurs as an easy way of understanding others as it requires little **cognitive energy**
- **Social comparison** is the process by which an individual or group **compares** themselves either favourably (**downward comparison**) or unfavourably (**upward comparison**) to other groups
  - *An example of downward comparison would be a businessperson looking down on someone who is unemployed; upward comparison would be a businessperson looking up to someone who is a highly successful entrepreneur billionaire*
- Social comparison can lead to individuals and groups feeling either **superior or inferior** to outgroups, depending on which group is being considered at the time
  - *e.g. staff at a school which gets the best exam results in one town will feel superior to all of the other schools in the town but inferior to the highest-achieving schools in the country*
- **Homogeneity of the outgroup** and **positive distinctiveness** of the ingroup (also known as **ingroup favouritism**) are processes by which the ingroup appears as a collection of distinct, varied individuals whereas the outgroup is viewed as a 'mass' of identical, indistinct members with no individuality
- **Favouring the ingroup** can mean that the outgroup is easier to dismiss and, more worryingly, to **demonise** e.g. Jewish people in pre-war Germany were reduced to a set of unpleasant, negative characteristics by anti-semitic propaganda to the extent that they simply became 'them' as opposed to 'us' (i.e. the German people)

Which research studies investigate social identity theory?

- **Tajfel et al. (1971)** – being randomly assigned to a group is enough to produce ingroup **favouritism**
- **Howarth (2002)** – social identity can be negatively affected by the **prejudicial attitudes**

Tajfel et al. (1971) and Howarth (2002) are available as separate Key Studies – just navigate the Individual & the Group section of this topic to find them (Two Key Studies of Social Identity Theory)
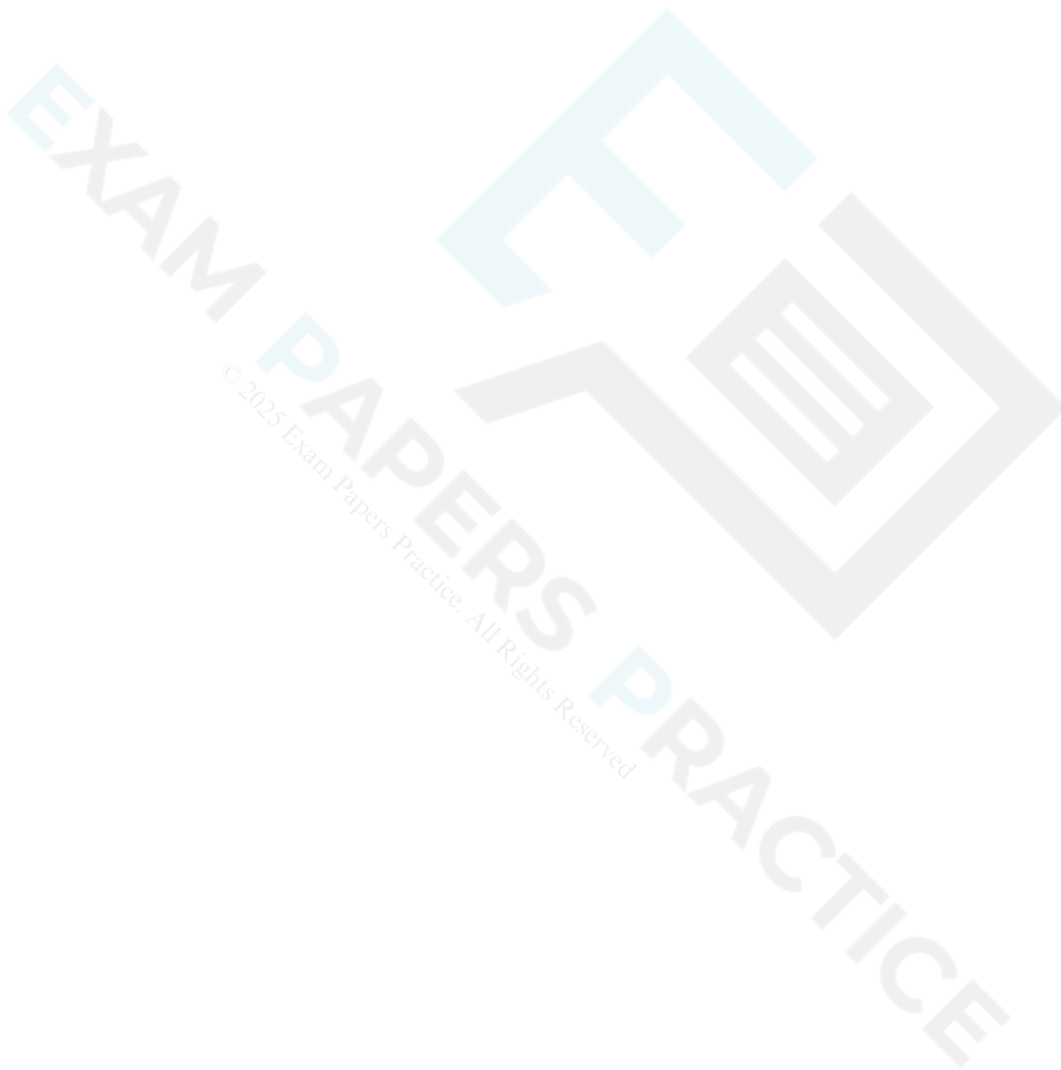
✏️ Worked example

SHORT ANSWER QUESTION (SAQ) – 9 marks

Explain social identity theory with use of one relevant study. *[9]*

This question requires you to go into some detail as to features of the theory. Here is an example of how to do this:

Social identity theory was proposed by Tajfel et al. (1971) after conducting his research into the minimal groups paradigm. This paradigm revolves around the idea that groups will form under the most meaningless (i.e. minimal conditions) such as mere random allocation to groups. In other words, each group does not have to necessarily share any common characteristics; their overarching shared identity is that they are all members of the same group. Tajfel wanted to find the minimal level necessary for some kind of group identification and the subsequent prejudice and discrimination that was likely to be directed towards the outgroup. He found that merely being put in a group was enough to instil loyalty to the group and some discrimination towards those outside the group. The crucial aspect of this situation was that it involved a totally meaningless and random categorisation of people into ingroups and outgroups.

Two Key Studies of Social Identity Theory: Tajfel (1972) & Howarth (2002)

Key Study: Tajfel (1972)

Aim: To investigate the **minimal groups paradigm** and how it is relevant to **social identity theory (SIT)**

Participants: 48 males aged 14–15 from the same state school in Bristol, UK. The boys were **randomly allocated** to 3 groups consisting of 16 boys per group

Procedure:

- The boys were **randomly assigned** to a group by the researchers
- The boys had been shown slides of paintings by the artists Klee and Kandinsky and were asked to state which artist they preferred
- They were then told that their preference for one of these two artists would form the basis of the group they would be assigned to (in actual fact this did not happen – the boys simply thought that this had happened, thereby creating minimal groups)
- The boys were not told which of the other boys were members of their group and there was no face-to-face contact with other group members once they had made their choice
- The boys were then shown, individually, to a cubicle and asked to conduct the following task: assign money (virtual, not real) to members of either the boy's ingroup (based on the preference for the artist previously stated) or outgroup (preference for the other artist)
- The boys did not know the identity of each boy, only a **code number** which identified whether they were ingroup or outgroup
- The trials were set up in a **randomised design** by the researchers and tested the boys on a range of measures including whether they would opt for maximum joint profit, maximum **ingroup** profit, maximum difference between **ingroup** and **outgroup**

Results: The boys tended to favour the ingroup members, choosing to go for a higher reward and to **penalise** the outgroup i.e. they went for the choice which maximised the biggest profit/loss difference between the ingroup and the outgroup, often at the expense of possible maximum joint profit
This was based solely on the mere idea of the other group rather than on any actual **interaction** between ingroup and outgroup members, even when the difference between the groups was minimal i.e. not based on any shared group **characteristics** but on the (illusion) that the other boys in the group also preferred the same artist

Conclusion: **Ingroup favouritism** can be manipulated via the minimal groups paradigm in which participants use **social categorisation** to make decisions i.e. simply knowing that another (rival) group exists is enough to suggest the idea of 'us' and 'them'

Evaluation of Tajfel et al. (1971)

Strengths

- This was a **lab experiment** which uses a **standardised procedure** and **quantitative data** which should ensure **reliability**

- The fact that the boys did not meet or even see the ingroup and outgroup members adds **validity** to the procedure as it eliminates possible sources of **bias** from the decision as to how to award money i.e. physical appearance and **personality** factors cannot have influenced the decisions made in the task

Weaknesses

- There was no **jeopardy** involved in the task: assigning virtual money to faceless strangers does not reflect real-life situations therefore the study lacks **ecological validity**
- The boys may have succumbed to **response bias** i.e. rewarding their ingroup because they felt that this is what the researchers wanted them to do

Key terms:

- **Minimal groups paradigm**
- **Ingroup**
- **Outgroup**

Key Study: Howarth (2002)

Aim: To investigate the ways in which **prejudice** and **discrimination** affect social identity

Participants: 44 teenagers aged 12–16 years old from Brixton from an **ethnically diverse demographic**. 5 head teachers of Brixton secondary schools. Brixton is an area in South London which has been associated with crime, violence and **social disadvantage**

Procedure: **8** focus group **interviews** were run by the researcher with an average of 5 participants per session. The researcher began by introducing a topic e.g. 'Tell me about your life in Brixton and how you think other people might feel about Brixton' and then the participants discussed the topic together with the researcher recording the session.
Interviews with the head teachers were conducted so that the researcher could gain some insight into school students from Brixton and their cultural backgrounds

Results: The researcher collected qualitative data under three main headings as follows:

- *Constructing Social Identities through Representations:* the teenagers reported that other people are often shocked, negative or fearful when they find out where the participants are from e.g. references to weapons, drug use etc. The participants felt that the media played a significant role in **stereotyping** and stigmatising them and that this could be seen in the **body language** of non-Brixton residents e.g. a white woman holding on tight to her handbag when two black Brixton teenagers were walking towards her
- *The Psychological Violence of Stigmatising Representations:* the participants reported that they see themselves through the eyes of strangers i.e. as violent, deviant, aggressive and that this has a massive impact on their **self-identity** and **self-esteem** with some participants reporting feelings of great shame and **conflict** about coming from Brixton. Some of the participants have attempted to eradicate any traces of their Brixton identity, **psychologically** and **metaphorically** removing themselves from the area. Some participants experienced **anger** and **depression** and some succumbed to a **self-fulfilling prophecy** – *i.e. 'they expect me to be hostile, so I'll be hostile'*
- *Social Relationships and Institutional Cultures in Empowerment:* family and school played a key role in the lives of the Brixton teenagers, both to help the young people to build **self-esteem** and a positive identity. The head teachers reported however, that not all parents are positive **role models** in this context. Some parents actively block a school's efforts to **integrate** the students and to enable their children to become confident and well-rounded individuals, mainly due to some misguided attitudes towards child-rearing. The participants all felt that children can help their parents to shed prejudiced attitudes and to gain a better **insight** into and understanding of the community in which they live

Conclusion: Social identity can be hugely affected by the prejudiced attitudes of individuals and of society as a whole

Evaluation of Howarth (2002)

Strengths

- Qualitative data is rich and insightful which gives it great **explanatory power**
- Using focus groups allows for a relaxed atmosphere in which the participants are less likely to be guarded or artificial about what they say

Weaknesses

- The **analysis** of qualitative data is **time-consuming** and may be prone to **researcher bias** as the researcher has collected the data themselves so they may only look for **themes** within the data which **confirm** their initial beliefs and ideas
- Focus group interviews may not be **representative** of the full range of views within the group as they can tend to be dominated by the more confident members of the group, leaving the more reserved, shy members feeling that they are not able to express their feelings and attitudes

Social Cognitive Theory

Social Cognitive Theory

What is social cognitive theory?

- **Social cognitive theory (SCT)** was developed by **Bandura (1986)** as a broader explanation of social learning theory (SLT: learning which takes place in a **social context**)
- SLT is based on **observational learning** which can be broken down into its constituent parts of: **Attention–Retention**
- **Reproduction–Motivation i.e. ARRM**
    - Attention = noticing the behaviour;
    - Retention = remembering the behaviour;
    - Reproduction = imitating the behaviour;
    - Motivation = the desire to repeat the behaviour
- SLT states that observational learning is dependent on the behaviour of key **role models** in a child's life, particularly parents but also other significant people such as teachers, older siblings, celebrities
- SCT builds on SLT by including **cognition** as a key component of behaviour which makes it more sophisticated than SLT as it acknowledges that individuals can exert some control over their actions
- A key component of SCT is **self–efficacy** which is based on the idea that an individual has **autonomy** over their actions and that a person's destiny is not wholly dependent on their **environment** *i.e. I have the power to control what happens to me and how I feel about the world*
- A key concept of SCT is **reciprocal determinism**, which states that interactions between the individual (their natural talents, skills and **personality**), their social environment and the behaviour itself work together **holistically** to determine **behavioural outcomes**
    - *An example of reciprocal determinism would be that of a keen violinist: the social environment must be in place (access to violin lessons and a skilled teacher) for the desired behavioural outcome (to be a world-renowned violinist) to be realised but this is also only possible with self-efficacy (the belief that, with practice, the outcome can be achieved)*
- SCT also involves the role of **vicarious reinforcement** – i.e. as with the above example, a child watches a talented violinist playing on TV and hears the audience applaud and is motivated to achieve this outcome for themselves

Which research studies investigate social cognitive theory?

- **Bandura, Ross & Ross (1961)** – observational learning in children is demonstrated via the imitation of adult role models
- **Dijkstra & DeVries (2001)** – self-efficacy is a key factor in quitting smoking

Bandura, Ross & Ross (1961) and Dijkstra & DeVries are available as separate Key Studies – just navigate the Individual & the Group section of this topic to find them (Two Key Studies of Social Cognitive Theory)

✏️ Worked example

EXTENDED RESPONSE QUESTION (ERQ) - 22 marks

To what extent can social cognitive theory explain behaviour? *[22]*

This question requires you to present arguments that demonstrate the extent to which SCT is a viable and valid explanation for behaviour. Here is an exemplar paragraph:

SCT can only explain individual behaviour to a certain extent, and it may be limited to explaining behaviour in individualistic cultures more than in collectivist cultures. Concepts such as self-efficacy are more important in individualistic societies as personal self-efficacy is essential for success regardless of whether it is achieved individually, or as a member of a group working towards group success. It could be argued that for a group to be successful (in collectivist cultures) then at least some of the group must show self-efficacy simply in order to ensure that tasks are completed, and group goals achieved. This variable is very difficult to measure though so the extent to which SCT operates on a global scale is unclear.

Two Key Studies of Social Cognitive Theory: Bandura (1961) & Dijkstra & DeVries (2001)

Key Study: Bandura, Ross & Ross (1961)

Aim: To investigate **observational learning** in children when confronted with an **aggressive adult role model**

Participants: 72 children (mean age = 4 years, 36 males and 36 females) who attended Stanford University day nursery in California, USA. The children had been **rated** as to their level of aggression by nursery staff to produce a **matched pairs design** to ensure that there were equal numbers of same-level aggressive children across in each condition

Procedure: The procedure consisted of three distinct **phases**:

- **Phase 1:** each child was taken to an **experimental** room where they **observed** either an aggressive or a non-aggressive adult or no adult at all (see conditions below). Each session lasted around 10 minutes. The aggressive condition involved the model performing distinctive aggressive behaviours towards a **Bobo doll** (a large doll that swings on a weighted base) repeated 3 times (this was done to measure **direct imitation**) e.g. punching, kicking etc.
- **Phase 2:** the child was then taken to a room full of attractive toys. They were then told that the toys were meant for another child and that they had to leave the room
- **Phase 3:** The child was then taken to a third room filled with aggressive and non-aggressive toys, including a Bobo doll where they were left to play for 20 minutes while the researchers observed them from behind a **one-way mirror.** Specific examples of **physical** and **verbal** aggression were measured by the **observers** (direct imitation plus generalised **non-imitative** aggressive behaviour)

There were 3 conditions to the experiment:

1. Aggressive model – the model behaved aggressively towards the Bobo doll
2. Non-aggressive model – the model behaved in a non-aggressive way
3. Control group - no model was present

There was an equal number of times in which a **same sex model** or **opposite sex model** was observed per condition

Results: Children in the aggressive condition produced more directly imitative acts of aggression towards the Bobo doll e.g. punching, kicking, hitting it with a toy hammer.
This imitation was not seen in the non-aggressive or control conditions.
There was more same-sex imitation of aggressive behaviour and boys overall showed more physical aggression than girls

Conclusion: Aggression can be the result of observational learning experienced in one setting and carried over to a different setting

Evaluation of Bandura, Ross & Ross (1961)

Strengths
- The use of a matched pairs design controlled for the potential **confounding variable** of **individual differences i**n aggression
- The findings of this study highlighted the importance of children's TV viewing being restricted to content suitable for their age as it was thought that watching violence on TV might encourage further imitative violence in real-life situations

Weaknesses

- Children observe violent, aggressive behaviour in natural settings, often involving adults they know well which makes this procedure lack **ecological validity**
- There are **ethical considerations** which were not adhered to when this study was conducted – **particularly protection of participants from harm** – which means that the procedure could not be **replicated** today

Key terms:

- **Observational learning**
- **Role models**
- **Matched pairs design**

Key Study: Dijkstra & DeVries (2001)

Aim: To investigate **self-efficacy** (a key component of SCT) as a factor in quitting smoking

Participants: 1546 smokers from the Netherlands

Procedure: The researchers conducted a field experiment using participants who wanted to quit smoking. The participants were randomly allocated to one of the following conditions:

- Condition 1: **Outcome information** – the participants were given information as to the negative and harmful outcomes of smoking e.g. shorter life expectancy; unpleasant diseases; tooth decay etc.
- Condition 2: **Self-efficacy enhancing information** – the participants were given information pertaining to self-efficacy alone and how to incorporate it into their lives e.g. believing that they could give up, strategies for successfully quitting smoking
- Condition 3: **Both outcome information and self-efficacy information** – the participants were given the information from condition 1 and from condition 2
- Condition 4: **Control condition** – the participants were given no information at all

Results:

- The participants reported back to the researchers after 12 weeks, telling them how many days 'clean' they had had in the past 7 days (i.e. how many days in the past week that they had not smoked) and also if they had attempted to quit smoking over the past 12 weeks
- The highest number of participants who had been 'clean' for 7 days came from Condition 2, the self-efficacy-enhancing information (8.5)
- Condition 2 also had the highest number of smokers who had attempted to quit in the last 12 weeks (27.3). Of the two other groups (not including the control condition) the lowest number of 7 days 'clean' came from the outcome information condition (4.8) and the lowest number of attempts to quit came from the outcome information and self-efficacy condition combined group (24.6)

Conclusion: Self-efficacy may be a key factor in helping people to quit smoking: simply warning people of the dangers of smoking does not appear to be as effective

Evaluation of Dijkstra & DeVries (2001)

Strengths

- Using a large sample within a field experiment means that this study has good **ecological validity**
- The findings of this study could be used to inform **health campaigns** which aim to help people quit smoking

Weaknesses

- Using **self-reported data** means that the results may not be **valid** as participants could have lied about their smoking which is a type of **social desirability bias**
- As there was no **follow-up study** it is unclear whether the participants in Condition 2 went on to be more successful at quitting smoking than in the other groups

Key terms:

- **Self-efficacy**
- **Field experiment**
- **Social desirability bias**

Stereotypes: Formation of Stereotypes

What is a stereotype?

- A **stereotype** comprises a set of **characteristics, traits, behaviours and attitudes** attributed to **social** and **cultural groups** based on broad, often biased information about that group
- Our social world is very complex and contains a huge amount of information; one way of avoiding **information overload** is to use stereotypes to understand the world and those living in it because they save energy and can easily be applied to people (an example of people as **cognitive misers**)
- The main drawback of **categorising** people into broad groups is that stereotyping can lead to associations between groups and characteristics that are often negative and may give rise to prejudice and **discrimination**
- One theory of how stereotypes form is **Illusory Correlation** (which can also be studied as part of the **Cognitive Approach – Reliability of Cognitive Processes**)

What is Illusory Correlation?

- **Illusory Correlation (IC)** is a cognitive bias which occurs when people assume that there is a relationship between two variables when in fact this **relationship** does not exist or is based on stereotypical assumptions which lack tangible **evidence**
- Some examples of everyday ICs are:
  - *Blondes have more fun (the IC is the linking of hair colour and enjoyment of life);*
  - *Italians are highly excitable (the IC involves generalising a specific behaviour to a whole nation);*
  - *A gambler who believes that wearing their 'lucky shirt' will help them to win at the roulette table (the IC is the belief that arbitrary factors such as clothing choice can have any influence over the outcome at a gambling game)*
- All ICs are not necessarily negative or harmful e.g. My right knee is aching which means that rain is on the way, but some ICs can be at the root of **bigoted** behaviour such as racism, sexism, homophobia etc.
- One explanation for the development of ICs is the cognitive miser explanation: the world is a complex, busy place and we are bombarded on a daily basis with a multitude of messages and information so using ICs to understand the world means that less cognitive energy needs to be expended than if one were to fully focus on the subtle and varied explanations for specific behaviours/types of people
- ICs are directly relevant to stereotype formation as they highlight the ways in which **social categorisation** can lead to individuals being labelled with set and predetermined behaviours according to fixed (and untested) ideas about one of the groups to which they belong

Which research studies investigate formation of stereotypes?

- **Hamilton & Gifford (1976)** – illusory correlation favours the majority rather than the minority in terms of group size

Hamilton & Gifford (1976) is available as a separate Key Study – just navigate the Individual & the Group section of this topic to find it (Two Key Studies of Stereotypes). This study can also be found as part of the Cognitive Approach topic Cognitive Biases which you can find as a separate Revision Note on this site

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✏️ **Worked example**

SHORT ANSWER QUESTION (SAQ) – 9 marks

Explain one theory of the formation of stereotypes. [9]

This question requires you to go into some detail, providing explanation of the theory. Here is an exemplar paragraph:

Illusory correlations may contribute to ethnic stereotypes. Members of the majority group can 'hide' their negative behaviours but members of minority group are already noticeable due to their 'difference' so any negative behaviour on their part will be noticed – and commented on. A good example of this is the media: if a minority individual commits a shooting, the ethnicity of the criminal is mentioned; if it is a person from the ethnic majority group, then their ethnicity isn't commented upon. In this way, the theory of illusory correlation provides a valid explanation for the formation of stereotypes.

Stereotypes: Effects of Stereotyping

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What is Stereotype Threat?

- **Stereotype Threat (ST)** occurs when an individual's performance on a task is impaired when they feel that **pre-existing stereotypes** will be used to judge them on their performance
- ST may arise in an example such as the following: a woman is parallel-parking her car and is aware that a group of men are nearby – she is aware that women are stereotyped for bad parking so even if she is good at parking this may trigger ST and she then parks her car badly
- ST is not the same as actively being stereotyped by others it is when the individual knows that the stereotype already exists and feels that others are already judging them on this basis – even if this is not true (i.e. in the above example the group of men may have been completely unaware of the woman parking her car)
- ST is a kind of **self-fulfilling prophecy** i.e. People look down on me because of my accent, they think I'm stupid so I'm not even going to bother applying for that job, I won't get it
- ST can be negative even when it appears to be positive e.g. overweight people are so jolly;
  - *Asian students do so well at school;*
  - *Women are so caring because these stereotypes still limit **variety** and **individual differences** within a social group i.e. what if I'm a woman who is uncaring?*
  - *What if I'm an Asian student who hates school and fails their classes?*

Which research studies investigate the effects of stereotyping?

- **Spencer et al. (1999)** – stereotype threat may trigger gender differences in Maths
Spencer et al. (1999) is available as a separate Key Study – just navigate the Individual & the Group section of this topic to find it (Two Key Studies of Stereotypes)

✏️ Worked example

EXTENDED RESPONSE QUESTION (ERQ) – 22 marks

Discuss the effects of stereotyping. [22]

This question requires you to offer a balanced argument, using examples to support and also challenge theories and studies. Here is an exemplar paragraph:

The theory of stereotype threat can be vague; it is based on the idea that people usually use superficial criteria to form stereotypes and then once an individual knows that a stereotype exists this can affect their performance on a task. While this theory is at least anecdotally apparent i.e. we can see evidence of it in real life, it is rather unformed and vague in itself. This makes stereotype threat difficult to test, measure and quantifyThe theory seems to some extent to be based on common sense: we affect and are affected by other people's attitudes towards us and there are numerous examples of stereotyping out there, particularly in some media outlets e.g. tabloid newspaper and social media. Stereotype threat, however, remains unscientific as measuring it involves an array of variables which are highly subjective and open to interpretation.

Two Key Studies of Stereotypes : Hamilton & Gifford (1976) & Spencer et al. (1999)

Key Study: Formation of Stereotypes: Illusory Correlation: Hamilton & Gifford (1976)

Aim: To investigate **illusory correlation** based on group size as a key factor in the formation of stereotypes

Participants: 40 undergraduate students from a university in New York state, USA (20 males; 20 females)

Procedure:

- The participants were presented with two **hypothetical** groups i.e. these were not real groups consisting of real people with given characteristics
- The participants were told that Group A consisted of 26 members and that Group B consisted of 13 members
- The participants then read a series of statements which each described a particular behaviour performed by either a member of A or B e.g. John, a member of A, visited a friend in hospital
- The behaviours described in the statements were **classified** as either desirable or undesirable
- Both A and B were assigned more positive than negative behaviours at a **ratio** of 9:4 (positive to negative) and two thirds of the statements overall were **attributed** to members of A
- Thus, members of A were presented as performing more behaviours overall than B and positive behaviours were more frequent from both groups than negative behaviours

The participants were then asked to provide **ratings** for the following measures:

1. Given a list of 20 attributes, assign each to either group A or B
2. Given a particular example of a behaviour, say whether this behaviour was performed by a member of A or B
3. Estimate how many negative behaviours can be attributed to either A or B

Results: The **mean scores** showed that participants attributed more desirable social behaviours (6.7) to members of Group A than to members of Group B (6.0); undesirable social behaviours were attributed more to Group B (5.6) than to Group A (4.4).

Conclusion: The results suggest that illusory correlation may be based on group size: the smaller group, B, appears more **distinctive** than the larger group A so that any undesirable behaviours are linked more often to the minority group, B, than to the majority group A. This has implications in terms of how minority groups are viewed by society.

Evaluation of Hamilton & Gifford (1976)

Strengths

- The study generated **quantitative data**, which is easy to compare and analyse, making the results **reliable**
- The findings could be used to inform awareness-raising as a means to reduce prejudice and increase tolerance of minority groups

Weaknesses

- The **procedure** does not fully reflect how people respond in real-life situations where they are exposed to minority groups which reduces **ecological validity**
- The small **sample size** reduces the **statistical power** of the data which means that the results lack **robustness**

Key terms:

- **Illusory correlation**
- **Minority**
- **Majority**

Key Study: Effects of Stereotyping: Stereotype Threat: Spencer et al. (1999)

Aim: To investigate the idea that **stereotype threat** will impair Maths performance in women.

Participants:

- 56 undergraduate students from the University of Michigan (28 female; 28 male)
- All the participants were required to have completed at least one semester of **calculus** (a very difficult, challenging form of Maths) and to have received a grade of ''B'' or better
- They also were required to have scored above the **85th percentile** in Maths for their year group (i.e. they were all of **equal ability** in Maths)

Procedure: Participants were tested in male and female groups of three to six. They were told, *''We are developing some new tests that we are evaluating across a large group of University of Michigan students. Today you will be taking a math test.''*

There were 2 conditions of the Independent Variable:

1. In the **relevance** condition participants were told that the test had shown **gender differences** in the past—this was done deliberately to trigger stereotype threat in the female participants as Maths is thought to be something that women underperform in compared to men
2. In the **irrelevance** condition (no stereotype threat triggered), participants were told that the test had never shown gender differences in the past

Results:

- In the first condition (**relevance** i.e. sensitive to gender differences), women significantly **underperformed** in relation to equally qualified men
- In the **irrelevance** condition (i.e. no mention of gender differences affecting performance) the performance in the Maths test was about **equal**

Conclusion: These findings provide strong evidence that women's underperformance on the Maths test results from stereotype threat, rather than from **sex-linked ability differences** that are detectable only on advanced mathematical material. In other words, women are just as good at Maths as men – but only when a supposed stereotype is not presented to them i.e. when a stereotype is not triggered

Evaluation of Spencer et al. (1999)

Strengths

- Using participants who were matched in terms of their Maths ability helps to eliminate **individual differences** between **genders** and thus increases the **validity** of the findings
- The female participants in the relevance condition were not specifically told that women tended to under-perform in the test, only that **gender differences** had been been found in the past which further increases the study's validity

Weaknesses

- Performance on the Maths test could have been due to the participants succumbing to **demand characteristics** e.g. by trying too hard, not hard enough, feeling nervous so the results may not be due

to stereotype threat alone
- The results of the study could be used maliciously by those who wish to further **promote** stereotypes e.g. politically-motivated or sexist individuals/institutions who could point to the study's findings and claim that they 'prove' that women are not as able as men academically

Key terms:

- **Stereotype threat**
- **Relevance**
- **Irrelevance**