

The big picture

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? Subtopic question(s)



Notebook



Glossary

Reading
assistance

During this subtopic, you will be working towards answering the following subtopic questions:

- Is conflict among humans inevitable?
- How has technology affected human relationships?

The guiding questions of each section help to guide you towards answering the subtopic question(s) at the end of the subtopic. The subtopic questions require you to pull together your knowledge and skills from different sections, to see the bigger picture and to build your conceptual understanding.

Do you ever disagree with your friends or family? It would be surprising if you didn't! Disagreements and conflict are a part of life (**Figure 1**).



Figure 1. Conflict between siblings or friends is a part of life.

Credit: PeopleImages, Getty Images

Psychologists believe that by investigating conflict, we can learn more about how relationships form. We can then develop strategies to help us to maintain and improve them.

There are several explanations that can help us to understand interpersonal relationships. The role of cognition, genetics and chemical messengers are all believed to play a key part in how we communicate. However, as you explore this subtopic, you will learn more about whether conflict is inevitable among humans, or whether technology can affect our

 relationships.

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🔗 Making connections

In this subtopic, you will explore causality, responsibility and perspective in human relationships.

In [section 4.1.2](#) (/study/app/psychology-new/sid-540-cid-763690/book/how-can-conformity-be-explained-by-social-identity-theory-id-49128/), you learned about social identity theory. You will return to this theory in this subtopic, and apply it to your understanding of cognitive processing.

There are additional links between cognitive processes, such as memory, to [topic 5 Learning and cognition](#) (/study/app/psychology-new/sid-540-cid-763690/book/the-big-picture-id-49507/).

3 section questions ^

Question 1

SL HL Difficulty:

Qualitative research produces descriptive data. True or false?

1 False

2 True ✓

Explanation

Qualitative research produces descriptive data, while quantitative research produces numerical data.

Question 2

SL HL Difficulty:

Albert Bandura identified four features of social cognitive theory. One of them, Identification, occurs when you learn from others to whom you relate, such as your family and friends.

Accepted answers and explanation

Identification

General explanation

Albert Bandura identified four features of social cognitive theory. Identification occurs when you learn from others you identify with, such as your family and friends. Other features of social cognitive theory are modelling, expectations and self-efficacy.

Question 3

SL HL Difficulty:

This term is used to describe a group that is not exposed to the independent variable (IV).

 Control group ✓

Accepted answers

Control group

Also accepted

Control

Explanation



A control group is not exposed to an IV, as opposed to an experimental group. A control group serves as a comparison for evaluating the effect of the IV.

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4. Human relationships / 4.2 Interpersonal relationships



(https://intercom.help/kognity)



How can understanding human cognition decrease conflict?

B-3-2-2: Provide one or more cognitive explanations for an interpersonal relationship(s). B-3-2-4: Provide one or more strategies for improving interpersonal relationships.

C-2-3: Describe the role of schema theory in understanding a cognitive process.

C-2-4: Describe the role of one or more cognitive models in understanding a cognitive process or behaviours.



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Notebook



Glossary



Reading assistance

Teacher instructions

Learning outcomes

- Provide one or more cognitive explanations for an interpersonal relationship(s).
- Describe the role of schema theory in understanding a cognitive process.
- Provide one or more strategies for improving interpersonal relationships.
- Describe the role of one or more cognitive models in understanding a cognitive process or behaviours.

Facilitation guidance

In this section, students will learn about the role of cognitive processes and how they can affect behaviour, including how they can lead to conflict.

? Guiding question(s)

In this subtopic, you will think about the question, ‘Is conflict inevitable among humans?’ This section will help you make an informed response by working through the following guiding question:

- How can understanding human cognition decrease conflict?

Why does conflict arise? In this section, you are asked to examine this question through a cognitive lens as you consider the guiding question, ‘How can understanding human cognition decrease conflict?’

Keep the guiding question in mind as you progress through this section. The guiding questions build into the subtopic question(s). You will return to the subtopic question(s) at the end of each subtopic. The subtopic questions require you to pull together your knowledge and skills from different sections, to see the bigger picture and to build your conceptual understanding.

What is cognition?

In this section, you will learn about the impact of cognition on behaviour, a term that refers to your conscious awareness. It is important to appreciate that cognition is greatly affected by your experiences and therefore heavily influenced by your environment. Psychologists investigate the role of cognition through studying cognitive processes or functioning, which include ‘perception, learning, memory, understanding, awareness, reasoning, judgement, intuition, and language’ (APA) (https://dictionary.apa.org/cognitive-functioning)¹.



Student view



⌚ Making connections

As you learned in [section 4.1.1](#), psychological research into behaviour prior to the 1950s was dominated by the behaviourist approach, where any changes to behaviour were seen as a response to the environment. However, with advances in psychology, and in science more broadly, including that of brain-scanning technology, researchers have realised that there are many ways in which we can learn about behaviour through the study of cognitive processes.

Schema theory and conflict

The cognitive process of ‘understanding’ can be examined through schemas. Schemas are frameworks that support the mental representations that allow you to simplify and make sense of information.

Schemas provide you with units of knowledge that can help create an abstract ‘mental map’ of ideas and concepts. These units of knowledge are dictated by your personal experience. For example, someone from Mongolia will have a different mental image of the interior layout of a home than someone from Paris. These mental images are examples of ‘schemas’. Each individual has formed a cognitive concept of home spaces based on their own lived experience. The emphasis on cognitive schemas resulting from personal experience is important, as it informs our understanding of a variety of cognitive processes.

Schemas themselves are useful to our minds. They allow us to make quick judgements of stimuli and cognitively organise our environments.

HL Extension

🔍 Culture

Cross-cultural research

Schemas, and the stereotypes they contribute towards, can have a large impact on interpersonal conflict. In 2007, for example, student riots in the Estonian capital of Tallinn were triggered by intercultural conflict between Estonians and a Russian cultural minority. Researchers utilised a questionnaire (survey) to investigate the extent to which stereotypes played a role in the conflict.

The researchers, Dobewall et al. (2011), found [that negative stereotypes played a significant role in this intergroup conflict](https://www.ijcv.org/index.php/ijcv/article/view/2856/pdf_39). These negative stereotypes were associated with the extent to which each outgroup identified, or not, with Russia and the Soviet Union.

Reflection question

- When conducting a research investigation using a questionnaire or survey, what are some of the important things to consider?

⌚ Making connections

Bransford and Johnson (1972) conducted several experiments to investigate the role of schemas on memory. In one study, they found that comprehension and recall scores increased when participants were provided with information that helped to partly explain a passage related to washing laundry. Participants who were primed with the schema ‘washing laundry’ were able to recall more details from the passage than the participants who received no schema prime.

How might cognition lead to conflict?

Researchers investigating schemas suggest that schemas not only mediate incoming information, they also mediate **outgoing** behaviour. Schemas therefore affect cognition in several ways:

- Top-down processing refers to types of sensory inputs that involve existing mental representations.
- Stereotype formation describes a fixed schema (mental representation) to perceive other people. Stereotypes can be considered a specific type of schema associated with specific groups.

Schemas can lead to the creation of stereotypes because we rely on schemas to help us understand other people and groups. This links to social identity theory in [section 4.1.2](#) (/study/app/psychology-new/sid-540-cid-763690/book/how-can-conformity-be-explained-by-social-identity-theory-id-49128/), where you examined the concepts of ingroups and outgroups, and how our social identities are influenced by them. According to this theory, we perceive members of outgroups to be ‘the same.’ This is known as the outgroup homogeneity effect.

Stereotype formation therefore results from both social identity-based effects on our cognition and schemas based on our own personal experiences.

Perspective lens

Cognitive approach

Schemas are an example of a mental process that influences group behaviour. Psychologists often use experimental methods to investigate how schemas can affect memory and behaviour.

Schemas are determined by social and cultural environments and affect memory and other cognitive processes. The information a person gains from their social identity and who they interact with on a daily basis forms their schemas about other people and groups. As a consequence, stereotypes towards others can develop.

When investigating the causes of conflict, there may be multiple perspectives (both cognitive and sociocultural) that can guide our understanding. However, the complexity of these interacting factors can complicate investigations for researchers trying to separate cognitive or sociocultural influences in order to determine cause-and-effect relationships.

Reflection question

1. Consider how your own social and cultural environments have shaped your perspective towards conflict (both on an interpersonal micro level and a macro level).

Given that stereotypes are, by definition, fixed cognitive perceptions of outgroups, it may seem obvious how they can contribute to conflict. While stereotype formation is an inevitable part of human cognition, we do have a certain level of control over whether or not we act upon those stereotypes. By understanding how stereotypes form, we can take action as a community to reduce the creation of negative stereotype formation. The following activity will require you to reflect on the different forms that action can take.

Teacher instructions

Goal

- To consider ways in which we can reduce the impact of stereotypes on human conflict.



Facilitation guidance

This activity requires your students to identify stereotypes that exist in their community and consider the impact of these stereotypes on human conflict. Given this aim, it is possible that harmful stereotypes regarding members of your own learning community may be identified and articulated. Therefore, it is important to talk to your students about the importance of being sensitive to this possibility, and the impact that sharing such stereotypes may have on members of that identified group.

Activity

IB learner profile attribute: Thinker/Communicator/Reflective

Approaches to learning: Communication/Self-management

Time required to complete activity: 15–25 minutes

Activity type: Pairs

Application of knowledge: How can stereotypes lead to conflict?

Reflect on the ways in which communities can reduce the creation of harmful stereotypes and reduce the impact of these stereotypes on conflict.

1. Work with a partner to identify 2–5 stereotypes that exist in your community and that could possibly contribute to [Section conflict](#). Student... (0/0) Print (/study/app/psychology-new/sid-540-cid-763690/book/how-can-understanding-human-cognition-decrease-conflict-id-49137/print/)
2. Choose 1–2 stereotypes from your list and analyse possible origins of these stereotypes.
3. Reflect on and identify possible actions or environmental changes that could contribute to changing these stereotypes and therefore contribute to reducing conflict in your community.

[Assign](#)

Reflection question

1. (Concept application: responsibility) Do you believe that governments have a responsibility to censor information that could contribute to negative stereotype formation?

Dual process model and conflict

The dual process model of thinking and decision-making also plays a role in human conflict. This model is a cognitive processing theory made famous by researchers [Amos Tversky and Daniel Kahneman \(1981\)](#) (<https://doi.org/10.1126/science.7455683>), which claims that we have two cognitive systems. The first, [System 1 thinking](#), is automatic and fast. While the second, [System 2 thinking](#), is more purposeful, slow, effortful and logic-based. Schemas impact both System 1 and System 2 thinking. However, they most profoundly affect System 1 thinking due to its automatic nature.

Researchers of the dual process model have identified a variety of different [heuristics](#) and [cognitive biases](#) present in human cognition. These are a result of System 1's overreliance on schemas for cognition.

Theory of knowledge

Models

The dual process model of thinking and decision-making is exactly that — a model. Understanding the strengths and limitations of models is a crucial point of emphasis and understanding in the theory of knowledge.



Reflection question



Overview

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1. How does the dual process model of thinking and decision-making illustrate the strengths and limitations of cognitive models in psychology (human sciences)?

While all heuristics and biases are potentially relevant to human conflict, those in **Table 1** are especially useful to understand.

Table 1. Heuristics and biases in human cognition.

Heuristic/bias	Definition
Illusory correlation	<p>Illusory correlation occurs when an individual believes there is a causal association between two variables that are actually unrelated. Illusory correlation is a contributing factor to stereotype formation.</p> <p>For example, an individual may have experiences with Asian students in their maths class who are excellent at maths. They may make the false conclusion that 'all Asians are good at maths.' This individual has falsely associated being Asian as the cause of being good at maths.</p>
Availability heuristic	<p>Availability heuristic is strongly related to schema, as it refers to the fact that a cognitive concept is formed in the mind of an individual based upon information that is 'easily and readily available' to that individual.</p> <p>For example, if an individual has limited experience with members of a certain religion, their cognitive concepts of individuals that are members of that religion will be based on the limited amount of information that is available to them.</p> <p>As a result, they form cognitive schemas and conclusions about that group of people based on readily accessible, but limited, information.</p>
Confirmation bias	<p>Confirmation bias refers to the phenomena of individuals seeking evidence from the environment that confirms their pre-existing belief. This bias also refers to the tendency to ignore information that does not confirm their pre-existing belief.</p> <p>For example, someone who believes that Real Madrid is the greatest Spanish football team of all time will seek out evidence from the environment that confirms this belief and ignore any evidence to the contrary.</p>
Dunning-Kruger effect	<p>The Dunning-Kruger effect, named after the researchers who identified it in 1999, refers to the phenomena of individuals overestimating their competence in a specific domain. Individuals struggle to recognise their own cognitive limitations because, in order to do so, they need a certain level of baseline knowledge to realise how little they actually know.</p> <p>For example, many individuals during the COVID-19 pandemic overestimated their knowledge and competency in regard to understanding vaccine science.</p>

Joshua Greene and colleagues at Princeton University (2004) ↗ (<https://doi.org/10.1016/j.neuron.2004.09.027>) used fMRI technology to investigate the role of different localised brain regions on moral decision-making. They presented participants with moral dilemmas and scenarios while in an fMRI machine. They found that areas of the brain associated with logic and abstract reasoning were active during the cognitive processing of the scenarios. In addition, they discovered that areas of the brain associated with emotional processing were active as well.

This research provides a neurobiological basis for understanding the role of both System 1 (emotional processing) and System 2 (abstract reasoning) in moral decision-making. The researchers concluded that utilitarian-based moral decisions created the most 'tension' between the two systems. However, they believe that further research is needed to better understand how, and to what extent, each system is activated in the brain.



Student view

 **Teacher instructions****Goal**

- To analyse the extent to which cognitive biases and heuristics may contribute to human conflict.

Facilitation guidance

In this activity, students will consider how the biases and heuristics outlined in **Table 1** may contribute to human conflict. The activity suggests that students create a slide presentation. However, you can ask them to present their analysis in any way you would like.

 **Activity**

IB learner profile attribute: Inquirer/Knowledgeable/Open-minded

Approaches to learning: Research/Communication/Thinking

Time required to complete activity: 30 minutes

Activity type: Group

Application of knowledge: Understanding cognitive biases and heuristics

Your task is to consider how the biases and heuristics outlined in **Table 1** may contribute to human conflict.

Create a slideshow. Follow these steps to present your ideas:

1. Define the bias.
2. (**Concept application: causality**) Describe how this bias may cause conflict in society
3. (**Concept application: change**) Explain how knowledge of this bias could serve to change the level of interpersonal conflict in society.
4. Explain how individuals and communities may take action to reduce the impact of each bias on human conflict.

The following biases and heuristics must be included in your presentation:

- illusory correlation
- availability heuristic
- confirmation bias
- Dunning-Kruger effect.

 **Concept****Bias**

Understanding that human cognition is prone to cognitive bias is incredibly important. As the saying goes, 'knowledge is power.'

Reflection question

1. How can being aware of, and understanding, cognitive bias contribute to reducing conflict in society?

Learning outcomes

By the end of this section, you should be able to:

- Provide one or more cognitive explanations for an interpersonal relationship(s).
- Describe the role of schema theory in understanding a cognitive process.
- Provide one or more strategies for improving interpersonal relationships.
- Describe the role of one or more cognitive models in understanding a cognitive process or behaviours.

¹ Definition from the APA Dictionary of Psychology. Retrieved 31-10-24 from <https://dictionary.apa.org/cognitive-functioning> ↗ (<https://dictionary.apa.org/cognitive-functioning>)

3 section questions ^

Question 1

SL HL Difficulty:

Which of the following are mental shortcuts that can help with problem-solving and ease cognitive load?

- 1 Social identity theory
- 2 Heuristics
- 3 Schemas
- 4 Motivators



Explanation

Heuristics are mental shortcuts that can help with problem-solving and ease cognitive load. Examples of these include availability heuristic and representative heuristic.

Question 2

SL HL Difficulty:

In the dual process model of thinking and decision-making, 1 System 2 ✓ is associated with effort and is slower at processing information.

Accepted answers and explanation

#1 System 2

General explanation

System 1 and System 2 are part of the dual processing theory of thinking and decision-making. System 1 is associated with thinking that is automatic and intuitive, while System 2 is slow and effortful.

Question 3

SL HL Difficulty:

Which heuristic refers to forming a cognitive concept in response to information that 'quickly comes to mind'?

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- | | | |
|---|------------------------|---|
| 1 | Dunning-Kruger effect | |
| 2 | Availability heuristic | ✓ |
| 3 | Confirmation bias | |
| 4 | Illusory correlation | |

Explanation

Availability heuristic refers to the fact that a cognitive concept is formed in the mind of an individual based upon the information that is 'easily and readily available' to that individual.

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4. Human relationships / 4.2 Interpersonal relationships



(https://intercom.help/kognity)



How can psychological theory be applied to reduce human conflict?

A-4: Measurement B-3-2-3: Identify the role of communication in interpersonal relationships.

B-3-4-1a: (HL) Identify different strategies for developing and maintaining cross-cultural relationships.



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Notebook



Glossary



Reading assistance

Teacher instructions

Learning outcomes

- Identify the role of communication in interpersonal relationships.
- Discuss some challenges in measuring the impact of language on human conflict.

HL Extension

- Identify different strategies for developing and maintaining cross-cultural relationships.

Facilitation guidance

This section will investigate the following guiding question: ‘To what extent does group identity play a role in human conflict?’

There are opportunities for students to apply their knowledge, including an activity where they explore the role of language presented in the media. Here, they can assess whether the language presented can aid in the reduction of conflict.

HL students should aim to link their knowledge to cross-cultural research, and assess the similarities and differences in how cultures communicate.

Guiding question(s)

In this subtopic, you are thinking about the question, ‘Is conflict among humans inevitable?’ This section will help you make an informed response by working through the following guiding question:

- To what extent does group identity play a role in human conflict?

Have you ever said something that you didn’t mean or that someone interpreted in the wrong way and, as a result, they were upset with you? Have you ever used language to ‘calm’ a friend down who was upset with you or someone else? Language can both reduce as well as increase interpersonal conflict. This section will guide you through an exploration of research and perspectives while examining the question: ‘To what extent does group identity play a role in human conflict?’

Keep the guiding question in mind as you progress through this section. The guiding questions build into the subtopic question(s). You will return to the subtopic question(s) at the end of each subtopic. The subtopic questions require you to pull together your knowledge and skills from different sections, to see the bigger picture and to build your conceptual understanding.

Think about the last time that you were in conflict with someone. Can you identify the context, or what factors contributed to the conflict?



Student view



Although your experience may be different from other people's experiences, there are probably some similarities between the underlying origins of the conflict.

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In this section, you will learn more about the psychological theories that can help explain conflict, as well as how effective communication can help to reduce conflict.

One explanation for the origins of conflict is realistic group conflict theory. The essence of this theory is that when groups have scarce resources, it can result in competition. Here, resources can be imagined or real, and include money, status and power, as well as other things.

🌐 International mindedness

Are some cultures more competitive than others?

Researchers have long associated individualistic cultures with intense competition compared to collectivistic cultures. However, some contemporary research suggests the opposite. For example, Wu and Talhelm (2023) (↗) (<http://dx.doi.org/10.2139/ssrn.4373549>) suggest that collectivist cultures engage in different forms of competitive behaviour.

Reflection question

1. What factors might lead to some cultures being more competitive than others?

One of the earliest pieces of research to investigate intergroup behaviour and conflict was conducted in the 1960s using a group of boys at Robber's Cave in Oklahoma, USA. The researchers, Sherif et al. (1954/1961) (↗) (<https://psychclassics.yorku.ca/Sherif/index.htm>), were interested in how competition and cooperation affected behaviour.

Once the boys had been allocated to one of two groups, they quickly began to form ingroups that included adopting group names: 'the Rattlers' and 'the Eagles.' In addition, the boys lived in dormitories with their ingroup, which added to the separation from the outgroup and enhanced positive distinctiveness (see section 4.1.2 (/study/app/psychology-new/sid-540-cid-763690/book/how-can-conformity-be-explained-by-social-identity-theory-id-49128/)).

🔒 Perspective lens

Sociocultural approach

As stated by realistic group conflict theory, social conflict emerges as a direct result of competition for resources, real or imagined.

Psychologists examining human conflict from the sociocultural perspective must always consider the environments in which humans interact and the extent to which these environments can influence human behaviour.

Sherif et al. (1954/1961) (<https://psychclassics.yorku.ca/Sherif/index.htm>) used external resources to create conflict among participants, however conflict can occur as a result of competition for dominant beliefs or values within a community.

Reflection question

1. Identify a conflict that has occurred (either locally or globally) as a result of competition for belief dominance.
2. How might schools or governments take action to reduce such conflict?



Student view

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The researchers were interested in how the boys would behave when placed in competitive situations. To this end, a series of tasks were set, such as tug-of-war and baseball. At one point, the boys even stole and then burned the flag belonging to the opposing group! For the next part of the study, the boys were encouraged to cooperate to achieve a superordinate goal. In other words, a common goal, which meant both groups of boys were required to work together. For example, they worked together to dig out a food truck that got stuck in the mud.

Theory of knowledge

Methods/tools

Sherif et al. (1954/1961) [\(https://psychclassics.yorku.ca/Sherif/index.htm\)](https://psychclassics.yorku.ca/Sherif/index.htm) wanted to establish if conflict between the two groups could be reduced by setting superordinate goals.

Reflection question

1. Can you identify your own example of when a superordinate goal helped to reduce conflict?

Sherif and his team were able to demonstrate the influence of competition and cooperation on the boys' behaviour. It appeared that when the boys worked as a team to achieve a superordinate goal, it did reduce conflict. However, it was also noted that a degree of hostility remained between the groups despite these shared goals towards the end of the study.

Teacher instructions

Goal

- To apply social identity theory to the study of conflict.

Facilitation guidance

Ask students to consider the last time that they watched a sports game or attended school sports day. How did the different teams identify themselves? Students will likely focus on uniforms/clothes, but they may also highlight particular chants and actions of supporters. Expand this discussion to consider other ways in which people identify themselves when in groups — for example, language used, shared norms, religion, age, gender and so on.

Ask students to research a topical news stories and complete the tasks in the activity. This task will be dependent on access to news websites and may vary by location.

Activity

IB learner profile attribute: Open-minded/Balanced/Reflective

Approaches to learning: Thinking/Social/Communication

Time required to complete activity: 30 minutes

Activity type: Group

Application of knowledge: Applying SIT to real-world examples

As you learned in [section 4.2.1](#) (/study/app/psychology-new/sid-540-cid-763690/book/how-can-understanding-human-cognition-decrease-conflict-id-49137/), social identity theory (SIT) expanded upon existing research such as realistic group conflict theory into the origins of intergroup conflict. In this activity, you will apply your knowledge of SIT to



the study of conflict.

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Think back to the last time that you watched a sports game or attended your school's sports day. How did the different teams identify themselves? Also, more broadly, in what ways do people identify themselves when they are part of a group?

As you know, psychologists use the terms 'ingroup' and 'outgroup' when referring to how people identify with social groups. 'Ingroup' refers to when someone psychologically identifies with being a member of a group (e.g. the football team that they support). 'Outgroup' refers to a social group that someone does not identify with (e.g. another football team, perhaps with an intense rivalry with the team that they support).

Unfortunately, there are many real-world examples of when an ingroup and outgroup distinction can lead to conflict among humans, including discrimination, prejudice, abuse, violence and war.

Go to a popular news website, or several if you would like some variety, and complete the following tasks. Be prepared to share your findings with the class:

1. Research two topical news stories. Your selection should include links to ingroups and outgroups. For example, sports and politics often have lots of implicit and explicit examples of these concepts in practice!
 - a. What language is used to describe the ingroups and outgroups? Can you identify some specific examples and quotes?
 - b. What are some of the challenges in measuring the impact of language on behaviour
 - c. Identify some other examples of your own, or from the real-world, of ingroups and outgroups. How might group identity lead to conflict?
2. **(Concept application: perspective)** How might having a greater understanding of SIT lead to a reduction in conflict?
Look back at [section 4.1.2](#) ([/study/app/psychology-new/sid-540-cid-763690/book/how-can-conformity-be-explained-by-social-identity-theory-id-49128/](#)) to remind yourself of SIT.

There are many criticisms of Sherif's research into realistic group conflict theory. For example, his team manipulated the various phases involved, and actively encouraged the boys to be openly hostile towards one another. This raises the question of whether or not the participants' behaviour was truly authentic. Additionally, given that the research method used by Sherif et al. was observation and the data was qualitative in nature, others have offered the critique that the researchers may have inserted bias into the observational data via their own outcome expectations. In spite of these limitations, Sherif was able to demonstrate that the creation of ingroups and outgroups led to stereotyping and discrimination among the boys.

Another theory that aims to investigate the origins of conflict is interpersonal conflict theory. Here, it is believed that factors such as personality and cognition can affect conflict because they are likely to affect how you think about certain situations. For example, two people or groups may have a common goal, but could come into conflict because they make different judgements about how to achieve that goal.

Concept

Perspective: How to productively engage in tough conversations

In society, conflicts can arise from differing perspectives on issues ranging from immigration law to what books a child should read, and everything in between.

In psychology, disagreements can arise from viewing the explanation of different behaviours through different psychological perspectives. In regard to explaining the origin of depression, for example, the biological perspective holds that mental health disorders are brain disorders and therefore we should focus research and resources on examining neurobiology. A social psychologist may take the approach that environments are the main contributing factor in depressive etiology.

Student
view



Reflection question

Overview
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1. What approaches or techniques may be successful in encouraging productive conversation (as opposed to arguing) when you are articulating a perspective that differs from someone else's?

HL Extension

🔍 Motivation

Levels of competition and cooperation will vary based on the circumstances. However, one way to view these in the context of conflict is that they are interconnected, with each influencing the other.

Reflection question

1. What factors may **motivate** people to cooperate rather than compete for resources?

How can communication reduce conflict?

Imagine the following scenario: Your teacher asks you to produce a group presentation and one of your friends asks if they can join your group. You say 'yes', but after a few meetings you notice that your friend is not contributing to the project as much as everyone else. Another group member asks if you could speak to your friend. How would you confront your friend about their input?

The role of communication

Return to the above scenario:

- **What** would you say?
- **How** would you say it?

If you did confront your friend, it wouldn't necessarily be straightforward. Perhaps you are aware that your friend is anxious about some other subject deadlines, or that they have some challenges outside of school. However, you would probably agree that if you were to speak to your friend, then the way in which you communicate with each other might help you better understand their situation and help to reduce any potential conflict.

As you learned in [section 4.2.1 \(/study/app/psychology-new/sid-540-cid-763690/book/how-can-understanding-human-cognition-decrease-conflict-id-49137/\)](#), a scarcity in resources can lead to conflict; you can see examples of this in the international news. However, many psychologists believe that humans are naturally more cooperative than competitive. If we support people with effective communication strategies, then this could help develop cooperation and reduce conflict.

💡 Concept

Responsibility

The spread of false information on social media raises important questions about its impact on societal conflict and the responsibilities of platform providers. Considering these issues prompts critical discussion about accountability in digital communication.

✖
Student
view

Reflection questions



1. How might false information that is spread through social media contribute to conflict in society?
2. Do social media companies have a responsibility to regulate the type of communication that occurs on their platforms?

One strategy that could be used to help reduce conflict and increase positive human relationships is to provide more opportunities for people to engage in self-disclosure. This is the act of sharing personal details with someone else. The process of self-disclosure is based on reciprocity (exchanging things with others for mutual benefit) and can lead to a deeper understanding between people; it is an indicator of trust. However, be mindful that too much self-disclosure too soon from an individual can be overwhelming!

Altman and Taylor's (1973) (<https://psycnet.apa.org/record/1973-28661-000>) social penetration theory of relationships suggests that self-disclosure is a process whereby, when we first meet someone, we share basic details related to our name and age. However, as the relationship deepens, we disclose more details about ourselves, until we share more intimate and personal information related to our sense of identity. Altman and Taylor referred to this as 'layers of disclosure.' As the depth and breadth of personal disclosure increases, an individual may share more personal elements, such as music preferences, life goals, social emotional fears and so on. You can imagine this theory like an onion, where each layer represents a different level of information that helps someone become **more informed** about another person.

Altman and Taylor outlined four different 'stages' of disclosure within their theory:

- **Orientation:** This stage of a relationship is characterised by the sharing of surface level details such as facts about a person's life (where they are from or where they work). This is psychologically safe as the disclosure is focused around superficial topics that don't pose much emotional risk.
- **Exploratory:** In this stage, individuals disclose more detailed and personal information. Sharing is more open and casual and includes hobbies, interests and soft political opinions, such as, 'I think working from home has its perks.' Opinions on safe topics such as sports teams or restaurants may be shared during this stage, as well. For example, 'I think Luigi's pizza isn't as good as everyone says it is.'
- **Affective:** When a relationship enters this stage, an individual will share more psychologically and emotionally 'risky' elements about their identity and beliefs. For example, one might share more strong political opinions or religious beliefs. They may also share details regarding past emotional struggles or successes. While this stage is more 'risky,' it also brings with it the reward of interpersonal closeness and intimacy.
- **Stable:** Once an interpersonal relationship has reached a level of deep mutual trust and understanding, it is said to be in the 'stable' stage. Individuals in this stage communicate openly without fear of judgement or rejection.

Teacher instructions

Goal

- To apply psychological theory to a scenario with the aim of reducing conflict.

Facilitation guidance

Communication is important in the formation of relationships. Psychologists believe that self-disclosure is one way to develop intimacy with another person. In this activity, students will devise a short survey that could be distributed to a focus group. They are required to include links to social penetration theory and consider how this theory could be applied within their school to new students.

Activity

IB learner profile attribute: Knowledgeable/Open-minded/Caring

Approaches to learning: Research/Self-management/Thinking

Time required to complete activity: 30 minutes

Activity type: Group

Application of knowledge: Using social penetration theory in a focus group setting

Imagine that the headteacher at your school has approached your IB Psychology class and requested help to improve the school induction program for new students. They are concerned that it takes many new students a long time to feel connected to the school, and this has led to conflict. Your class suggests that the school could incorporate concepts from social penetration theory into the induction program, as this could help new students get to know one another.

In groups, create a list of questions that could be posed in a focus group to help new students get to know one another, with the additional aim of helping the school learn more about them.

For your interview:

1. Include **at least five questions** with a range of closed- and open-ended questions.
2. (**Concept application: measurement**) How could you **measure the internal validity** of your investigation?

Remember that your interview would be conducted in a focus group where students would publicly share their responses, so be sensitive to the type of questions you include. The language you use should not embarrass people!

Culture and communication

You might not be that surprised to learn that culture can affect cooperation and competition.

Wong and Hong (2005)  (<https://doi.org/10.1111/j.0956-7976.2005.01552.x>) incorporated the prisoner's dilemma in their research to investigate whether cultural symbols activated corresponding cultural behaviour. The prisoner's dilemma concerns two individuals, who have been arrested as prisoners and who are both suspected of committing a crime. The two prisoners are questioned separately, but have a choice to:

- deny the crime (which represents cooperation with the other individual), or
- confess to the crime (which represents competition with the other individual).

The prisoner's dilemma utilises game theory, where participants' gains or losses are assessed on whether they choose to compete or cooperate with one another. **Figure 1** presents the outcomes of the prisoner's dilemma in a matrix. It shows that there are optimal outcomes and optimal strategies:

- Both prisoners achieve an optimal outcome (sentenced for 5 years rather than 10) if they cooperate. However, if one prisoner cooperates and the other competes, the competitor achieves an optimal outcome (a 2-year sentence) and the cooperator receives a maximum sentence (25 years).
- Thus, if the dilemma arises only once, the optimal strategy is to compete. However, if it occurs more than once, the optimal strategy might be to compete.

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		Prisoner A	
		Deny (cooperate)	Confess (compete)
Prisoner B	Deny (cooperate)	Both: 5 years	Prisoner A: 2 years Prisoner B: 25 years
	Confess (compete)	Prisoner A: 25 years Prisoner B: 2 years	Both: 10 years

Figure 1. A prisoner's dilemma matrix similar to that used by Wong and Hong (2005).

© More information for figure 1

In their experiment, Wong and Hong used Chinese-American participants. Each participant was allocated to one of the following conditions:

- The control condition where participants were shown geometric shapes, such as a hexagon.
- The experimental condition(s) where participants were primed with Chinese cultural symbols (e.g. a dragon) or American cultural symbols (e.g. the USA flag).

The participants then played the prisoner's dilemma with friends or with strangers.

The researchers found that participants were more cooperative towards friends when Chinese symbols were activated than when American symbols were activated. However, cooperation was lower towards strangers after both Chinese and American cultural priming.

HL Extension

Q Culture

Wong and Hong's study demonstrates the importance of cultural symbols (e.g. the Chinese dragon and the USA flag) and how these can affect behaviour. You might be able to identify some cultural symbols of your own (e.g. your country's flag).

Reflection question

1. How might leveraging cultural symbols within a culture help to reduce conflict?

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Wong and Hong concluded that culture may influence cooperation and competition. Their findings validate existing research that suggests that collectivist cultures are more cooperative than individualistic cultures (see [section 4.1.1](#) ([/study/app/psychology-new/sid-540-cid-763690/book/can-your-environment-affect-your-behaviour-id-49127/](#)) and earlier in this section).

🔗 Concept

Bias

Psychologists are also interested in the role of gender in relation to communication. Historically, analysis of this has highlighted differences in communication:

- Females are more relationship-oriented.
- Males are more action-oriented.

However, emerging research suggests that classifications such as this result in stereotypes ([Coffman and Marques, 2021](#)) (https://doi.org/10.1007/978-3-030-64319-5_4).

Reflection question

1. How can understanding different gender-based communication styles reduce bias and conflict?

☰ Learning outcomes

By the end of this section, you should be able to:

- Identify the role of communication in interpersonal relationships.
- Discuss some challenges in measuring the impact of language on human conflict.

HL Extension

- Identify different strategies for developing and maintaining cross-cultural relationships.

3 section questions ^

Question 1

SL HL Difficulty:

Sherif et al. (1954/1961) defined superordinate goals as those that require the cooperation of two or more groups. True or false?

1 True



2 False

Explanation

Sherif et al. (1954/1961) defined superordinate goals as those that require the cooperation of two or more groups. In their research, they used these to help reduce conflict between the two groups of boys at Robber's Cave.

Question 2

SL HL Difficulty:

✗
 Student view

When groups have scarce resources, intergroup conflict can occur. This is explained by 1 realistic grou... ✓ .

Accepted answers and explanation**#1 realistic group conflict theory****General explanation**

Realistic group conflict theory proposes that when groups have scarce resources, it can result in conflict through competition. Here, it is suggested that resource scarcity can make it easy for one group to blame its difficulties on another group, which can result in conflict and emphasise differences between ingroups and outgroups.

Question 3

SL HL Difficulty:

Which theory suggests that conflict can arise due to factors such as personality and cognition?

- 1 Interstellar conflict theory
- 2 Interpersonal conflict theory
- 3 Realistic group conflict theory
- 4 Social identity theory

**Explanation**

Interpersonal conflict theory suggests that conflict can arise due to factors such as personality and cognition. This theory develops the origins of conflict to include interpersonal factors besides competition and cooperation (according to realistic group conflict theory).

 [Previous section](#)(/study/app/psychology-new/sid-540-cid-763690/book/how-can-understanding-human-cognition-decrease-conflict-id-49137/review/)

How can psychological knowledge be used to increase positive human relationships?

B-3.2-1: Identify the role of one or more chemical messengers in interpersonal relationships. B-3.2-4: Provide one or more strategies for improving interpersonal relationships.

C-3-7: Describe how social identity theory can be applied to change or explain behaviour.

Teacher instructions

Learning outcomes

- Describe how social identity theory can be applied to change and explain behaviour.
- Provide one or more strategies for improving interpersonal relationships.
- Identify the role of one or more chemical messengers in interpersonal relationships.

Facilitation guidance

In this section, students will learn about the role of chemical messengers and how they affect behaviour. It is important that students are aware of how neurotransmitters are associated with different human behaviours. There is an opportunity to reflect on research into chemical messengers using nonhuman animals (TOK).

Also, students will learn about prosocial behaviour and how research in this area could lead to the development of strategies to improve human relationships.

? Guiding question(s)

In this subtopic, you are thinking about the question, ‘Is conflict among humans inevitable?’ This section will help you make an informed response by working through the following guiding question:

- What are some strategies for increasing positive human relationships?

Everyone wants positivity and well-being in their life. One of the main goals of psychology is to increase both individual and collective well-being. The key question addressed within this section is, ‘What are some strategies for increasing positive human relationships?’

Keep the guiding question in mind as you progress through this section. The guiding questions build into the subtopic question(s). You will return to the subtopic question(s) at the end of each subtopic. The subtopic questions require you to pull together your knowledge and skills from different sections, to see the bigger picture and to build your conceptual understanding.

Making connections

In section 4.1.2 ([/study/app/psychology-new/sid-540-cid-763690/book/how-can-conformity-be-explained-by-social-identity-theory-id-49128/](#)), you learned about social identity theory (SIT). This theory provides a bridge between biological perspectives of behaviour. Ingroup favouritism is seen as having an evolutionary basis and social/cognitive perspectives involve our identity from the groups that we interact with in our environment.



The role of chemical messengers in interpersonal relationships

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So far, you have covered several factors that affect behaviour, including cognition and the influence of our environment. Biology also plays a large part in our behaviour.

Neurotransmitters are a type of chemical messenger that help neurons communicate with one another (**Figure 1**). These act by either stimulating (exciting), blocking (inhibiting) or moderating (modulating) the postsynaptic neuron.

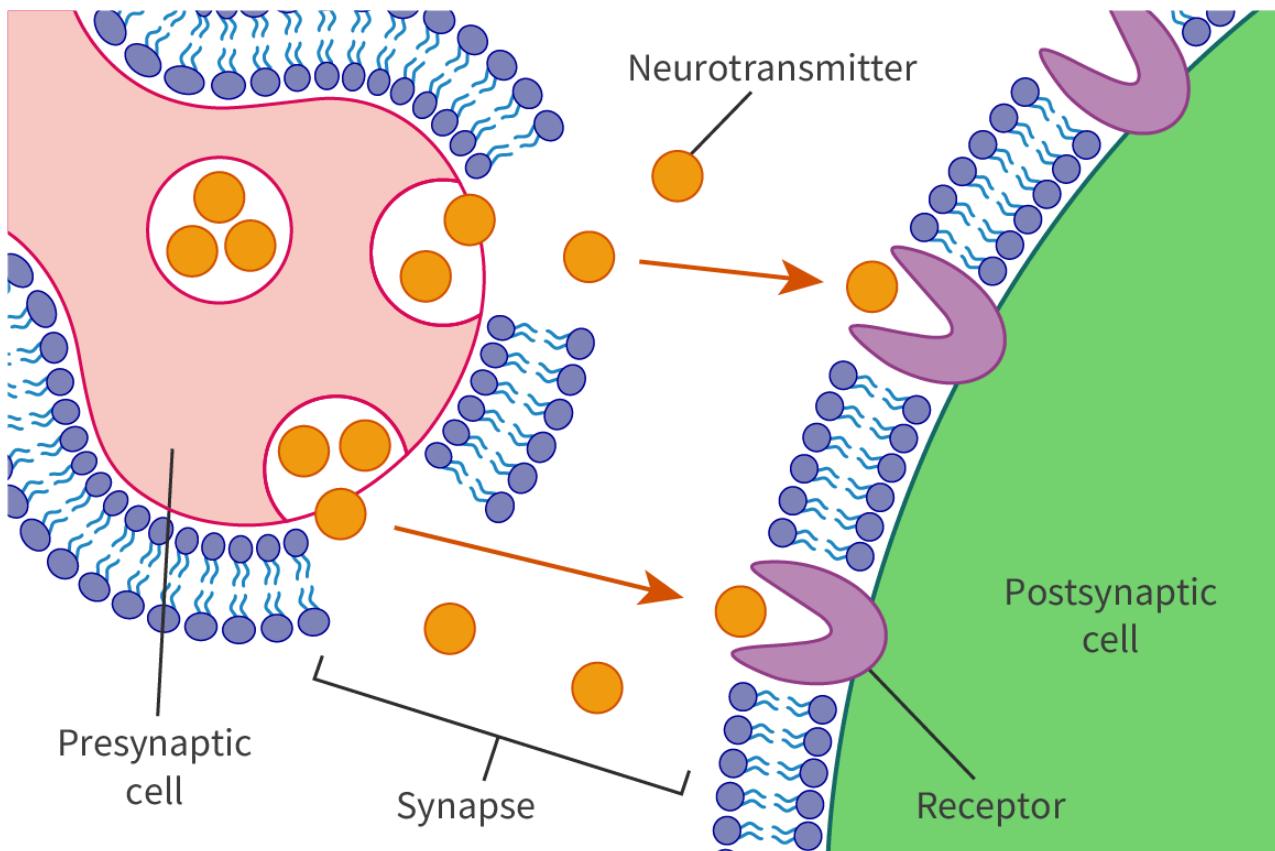


Figure 1. Neurotransmission, showing a close-up of the synapse between two neurons.

More information for figure 1

Neurotransmitters are depicted as small particles which originate inside the presynaptic cell. They are released from the cell into the synapse, which is depicted as an empty space between the presynaptic cell and the postsynaptic cell. The neurotransmitters cross the synapse and attach themselves to receptors on the outside of the postsynaptic cell.

Chemical messengers play a significant role in human behaviour through the activation and deactivation of neural networks and corresponding behaviour.

Oxytocin is a chemical messenger that has been extensively researched for its role in human relationships. It is produced in the hypothalamus. Interestingly, oxytocin serves as both a neurotransmitter (neuropeptide) and a hormone (peptide hormone). Research on the role that oxytocin plays in human relationships has led to oxytocin acquiring a few nicknames, including 'the love hormone' and 'cuddle hormone.' This is because physical stimulation such as holding hands or receiving a hug causes oxytocin to be released ↗ (<https://doi.org/10.7554/eLife.81241>). Research has also found that oxytocin is released in both the mother and the child during breastfeeding.



Student view



🔗 Making connections

You can learn more about neurotransmitters in [section 2.1.5](#) (/study/app/psychology-new/sid-540-cid-763690/book/the-neurobiology-of-mental-health-id-49430/), [section 2.1.6](#) (/study/app/psychology-new/sid-540-cid-763690/book/genetics-and-mental-health-id-49431/) and [section 2.2.4](#) (/study/app/psychology-new/sid-540-cid-763690/book/which-biological-treatments-for-depression-are-the-most-effective-id-49442/) where they are discussed in the context of health and well-being.

The release of oxytocin in these contexts serves several functions, including encouraging bonding and attachment between a mother and baby following childbirth. Additionally, oxytocin is released into the bloodstream during and after sexual activity.

Given that oxytocin is released in response to human touch, it is important to ask ‘why?’ Looking at this phenomenon from an evolutionary perspective has led many psychologists to believe that oxytocin is a biological correlate of [parenting bonding and interpersonal trust.](#)

[psychological-knowledge-be-used-to-increase-positive-human-relationships-id-49139/print/](#)

Several pieces of research support this conclusion. For example, [Kosfeld et al. \(2005\)](#) (<https://doi.org/10.1038/nature03701>) and [Baumgartner et al. \(2008\)](#) (<https://doi.org/10.1016/j.neuron.2008.04.009>) found that increasing oxytocin levels in participants correlated with a significant increase in interpersonal trust. This body of research demonstrates that there is a biological component to the establishment and maintenance of human relationships.

📋 Perspective lens

Biological approach

The findings of both [Kosfeld et al. \(2005\)](#) (<https://doi.org/10.1038/nature03701>) and [Baumgartner et al. \(2008\)](#) (<https://doi.org/10.1016/j.neuron.2008.04.009>) concluded that increasing oxytocin levels in participants correlated with a significant increase in interpersonal trust. It may have surprised you to learn that biology seemed to have a greater impact on interpersonal trust than past experience (the environment). These findings, and others like them, indicate that the behaviour of interpersonal trust is crucially important to humans.

Consider this from a biological [evolutionary perspective](#). This perspective seeks to understand human behaviour through an evolutionary lens.

Reflection question

- What is an evolutionary explanation for the presence and function of oxytocin in humans and other mammals?

✍ Teacher instructions

Goal

- To develop students’ critical thinking skills when reviewing the replication crisis in psychology

Facilitation guidance

In this activity, students explore the replication crisis where research has not been able to replicate the findings from existing research. Students consider the impact of this on psychology. There is also scope to discuss the concept of **bias** with this activity, such as confirmation bias, publication bias and the ‘file-drawer’ effect.





Activity

IB learner profile attribute: Inquirer/Risk-taker/Balanced

Approaches to learning: Thinking/Research/Social

Time required to complete activity: 20–30 minutes

Activity type: Group

Application of knowledge: Understanding the replication crisis in psychological research

Research into oxytocin has led to numerous studies investigating its role in human relationships. For example, Kosfeld et al. (2005) found that doses of oxytocin administered through an intranasal spray could promote various forms of social behaviour, including trust. However, some of these findings have been difficult to replicate.

In groups, investigate the ‘replication crisis’ in psychology. Prepare a presentation. Aim to cover the following steps:

1. What is the replication crisis?
2. Identify one or more studies that have failed to replicate with the same significance.
3. (Concept application: causality) Why does replication increase the **causal validity** of research findings from a study?
4. (Concept application: bias) What kinds of **bias** might be involved in the replication crisis, and how might these be resolved?
5. If the findings of the role of oxytocin and trust cannot be replicated, what does this tell you about the role of neurotransmitters in interpersonal relationships?

Theory of knowledge

Ethics

As you know, oxytocin helps to facilitate human connection and trust, and it can be administered through an intranasal spray. Given this finding, it may seem tempting to use oxytocin in contexts in which increasing trust would be socially or personally beneficial.

Reflection question

1. What are the ethical implications of using oxytocin to biochemically increase trust? For example, consider this in the context of peace negotiations or other diplomatic discussions.

While research supports the role of oxytocin in increasing interpersonal trust, it is important to understand that this neurotransmitter is part of a complex system that contributes to human behaviour. It is important to be careful about attributing too much causality to a single biological correlate.

Making connections

Reductionism

Reductionism is an approach that seeks to view, and understand, human behaviour through its most fundamental causes.

Reflection question

- What are the strengths and limitations of a reductionist approach to understanding positive human relationships?
Look at [subtopic 1.1](#) (/study/app/psychology-new/sid-540-cid-763690/book/big-picture-id-49350/) and [subtopic 2.1](#) (/study/app/psychology-new/sid-540-cid-763690/book/the-big-picture-id-49425/) for more on reductionism.

How can we increase positive human relationships?

When travelling on public transport or walking in public places, do you notice campaigns that try to encourage kindness between fellow strangers?

You will see campaigns such as the one in **Figure 2** everywhere. They are commonly found in public spaces, because their purpose is to encourage behaviour that is beneficial to everyone.



Figure 2. A poster to encourage positive behaviour when using public transport.¹

Social learning theory and prosocial behaviour

Campaigns such as the one in **Figure 2** try to encourage prosocial behaviour, where positive traits of behaviour are promoted through helping, sharing and cooperating. Researchers believe that when there are common connections for the social norms within a group, then this can result in more prosocial behaviour. For example, if everyone else is being kind around you, then you are more likely to display similar behaviour.

Social learning theory has also been applied to increase positive human relationships through a technique known as the Sabido method. This method aims to embed prosocial behaviour through the use of entertainment, such as a film or TV series. The rationale is that the actors and characters in the film or series serve as behavioural models to the viewer (in most cases, the target viewer is adolescents). This method was made famous in Mexico in 1974, and has since been applied in a variety of cultural contexts. In relation to human relationships, the Sabido method was used successfully in South Africa (<https://doi.org/10.2224/sbp.2003.31.8.825>) to reduce negative feelings and beliefs about individuals with HIV/AIDS.

This demonstrates the power of social learning theory to change human behaviour and increase positive human relationships.



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🔗 Making connections

In section 4.1.1 [(/study/app/psychology-new/sid-540-cid-763690/book/can-your-environment-affect-your-behaviour-id-49127/)], you covered how behaviour can be learned through social learning theory (SLT) — the process of observation and imitation. Although early research using SLT focused on aggression, it is equally important in helping you to understand prosocial behaviour. For instance, helping behaviour might be modelled by peers, and this behaviour is observed and then imitated.

Prosocial behaviour can be motivated by a variety of things, including your culture, empathy, altruism and egoism. These last two areas are notable, because they exist in some respects at the opposite ends of a continuum:

- Altruism is unselfish behaviour that provides benefit to others but may come at some cost to an individual.
- Egoism is behaviour based on selfishness and self-interest.

✎ Teacher instructions

Goal

- To reflect on students' own experiences of prosocial behaviour

Facilitation guidance

Provide students with a time limit and ask them to list examples of prosocial behaviour that they have encountered in the past few days. These could have involved them directly, or they could have witnessed these from family members, students and teachers at school or from strangers. Then, ask students to reflect on the prosocial behaviour.

⚙️ Activity

IB learner profile attribute: Thinker/Caring/Reflective

Approaches to learning: Social/Communication/Self-management

Time required to complete activity: 15 minutes

Activity type: Individual

Application of knowledge: Considering your own examples of prosocial behaviour

Make a list of as many examples as possible of prosocial behaviour that you have encountered over the past few days. These could be from your own experiences, from your family and friends, or from strangers.

Then consider the following reflection questions. Discuss your answers with a partner:

1. How did the prosocial behaviour make you feel?
2. Would you describe any of the encounters as altruistic or egoistic?
3. What examples of language were used in these encounters? Do you think that language played a role in the prosocial behaviour?
4. (Concept application: change) How might someone's reluctance to change influence prosocial behaviour?



Student view

💡 Concept



Perspective

Overview
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One way to think about the different psychological theories is that they view the world through different lenses.

Reflection question

1. How might a biological perspective view altruistic behaviour compared to a cognitive perspective?

One theory of how we can encourage more prosocial behaviour is through social influence. Notice that in the earlier example of the public transport campaign you are not being **ordered** to be kind to other members of the public. This suggests that there is an element of implicit compliance involved with prosocial behaviour.

⌚ Creativity, activity, service

Strand

Service

Learning outcome

- Demonstrate the skills and recognise the benefits of working collaboratively.

Researchers investigating how to increase positive relationships may try to understand what motivates people to be prosocial through helping behaviours, cultivating empathy and forgiveness.

One practical application of work in these areas could be on anti-bullying campaigns. Working in a group, design an anti-bullying campaign that could be used in your school. This could be an online advert or a video.

Group norms play a significant role in human behaviour. It is believed that these greatly influence when and how people demonstrate prosocial behaviour. There are several explanations for this. For instance, normative influence would propose that demonstrating prosocial behaviour can help people to fit in and gain acceptance. Social identity theory would also support the claim that norms can be leveraged to increase positive interpersonal relationships. This is because you derive part of your identity from social groups, and therefore seek out membership in ingroups. You gain membership in these groups by participating in their norms of behaviour (see [section 4.1.2 \(/study/app/psychology-new/sid-540-cid-763690/book/how-can-conformity-be-explained-by-social-identity-theory-id-49128/\)](#)). Therefore, ingroup norms at the micro level (your friend groups) and the macro level (culture) play a large role in societal-wide prosocial behaviour.

From a conflict perspective, if you choose not to comply with ingroup norms of behaviour then this could create conflict within groups. Conflict can also emerge between groups over what constitutes the 'best' norms for behaviour. Individuals may signal their group membership by choosing to participate or not participate in these norms. For example, in some countries during the COVID-19 epidemic, the choice to wear or not wear a mask in public was associated with various political viewpoints or affiliations. Depending on your perspective, mask-wearing could be seen as a prosocial behaviour.

Cross-cultural researchers have looked into specific prosocial behaviours, such as helping. Research suggests that most people across cultures will try to help if they can. However, if someone cannot help, then people try to provide a reason rather than ignore the request. However, language barriers can affect the success of requests for assistance.

HL Extension

⌚ Technology

Student view



There is a great amount of interest in the extent to which technology in general, and social media in particular, increases or decreases the quality of interpersonal relationships.

Because social media brings increased ease of connectivity, it may seem intuitive that people have more interpersonal relationships, and that those relationships are of a higher quality. The important thing to remember, however, is that intuition can often be wrong.

Research has shown ↗ (<https://www.scientificamerican.com/article/for-a-better-connection-talk-instead-of-typing/>) that digital interactions such as messaging are not nearly as emotionally meaningful as live, in-person interactions. Additionally, adults in the USA are more lonely now than they have ever been ↗ (<https://www.bls.gov/tus/database/tusa-ltabs.htm>) since the data started being collected. In fact, American adults spend 20% less time socialising now than they did in 2010.

Reflection questions

1. Do you feel that social media increases the quality of your social relationships? Why or why not?
2. In what ways might technology be contributing to a 'loneliness epidemic'?

You may have already encountered artificial intelligence (AI) at school or in other areas of your life, but would you ever consider working **with** AI in a team setting?

Emerging research is exploring how AI can be used to increase positive human relationships. Mallick et al. (2023) ↗ (<https://doi.org/10.1080/0144929X.2023.2277909>) conducted research into human-AI teams (HAT) to investigate the interpersonal dynamism that could improve performance on a task. The researchers found that human teammates had a more positive experience in the task and were more likely to 'accept' the AI when appropriate emotional expressions were displayed.

As AI advances, research such as this can provide important insights into how technology can help to improve human relationships, and also possibly relationships between human and machine!

Teacher instructions

Goal

- For students to apply their knowledge to a psychological campaign to improve positive change in society

Facilitation guidance

Research suggests that close emotional connections are essential for health and well-being, such as increasing levels of well-being and reducing risks of heart disease. It is argued that helping people to foster close emotional connections should be a priority for governments and public health authorities.

In this activity, students assume the role of a government agency or public health authority and design a campaign to promote the benefits of close emotional connections. The aim is to use psychological research to help develop a campaign that could increase positive human relationships.

There are several ways to carry out this activity, such as a presentation, video or poster, or using social media or a website. Also, you could guide students towards a particular demographic for this, such as their peers or older adults. Vote on the best campaign in terms of set criteria. For example:

- Clarity of campaign
- Use of psychological research to support campaign
- Visual appeal





Activity

IB learner profile attribute: Inquirer/Open-minded/Balanced

Approaches to learning: Research/Communication/Thinking

Time required to complete activity: 60 minutes

Activity type: Group

Public health strategy

- (Concept application: change) How can psychological knowledge be used to create positive **change** in society?

Did you know that individuals with close emotional bonds are less likely to develop anxiety, and even heart disease, than those without similar bonds? Also, research has shown that individuals who experience social isolation and loneliness are more likely to have higher negative health outcomes such as depression? (Note that social isolation and loneliness are separate constructs.)

Psychologists believe that the promotion of strong relationships should be just as important as highlighting the dangers of smoking and the dangers of alcohol.

Task

You are working with a team of psychologists working for a public health authority. You have been asked to create a strategy to increase positive human relationships in the local community.

You and your team need to develop a marketing campaign to promote the benefits of close emotional bonds and the impact on health.

Your campaign needs to be based on psychological research. Therefore, you need to include a rationalisation of your choices based on the following questions:

1. How can compliance be used for prosocial behaviour?
2. How can social identity theory be used for prosocial behaviour?
3. Within which culture does your campaign take place, and how did you consider culture in the construction of your campaign?
4. If you used language in your campaign, discuss your rationalisation for your language choices.
5. (Concept application: measurement) How might you **measure** the success of your campaign to create positive **change** in society?

Create your marketing campaign. Also, remember to consider, for example, the language you use, the style of campaign and who your target audience is. Then present your campaign to the rest of your class!

Learning outcomes

By the end of this section, you should be able to:

- Describe how social identity theory can be applied to change and explain behaviour.
- Provide one or more strategies for improving interpersonal relationships.
- Identify the role of one or more chemical messengers in interpersonal relationships.

¹ Poster reproduced by permission of TfL, VCCP (agency) & Toby Triumph (illustrator/artist).



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3 section questions ^

Question 1

SL HL Difficulty:

Which term refers to a type of chemical messenger that helps nerve cells to communicate with one another?

- Neurotransmitter



Accepted answers

Neurotransmitter

Also accepted

Neuro-transmitter, neurotransmitter, Neuro-transmitters, Neurotransmitters, neurotransmitters

Explanation

Neurotransmitters are a type of chemical messenger that help neurons (nerve cells) communicate with one another. These act by either stimulating (exciting), blocking (inhibiting) or moderating (modulating) the neuron.

Question 2

SL HL Difficulty:

Oxytocin is associated with several functions for humans and nonhuman animals, including:

- 1 Bonding and attachment
- 2 Fight or flight
- 3 Cognitive bias
- 4 Acculturation



Explanation

Oxytocin has several functions, including encouraging bonding and attachment between a mother and baby following childbirth, reproduction and love between individuals.

Question 3

SL HL Difficulty:

This term refers to behaviour that is based on self-interest.

- egoism



Accepted answers

egoism

Also accepted

Egoism

Explanation

Egoism is behaviour that is based on self-interest and selfishness. When researchers are investigating prosocial behaviour, they may consider whether individuals are displaying this type of behaviour as compared to altruistic behaviour.



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4. Human relationships / 4.2 Interpersonal relationships



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Has technology increased the quality of interpersonal communication?

A-6: Responsibility B-3-4-3a: (HL) Discuss the impact of technology on interpersonal relationships.

B-3-4-3b: (HL) Discuss the role of social media in contributing to group behaviour. B-4-4-3b: (HL) Describe the effect of technology on cognition.

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Learning outcomes

- Discuss the extent to which society should be responsible to act on scientific knowledge.

HL Extension

- Discuss the impact of technology on interpersonal relationships.
- Discuss the role of social media contributing to group behaviour.
- Describe the effect of technology on cognition.

Facilitation guidance

In this section, students will focus on the guiding question: ‘How has technology affected human relationships?’ They will cover a range of research that focuses on areas related to mental health, attachment and identity.

Note that some students may be sensitive to some of the aspects covered, and so students should be respectful of other views. This is particularly important in the activity where students will prepare for a debate.

? Guiding question(s)

In this subtopic, you are thinking about the question, ‘How has technology affected human relationships?’ This section will help you make an informed response by working through the following guiding question:

- Has technology increased the quality of interpersonal communication?

The average teenager spends over four hours per day on a screen. In regard to the unknown effect of screen time and digital work on our brains, the American intellectual Sam Harris remarked, ‘We are all engaged in the world’s largest psychology experiment and none of us have given our consent.’ This section will guide you through the question, ‘How has technology affected human relationships?’

Keep the guiding question in mind as you progress through this section. The guiding questions build into the subtopic question(s). You will return to the subtopic question(s) at the end of each subtopic. The subtopic questions require you to pull together your knowledge and skills from different sections, to see the bigger picture and to build your conceptual understanding.

How can your peers affect your behaviour?

How do you decide what clothes to wear to school? Who do you look to for fashion guidance? And more to the point, where do you get information regarding what is ‘cool’ or ‘on trend’ to wear? The answer to these questions for most students will not be their parents. For most, the answer to these questions is their friends and social media.

Student
view

You might not be surprised to learn that, during your teenage years, you are especially responsive to the influence of your friends. Why is this?

HL Extension

Motivation

It is believed that teenagers prioritise popularity, but how does one become popular and what motivates them to maintain their social status? Research suggests that popular peers will use a range of strategies to attract people and remain influential, including dictating group norms.

Reflection question

1. What motivates you to seek social approval and integration?

Friendship and behaviour

During your teenage years, you are developing your sense of self and identity and will start to assert more independence from your family. At the same time, you are integrating into peer groups and will assess (often unconsciously!) your compatibility with these groups to avoid social exclusion. Consequently, your friendships become increasingly important and can provide you with valuable support.

This support can manifest through conformity and is organised through similarities, such as adopting similar clothing styles, mannerisms and attitudes. These similarities will attract people with similar interests and increase the likelihood of rewarding interactions.

HL Extension

Technology

Davis (2012)  (<https://doi.org/10.1016/j.adolescence.2012.02.013>) conducted interviews with a group of teenagers and found that online communication supported the development of the participants' identity. Here, technology allowed the teenagers to express themselves, and this helped them foster a sense of belonging and an increased level of self-disclosure.

Reflection question

1. Consider your own usage of technology. How does it support the development of your identity?

Concepts such as normative influence that you learned about in [section 4.1.2](#) (/study/app/psychology-new/sid-540-cid-763690/book/how-can-conformity-be-explained-by-social-identity-theory-id-49128/) can help to explain this. Here, you want to be liked or to fit in with a group, and so you may aim to wear similar items of clothing or behave in a similar way to a particular social group. It is important to remember that with normative influence, you don't necessarily internalise the views of a group. In other words, you may go along with what a social group is doing/saying/behaving/wearing and so on, but you may not truly accept their point of view.

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Informational influence, on the other hand, does refer to the adoption of points of view or information on a given issue as a result of social pressure. Research by [Robert Cialdini \(1984\)](#) (https://doi.org/10.1146/annurev.psych.55.090902.142015) has found that a major factor influencing the phenomena of informational influence is uncertainty. When individuals are in situations or faced with claims that they have little experience with or information about, they will look to others for an indication of what (or how) to think. The extent to which one sees themselves as part of the group exerting the pressure is positively correlated with the extent to which adoption of information is likely to occur.

There is perhaps no better example of this than the COVID-19 pandemic. COVID-19 created an incredibly uncertain situation for many people across the globe. Even scientists were flummoxed with what to think or do. In spite of this, consensus did emerge within ingroups and subcultures. In America, for example, your opinion on whether or not schools should be closed or masks should be worn in public spaces generally coincided with your political affiliation.

When they are not sure what to think, people turn to guidance from their ingroups.

⌚ Making connections

Don't forget that a common thread throughout the sections in this subtopic is how social identity theory (SIT) can affect behaviour and human relationships [section 4.1.2](#) (/study/app/psychology-new/sid-540-cid-763690/book/how-can-conformity-be-explained-by-social-identity-theory-id-49128/).

According to SIT, friendships can help with your sense of self because they help you to form your social identities that can support your self-esteem.

Informational influence and technology

Today, ingroups can exist online as much as they can exist in person. According to a [recent Gallup poll](#) (https://news.gallup.com/poll/512576/teens-spend-average-hours-social-media-per-day.aspx), teenagers in the United States spend an average of almost five hours per day on social media.

In recent years, psychologists have begun to express alarm at some of the potential effects of this technology use on behaviour. In particular, the possibility of informational influence to create widespread false conclusions or claims has been raised as a possible detrimental effect. This is as a result of teenagers (and increasingly adults) getting the vast majority of their information on important issues from ingroup-based social media.

Psychologists and other social scientists are concerned that relying on social media for information on ambiguous and important issues in society could be collectively detrimental. This is due to the lack of fact checking and external validation that occurs online.

Additionally, social media and short-form content use algorithms designed to keep the viewer engaged. Therefore, the software is more likely to continue to feed you information that already confirms and aligns with your pre-existing beliefs. This phenomenon is referred to as an 'echo chamber,' in which you and your group's existing beliefs get 'echoed' back to you. In extreme cases, this can result in the development of harmful conspiracy theories and extreme belief systems.

⌚ Concept

✖ Responsibility

Student
view

Technological developments in recent decades have led many scientists to consider the ethical and social implications of their work. For example, there is now a greater emphasis on scientists communicating their findings through ways in which non-experts can understand.

Reflection question

1. Do you believe that scientists should be responsible for communicating their findings to wider society or other groups (e.g. journalists)?

However, it is important to remember that technology can do a lot of good too. Emerging research has strived to emphasise the positive effects that technology can have on behaviour and on our relationships.

Making connections

It is believed that social media can provide a digital mirror that can help with identity development during adolescence (Pérez-Torres, 2024) <https://doi.org/10.1007/s12144-024-05980-z>. Social media helps young people to shape their social identities through online interactions. This links to social identity theory (see [section 4.1.2](#) [\(/study/app/psychology-new/sid-540-cid-763690/book/how-can-conformity-be-explained-by-social-identity-theory-id-49128/\)](#)).

In a comprehensive literature review, Haddock et al. (2022) <https://doi.org/10.3390/ijerph192114009> found that there are many positive outcomes for teenagers who use technology such as social media and the Internet. For instance:

- Young people can use online platforms like social media to learn how to express their emotions and help them make more caring decisions. The benefits from doing this were also felt offline and in the young people's in-person relationships.
- In addition, the researchers highlight that video games can increase cooperation and feelings of social connection. Here, peer relationships improved following the playing of video games. There were further benefits related to well-being and motivation.

Furthermore, studies have shown that technology can support social cognition. Emerging research suggests that specific brain regions in teenagers are engaged during offline social networks which are different from those regions that maintain online social networks. Researchers believe that this evidence provides important insights into the connections between brain function and the sensitivities of different types of interpersonal relationships (Haddock et al., 2022).

HL Extension

Technology

Do you play video games, or know someone who does? Video games can provide people with a unique opportunity to test different identities and experiences. In addition, video games and other forms of technology such as social media can help support social cognition. Social cognition is an area of psychology that focuses on the neural processing of social information.

Reflection questions

1. Can you identify some examples of the different identities that someone may experience from playing video games which are different from their normal life?
2. What is the role of schemas in social cognition? How might these affect behaviour and identity?

Teacher instructions

Goal

- To prepare for a debate where students will consider the influence of technology and the development of identity (the self).

Facilitation guidance

In this activity, students will prepare for a policy debate where they will discuss the following statement:

- **Social media has a negative effect on a person's identity.**

Split the class into two groups (for and against), and provide students with time to research their position. Direct students to gather psychological research to support their position, rather than relying on their opinions.

The following are suggested prompts for the context technology and identity:

- **For** — help make friends, connect with people who share similar interests, explore identity.
- **Against** — increased rates of loneliness and social isolation that could affect identity, offline versus online identities.

Depending on the class size, one option for this activity is to create a group of 'judges' who will hear the debate and then decide which group presented the best arguments. In addition, the judges could keep time and ensure that students involved in the debate keep to the topic.

Activity

IB learner profile attribute: Thinker/Risk-taker/Balanced

Approaches to learning: Thinking/Communication/Research

Time required to complete activity: 60 minutes (additional time may be needed for the debate)

Activity type: Group

Social media debate

For this activity, you are going to prepare for a policy debate on the statement:

'Social media has a negative effect on a person's identity.'

You will be split into two groups and conduct research to help defend your position (for/against). You should also aim to gather psychological research that supports your points, rather than using your opinion.

Here are some areas that you might want to consider when completing the research for your debate:

- Is identity a choice?
- To what extent are you in control of your identity?
- In what ways do online communities influence your self-identity through normative or informational influence?
- Can you identify a specific role of a social influencer on your personal identity formation?
- **(Concept application: change)** Are there any barriers to change in identity formation?

Learning outcomes

By the end of this section, you should be able to:



- Discuss the extent to which society should be responsible to act on scientific knowledge.

HL Extension

- Discuss the impact of technology on interpersonal relationships.
- Discuss the role of social media contributing to group behaviour.
- Describe the effect of technology on cognition.

3 section questions ^

Question 1

SL HL Difficulty:

It is believed that by integrating into peer groups, it can help avoid social exclusion. True or false?

1 True ✓

2 False

Explanation

Peer groups provide various means of support, including helping to reduce social exclusion.

Question 2

SL HL Difficulty:

Research by Robert Cialdini (1984) found that a major factor influencing the phenomena of informational influence is

1 uncertainty ✓ .

Accepted answers and explanation

#1 uncertainty

General explanation

Research by Robert Cialdini (1984) found that a major factor influencing the phenomena of informational influence is uncertainty (or ambiguity). This can be a problem in the context of a society in which a large percentage of individuals get most of their knowledge (of things about which they are uncertain) from social media and the Internet. They would then be prone to believing false claims and information.

Question 3

SL HL Difficulty:

Who proposes that playing video games can support peer relationships?

1 Haddock et al. ✓

2 Cialdini

3 Sherif et al.

4 Davis

Explanation



Haddock et al. (2022) conducted a comprehensive review of literature examining technology and relationships among teenagers. They found that video games can help support peer relationships by increasing cooperation.

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4. Human relationships / 4.2 Interpersonal relationships



(https://intercom.help/kognity)



Activity sheet: How can technology be used to investigate human relationships?

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Teacher instructions

Learning outcome

- Identify the role of communication in interpersonal relationships.
- Discuss the role of technology on mental health problems.

Facilitation guidance

The aim of this activity is to provide students with an opportunity to refine their skills in developing a survey, and for them to consider the type of questions to include to elicit appropriate feedback.

Students will be familiar with research conducted into the influence of technology on mental health from Topic 2 Health and well-being. Encourage students to draw on some of that research and knowledge here.

In this activity, students will design a survey that focuses on an element of human relationships. The survey could be completed by their peers.

When students are designing the survey, encourage them to gather demographic data. However, remind them that aspects of this might be sensitive. Ask students to consider how to operationalise the construct that they are measuring. The following are some suggested topics of investigation:

- Student communication
- Relationship quality
- Interpersonal conflicts

If there is time, encourage students to gather qualitative data through the form of semi-structured questions. For example:

- In what ways is social media beneficial for communication?
- On a scale of 1–5, rate the extent to which you agree with this statement, ‘Social media creates conflict in my life.’

If there is scope to carry out the survey, ask students to gather data and report back their findings along with some conclusions.

In this activity, you will create a survey to investigate the role of technology on human relationships.

? Subtopic question(s)

During this activity sheet, you will be working towards answering the following subtopic question:

- How has technology affected human relationships?

Student
view



Part A

Overview

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Knowledge and understanding

The following questions are designed to test your knowledge as a researcher. For the following activities, imagine that you are working as part of a consultation team for your school to learn about the role of technology on student relationships.

One advantage of using surveys in psychological research is that they can include questions that gather both qualitative and quantitative data.

Which type of survey can help reduce interviewer bias and be cheaper than conducting a face-to-face survey?

Digital survey

Accepted answers

Digital survey

Also accepted

Digital, Digital questionnaire, Online, Online survey, Online questionnaire, Postal, Postal survey, Postal questionnaire

Part B

Application and analysis

Your school principal has asked IB Psychology students to conduct an investigation into technology usage among the school population. They are concerned that higher rates of social media use, both inside and outside of school, can negatively impact the relationships between students.

Design a survey, with a maximum of 10 questions, that could be distributed to students across different age groups in your school. Ensure your survey consists of closed-ended questions in order to collect quantitative data. Create this using an online form.

The following are some possible topics for investigation:

- Student communication
- Relationship quality
- Interpersonal conflicts

Consider the following factors when creating your survey:

- How will you operationalise the construct that you are investigating?
- How can you assess the relationship between social media usage and your chosen component of human relationships?

What type of data do closed-ended questions typically gather?

Quantitative



Accepted answers

Quantitative



What term is used to state how a variable will be manipulated or measured in research?

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Operationalise



Accepted answers

Operationalise

Also accepted

Operationalisation

Part C

Synthesis and evaluation

In the space below, evaluate the use of surveys and, in particular, gathering quantitative data when investigating interpersonal relationships. Are there other research methods that may be appropriate for this investigation?



Key

While surveys are a useful method of collecting data to investigate student relationships, they only tell part of the story. Surveys that gather purely quantitative data may not provide sufficient insights into a person's subjective experiences. An alternative method would be a survey that gathers qualitative data, or a case-study method.

Research suggests that higher rates of social media usage can lead to increased mental health disturbances such as depression and anxiety. However, this relationship is correlational not causal. What is the difference between these terms?



Key

Correlation refers to an association between two variables, while causation means that one thing causes another.

Summary

In this activity, you have identified the components of a survey. You have constructed your own survey to investigate how technology can be used to investigate human relationships.



Student
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Reflection

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Refer back to the subtopic question:

- How has technology affected human relationships?

How would you answer this question after completing this activity?



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Checklist

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Feedback

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Assign



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Learning outcomes



By the end of **subtopic 4.2**, you should be able to:

- Provide one or more cognitive explanations for an interpersonal relationship(s).
- Describe the role of schema theory in understanding a cognitive process.
- Provide one or more strategies for improving interpersonal relationships.
- Describe the role of one or more cognitive models in understanding a cognitive process or behaviours.
- Identify the role of communication in interpersonal relationships.
- Discuss some challenges in measuring the impact of language on human conflict.
- Describe how social identity theory can be applied to change and explain behaviour.
- Provide one or more strategies for improving interpersonal relationships.
- Identify the role of one or more chemical messengers in interpersonal relationships.
- Discuss the extent to which society should be responsible to act on scientific knowledge.

HL Extension

- Identify different strategies for developing and maintaining cross-cultural relationships.
- Discuss the impact of technology on interpersonal relationships.
- Discuss the role of social media contributing to group behaviour.
- Describe the effect of technology on cognition.
- Discuss the role of technology on mental health problems.



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4. Human relationships / 4.2 Interpersonal relationships

Collected research studies



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Notebook



Glossary



Reading
assistance

Teacher instructions

These are the main research studies mentioned throughout this subtopic. However, this is not an exhaustive list, and you are encouraged to use other research studies that are relevant.

Students are not required to memorise all details of the studies but may wish to include them to support their explanations.

Summary	Evaluation
<p>Tversky and Kahneman (1981)  https://doi.org/10.1126/science.7455683.</p> <p>Location of study USA</p> <p>Aim To investigate framing effects</p> <p>Method 307 participants were given a questionnaire framing an imaginary outbreak of a disease:</p> <ol style="list-style-type: none"> 1. A programme that would certainly save 200 people, or another programme that might save 600 or none at all 2. A programme that would certainly leave 400 to die, or another programme that might leave 600 to die or none at all. <p>Results The first group preferred the certainty that 200 people would be saved. Participants in the second group preferred the second programme.</p> <p>Conclusion A framing effect was apparent. Intuitive judgements rely on situations where problems are framed in terms of certainty.</p>	<p>Strengths</p> <ul style="list-style-type: none"> • It has applications to the role of rational thinking in economic theory. <p>Limitations</p> <ul style="list-style-type: none"> • Studies like this are focused on narrow judgements and are therefore not 'wide' enough to account for the scope of intuitive thinking. <p>Ethical considerations</p> <ul style="list-style-type: none"> • The experiment was conducted in an ethical manner. <p>Research considerations</p> <ul style="list-style-type: none"> • The independent variables operationalised to measure framing effects. • The questionnaire limited the influence of extraneous variables. • Participant responses to an imaginary disease outbreak on a questionnaire may well differ from real-life responses to an actual disease outbreak. Therefore, the ecological validity may be limited.



Student
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Summary	Evaluation
<p>Sherif et al. (1954/1961) ↗ https://psychclassics.yorku.ca/Sherif/index.htm.</p> <p>Location of study</p> <p>USA</p> <p>Aim</p> <p>To investigate realistic group conflict theory</p> <p>Method</p> <p>Two groups of boys (the 'Eagles' and the 'Rattlers'). They were manipulated into competition with one another and then cooperating (superordinate goals). This took place over a period of three weeks.</p> <p>Results</p> <p>When the boys had to cooperate, there were many more friendships between the two groups, even though some residual hostility lingered due to the previous competition.</p> <p>Conclusion</p> <p>This research demonstrated that increasing conflict escalates hostility, increases stereotypes and reduces interaction between groups.</p>	<p>Strengths</p> <ul style="list-style-type: none"> It demonstrates how realistic group conflict over limited resources may lead to conflict. <p>Limitations</p> <ul style="list-style-type: none"> A later body of research has challenged realistic group conflict theory by demonstrating that conflict doesn't necessarily have to be realistic. In fact, some situations are better explained by perceived conflict rather than realistic conflict. <p>Ethical considerations</p> <ul style="list-style-type: none"> All researchers conducting studies within the field of psychological research are expected to consider ethical guidelines. <p>Research considerations</p> <ul style="list-style-type: none"> The use of a naturalistic study increases the ecological validity of this study.
<p>Wong and Hong (2005) ↗ https://doi.org/10.1111/j.0956-7976.2005.01552.x.</p> <p>Location of study</p> <p>Hong Kong</p> <p>Aim</p> <p>To investigate priming using cultural symbols and the impact on the prisoner's dilemma</p> <p>Method</p> <p>They used an experimental and quasi-experimental design on over 170 Chinese-American students in Hong Kong.</p> <ul style="list-style-type: none"> Control condition — participants were shown geometric shapes (e.g. a hexagon). Experimental condition(s) — participants were primed with Chinese cultural symbols (e.g. a dragon) or American cultural symbols (e.g. the USA flag). <p>Results</p> <p>Chinese cultural priming (e.g. dragon) increased cooperation between friends. However, cooperation was lower towards strangers after both Chinese and American cultural priming.</p> <p>Conclusion</p> <p>Culture may influence cooperation and competition.</p>	<p>Strengths</p> <ul style="list-style-type: none"> Culture may influence cooperation (collectivist cultures are more cooperative than individualistic cultures). <p>Limitations</p> <ul style="list-style-type: none"> The sample was limited to Chinese-American students in Hong Kong. Thus, generalisability is limited. <p>Ethical considerations</p> <ul style="list-style-type: none"> All researchers conducting studies within the field of psychological research are expected to consider ethical guidelines. <p>Research considerations</p> <ul style="list-style-type: none"> Experimental and quasi-experimental design supports triangulation of the method.

Summary	Evaluation
<p>Kosfeld et al. (2005) ↗ https://doi.org/10.1038/nature03701</p> <p>Location of study Switzerland</p> <p>Aim To investigate the relationship between oxytocin and trust / social risk</p> <p>Method 49 participants. They were administered oxytocin or a placebo through an intranasal spray. They had an fMRI to establish any correlation between increased oxytocin activity in the brain.</p> <p>There were two sets of data:</p> <ol style="list-style-type: none"> 1. fMRI results 2. Behavioural investment rate data. <p>Results These were consistent with previous research where oxytocin has been administered in this way.</p> <p>Conclusion Oxytocin plays an essential role in prosocial behaviour.</p>	<p>Strengths</p> <ul style="list-style-type: none"> • Participants were blind to whether they received oxytocin or not, which reduces demand characteristics. • A laboratory experiment, and so it can be replicated. <p>Limitations</p> <ul style="list-style-type: none"> • The lab setting reduces ecological validity. • It is difficult to determine if 'trust' was being measured or something else (e.g. lack of fear). <p>Ethical considerations</p> <ul style="list-style-type: none"> • All researchers conducting studies within the field of psychological research are expected to consider ethical guidelines. <p>Research considerations</p> <ul style="list-style-type: none"> • fMRI technology is expensive to use. • Administering oxytocin through a spray does not reflect natural physiological processes.
<p>Mallick et al. (2023) ↗ https://doi.org/10.1080/0144929X.2023.2277909</p> <p>Location of study USA</p> <p>Aim To investigate human—AI teams in completion of task objectives</p> <p>Method 47 interviews assessing how human—human team structures and human—AI team structures work together to complete a task</p> <p>Results Integrating emotions into AI teammates had a positive impact on human perceptions of the technology.</p> <p>Conclusion AI emotional expression could help provide social support in human—AI teams in the future.</p>	<p>Strengths</p> <ul style="list-style-type: none"> • Research into AI is in its infancy, and so there is lots of potential for this area. <p>Limitations</p> <ul style="list-style-type: none"> • The sample was small, which limits generalisability. <p>Ethical considerations</p> <ul style="list-style-type: none"> • All researchers conducting studies within the field of psychological research are expected to consider ethical guidelines. <p>Research considerations</p> <ul style="list-style-type: none"> • AI technology is still developing. It may be some time before it can be used to support human teams.

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