NEUROSCIENCE, PSYCHOLOGY AND CONFLICT MANAGEMENT

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Neuroscience, Psychology and Conflict Management

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ACKNOWLEDGEMENT OF COUNTRY

At James Cook University we acknowledge with respect the Aboriginal and Torres Strait Islander peoples as the first peoples, educators and innovators of this country. We acknowledge that Country was never ceded, and value the accumulation of knowledge and traditions that reflect the wisdom of ancestral lines going back some 60,000 years, and recognise the significance of this in the ways that Aboriginal and Torres Strait Islander peoples are custodians of Country. As a University, we will continue to learn ways to care for and be responsible for Country, and we will collectively seek to build a future that is based on truth-telling, mutual understanding, hope, empowerment, and self-determination.

Kassandra Savage (JCU Alumni), 'Coming Together and Respecting Difference', acrylic on canvas, 2014, 90cm x 90cm. © Kassandra Savage, reproduced with permission of the artist

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ABOUT THE AUTHOR

This OER was written and developed by Dr Judith Rafferty. Judith has been teaching, researching, and practising in conflict resolution since 2011, including in Australia and internationally. Judith holds a PhD in conflict resolution (JCU, 2021), a Master of Conflict and Dispute Resolution (JCU, 2011), and a Graduate Diploma in Economics (University of Applied Science Gelsenkirchen, Germany). In 2022, she also completed a Graduate Certificate in Psychology (JCU). Judith is a nationally accredited mediator under the Australian Standards, a trained conflict coach with Conflict Coaching International (CCI) and has completed training as a restorative justice convenor.

Judith has extensive experience in online teaching and learning resources development. She was the course coordinator and director of the postgraduate Conflict Management and Resolution (CMR) program at JCU from 2014 to 2017 and has significantly contributed to the design and curriculum development of the program. During her time at JCU, Judith coordinated 14 subjects, most of them offered in both online and blended mode. From 2012 until 2023, Judith also worked as a lecturer/ senior lecturer in the CMR program and has taught/ co-taught multiple subjects offered in the program, including Conflict Analysis, Sustainable Conflict Management, Facilitative Mediation Practice and Research Projects in CMR. Judith substantially redeveloped some of these subjects to incorporate new online learning technologies. In 2022, Judith designed a new subject on neuroscience, psychology, and conflict to be delivered online and in blended mode. Judith developed an eBook to be used for the teaching of the subject content, which forms the basis for this Open Educational Resource (OER).

PREFACE

Anyone who is studying conflict resolution or training/working as a conflict resolution practitioner would appreciate the importance of psychology for understanding, managing, and resolving conflict. In 2021, an opportunity arose for me to complete a Graduate Certificate in Psychology, and I chose a suite of subjects that were relevant to my work as a conflict resolution lecturer, researcher, and practitioner.

These subjects focused on:

- social psychology
- personality psychology
- cognitive psychology
- behavioural neuroscience.

Studying the Graduate Certificate in Psychology with the lens of a conflict resolution scholar and practitioner was such an enriching experience that my colleague Claire Holland and I decided that I should develop a new subject for our postgraduate Conflict Management and Resolution program at James Cook University (JCU) to share the new knowledge gained with our students. We called the subject "Neuroscience, Psychology and Conflict" and it combined both psychological and neuroscientific knowledge as it relates to conflict analysis and resolution.

This subject was unique since it brought together multiple disciplines (note that the field of conflict analysis and resolution is already a multidisciplinary field of study) and because its structure and content had been influenced by my personal filters and judgements of what I considered important for the understanding of conflict analysis and resolution. Because of the uniqueness of the subject, I could not identify any existing textbook that covered the topics that I wanted to teach, which led me to write my own textbook in the form of an eBook While the combination of topics in one resource and the focus on conflict management is unique, the content of this eBook is grounded in research and scholarly work and references to this work are made throughout the eBook. Furthermore, several scholars and experts in different areas of psychology have contributed to the development of the content of this eBook. Please refer to the acknowledgements for a full list of experts who assisted me with the writing of this eBook.

Organisation and Structure of this eBook

In this eBook, you will be introduced to behavioural neuroscience and three branches of psychology (cognitive psychology, personality psychology and social psychology) as they relate to conflict. Knowledge from these branches can help support your understanding of why conflict occurs, how it develops and how we may be able to manage or resolve it. There is of course much more to these four branches, and this

eBook focuses on those theories, approaches and components that appear to add value to understanding how people think, feel and behave when they are in conflict.

As for the structure of this eBook, the first Chapter will introduce you to the human brain and the biological basis for behaviour and you will consider how this knowledge may help explain the behaviours of people in conflict and conflict resolution processes. In Chapters 2 and 3, you will learn about the mind and consider its cognitive and emotional dimensions and how these relate to the experience of conflict. In Chapter 4 we will "zoom out" and explore "the person" and approaches to understanding individual differences to personality and how these may play out in conflict and conflict resolution. In Chapter 5, we will zoom out even further and consider individuals in interactions and relationships with others, with a focus on social influence. You will also learn about social psychology insights into interactions between groups and group dynamics to explain social conflict.

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her enthusiasm and encouragement throughout the project.

- Dr Deborah King, who helped majorly with the layout, formatting, copyright compliance and finding appropriate images and illustrations. I would also like to thank Deborah for editing the book and for her vigilant eye and attention to detail when checking all in-text references and the reference list.
- Dr Kezia Perry, who assisted with the formatting and layout of this ebook, as well as with ensuring copyright compliance, including through finding and creating images and illustrations used throughout the eBook.
- Amber Swayn, who created the cover of the eBook and the images that introduce each chapter.
- Greg Walsh, a Senior Digital Advisor at JCU at the time of writing of this eBook. Greg contributed majorly to the design of the eBook, including by setting up the original format and supporting me with any technical matters.

INTRODUCTION

Studying Conflict

> Conflict is a social phenomenon that occurs across species, time periods, and cultures. (De Dreu & Gelfand, 2008, p. 3)

Studying conflict is "a multidisciplinary and multilevel scholarly enterprise" (De Dreu & Gelfand, p. 3). Different terms are used to refer to the field of studying conflict, including peace and conflict studies, conflict resolution studies, as well as conflict analysis and resolution studies (De Dreu & Gelfand, 2008, p. 3; Neu & Kriesberg, 2019). Many scholars, practitioners and organisations also use the term conflict management to distinguish the process of managing conflict from that of resolving conflict (see for example Condliffe, 2016). For reasons of conciseness and consistency, we will mainly use the term **conflict management** throughout this eBook, which is meant to include confict analysis, resolution, management and other approaches to dealing with conflict. Please be aware that the various readings referred to in this eBook may use different terminology (e.g., the study of peace and conflict studies).

While there are designated conflict scholars and/or practitioners, many ideas that inform conflict management have been (and are being) provided by people from outside the field (De Dreu & Gelfand, 2008). People engaged in conflict management come from a range of disciplines and fields, especially those that form part of the social sciences like psychology, sociology, history, geography, communication studies, political science, international relations, organisational behaviour, and anthropology (De Dreu & Gelfand, 2008; Neu & Kriesberg, 2019). Some contributions to understanding conflict and conflict management have been made from people working in the formal sciences like mathematics and physics, as well as in biology and neuroscience. Since conflict studies are informed by such diverse fields and disciplines, we can increase our understanding of the formation, escalation, management, and resolution of conflict by looking at some of them in more detail.

Linking the Study of Conflict and Psychology

The field of psychology is particularly relevant for the study of conflict management. For example, the American Psychology Association has a division that is dedicated to applying psychology knowledge to conflict situations, called "The Society for the Study of Peace, Conflict, and Violence: Peace Psychology".

In fact, peace psychology is a distinct field of study with an International Centre for Peace Psychology, and the journal *Peace and Conflict: Journal of Peace Psychology*.

As another example, the Australian Psychological Society (APS) recognises on its website some of the contributions that psychologists can make to understanding and managing conflict, including that "psychology can offer important insights about psychological factors that underpin social conflict and the most effective ways to bring people together to maximise positive relationships and productive outcomes" (APS, 2023). These ways include "approaches to resolving conflicts, and forms of governance that prioritise co-operation over coercion" (APS, 2023). Some conflict scholars, including Pruitt and Kim (2004) and Bar-Tal (2013), focus on social psychology, one of the sub-disciplines or branches of psychology that we look at in more detail in this eBook to explain why and how conflict occurs and why some conflicts are particularly resistant to resolution. Social psychology has been used, for example, to explain how social cohesion can best be strengthened to prevent social division and conflict.

The previously mentioned APS also considers violence as a specific topic that has relevance to conflict management, including by helping explain why violence occurs, what effect it has on people who suffer violence and how violence may be prevented. More information about social issues that relate to conflict and that are considered by psychology research and advocacy is available from the APS website.

Introducing Psychology

Now that we have established the relevance of psychology for conflict management, we will briefly look at what the field of psychology covers overall before we dive deeper into the branches of psychology covered in this eBook.

Different textbooks provide different definitions of the term psychology, but many seem to agree that it focuses on *the study of mental processes and behaviour (and their relationship)* (see for example Zimbardo, Johnson, & McCann, 2009, p. 4).

To learn about the history and focus of psychology overall, please watch the following video clip [10:54]:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=1079#oembed-1*

If you would like to learn more about the range of branches of psychology, including, but not limited to those that are being considered in this eBook, the following reading is suggested:

Contemporary Psychology in Mullin, G. (n.d). *Introduction to Psychology.*
https://library.achievingthedream.org/bhccintropsych/chapter/contemporary-psychology/

Linking the Study of Conflict and Neuroscience

Besides psychology, the field of conflict management is increasingly looking to neuroscience to gain a better understanding of why conflict occurs and how it may best be managed/resolved. As discussed in contemporary conflict literature, the field of conflict studies has recognised that people's brains and bodies are significantly involved in the facilitation of societal conflict (Bruneau, 2015; Burgess, 2022; Fitzduff, 2021; Influs et al., 2019). For example, Fitzduff (2021) notes in her book *Our Brains at War* that "new genetics, brain, and hormonal sciences are providing very strong evidence that many of our personality traits, including how we relate to other groups, have at least some basis in the biology of the brain" (p. 14). By explaining and demonstrating this basis through "new and more sophisticated and nuanced insights into the way that people actually think", neuroscience makes a critically important contribution to the field of conflict management (Burgess, 2022).

As another example, Bruneau (2015), in her book chapter "Putting Neuroscience to Work for Peace", highlights the value of neuroscience that lies in "looking "under the hood" directly at neural activity" to turn psychology-based conflict theories into "mechanistic understanding" and to "proceed from describing and demonstrating ... psychological barriers to effectively dismantling them" (p. 143). Similarly, Fitzduff (2021) notes that neuroscience has "helped to sharpen the field of traditional social psychology and in some cases validate many of its findings through biological processes that can be objectively measured" (p. 13). Both scholars mention the value that lies in the methods used in neuroscience, such as neuroimaging technologies (e.g., functional magnetic resonance imaging (fMRI)), to help explain the occurrence and management/ resolution of social conflict. Bruneau, for example, discusses in her chapter how fMRI can "(1) help characterize intergroup biases, (2) expand our theoretical understanding of the psychological processes driving intergroup conflict, and (3) aid practical evaluations of conflict resolution efforts" (p. 144). You will be referred to both Fitzduff's and Bruneau's publications towards the end of Chapter 1.

As an easy-to-digest introduction to the topic, read the following article by Guy Burgess, who provides some interesting ideas about how conflict analysts and practitioners may use findings from neuroscience for their work:

Burgess, G. (2022, February 3, 2022). Reflections on neuroscience, conflict, and peacebuilding. *Beyond Intractability.* https://www.beyondintractability.org/cci-mbi-cv19-blog/gburgess-neuroscience

Linking Neuroscience and Psychology

Neuroscience is the scientific study of the nervous system and an interdisciplinary field that integrates biology, chemistry, psychology, and more. In this ebook, we are particulary interested in the intersections between neuroscience and psychology. It may help to think of neuroscience as dealing with the 'physical' (brain) and psychology dealing with the 'abstract' (mind). The functioning of our brain, hormones and neurotransmitters significantly affects our behaviours, cognitions, and social experiences, which is why the links between neuroscience and different areas of psychology are increasingly being recognised, studied, and taught. Lempert and Phelps (2016) note that "the bridge between neuroscience and psychology has been critical to the advancement of psychological theory" (p. 99). Furthermore, the intersections between neuroscience and various branches of psychology have resulted in the creation of new interdisciplinary fields. These new fields include, for example, "neuropolitics, neurobiology, neuropsychology, genopolitics, political physiology, behavioural genetics, and cognitive neuroscience, all of which are investigating the interplay between the brain, society, and politics" (Fitzduff, 2021).

We will now have a quick look at social neuroscience and cognitive neuroscience since they are particularly relevant for this eBook. Understanding how these interdisciplinary fields relate to each other and to conflict management will help you make sense of relevant literature. For example, in Chapter 2, you will learn more about cognition and be referred to readings that consider cognitive neuroscience for conflict management.

Social neuroscientists study the brain and body to explore how an individual thinks and feels about and behaves towards other people (Ito & Kubota, 2022). In this way, social neuroscience looks at the same topics as social psychology but with the additional dimension of neuroscience.

The following image illustrates the intersection of social psychology and neuroscience.
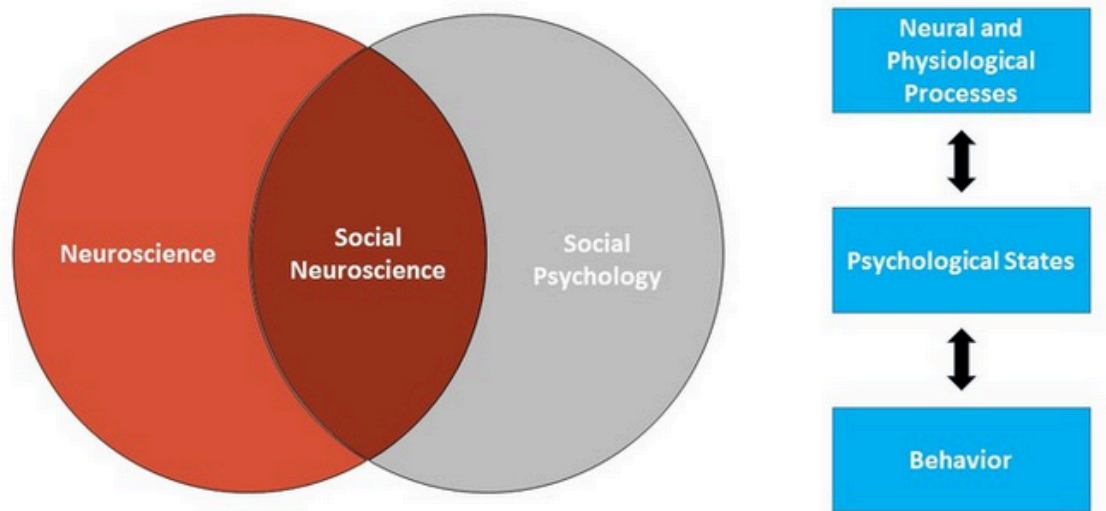
Figure.Social Neuroscience by Tiffany A. Ito and Jennifer T. Kubota used under a CC BY-NC-SA 4.0 licence

Extension:

To find out more about social neuroscience, you may wish to read the following text:

Ito, T. A. & Kubota, J. T. (2022). Social neuroscience. In R. Biswas-Diener & E. Diener (Eds), *Noba textbook series: Psychology.* DEF Publishers. http://noba.to/qyekc5gf

Cognitive neuroscience, on the other hand, refers to the study of the physiological basis for cognition (Goldstein, 2019). In this way, cognitive neuroscience looks at the same topics as cognitive psychology, including cognitive processes like memory and learning, with a specific focus on the role of the brain and body in these processes.

Reflective Questions

- After engaging with the above content (reading the text and watching the videos) what interests you most regarding the study of the mind (psychology) and the brain

(neuroscience) in the context of conflict and conflict management?
- Which branches of psychology or topic areas do you find most relevant for conflict management?
- After reading the blog by Guy Burgess, what were the most interesting take-home ideas as to how knowledge from neuroscience may help analyse/ understand and manage/ resolve conflict?

CHAPTER 1: THE BRAIN AND BODY IN CONFLICT

This eBook focuses on neuroscience and three branches of psychology: social psychology, personality psychology and cognitive psychology. These fields of study are particularly useful in enhancing our understanding of how the human mind, brain and body functions contribute to the occurrence and development of conflict, including at the intrapersonal, interpersonal and intergroup levels, as well as its management and/or resolution.

This first chapter will focus on the foundations of neuroscience and introduce you to major brain structures and body functions that are involved in/affected by the experience of conflict. For example, multiple brain regions and physiological processes are involved when people experience conflict-typical emotions like anger, sadness and fear. Furthermore, in conflict resolution processes like mediation, people are frequently expected to use high-level cognitive skills, including verbalising their conflict experience, processing and considering the other conflict party's perspective, negotiating disputed issues that they feel strongly about, and making decisions for themselves and perhaps for others.

Understanding the brain and body functions of people in conflict will help us analyse why people experience conflict, why they behave in the way they do when they are in conflict and how practitioners (or other professionals) can best support people in conflict. To deepen our insights into this topic, we need to understand first at a basic level how our brain and body work, and which major brain structures are involved in the cognitions and emotions typically involved in or affected by conflict. This foundational

knowledge will prepare and help you make sense of the readings to which you will be introduced throughout this eBook. For example, in topic six of this chapter, we will consider some readings that discuss the implications of neuroscience findings for conflict analysis and conflict resolution processes like mediation.

Learning Outcomes

- explain the relevance of neuroscience and psychology for conflict management
- identify, distinguish and explain important brain areas and functions, as well as physiological processes that are relevant to the experience of conflict and conflict resolution
- explore how the brain and body are affected by and involved in the experience of conflict
- consider how neuroscience can inform and support conflict analysis, management and resolution

Key Readings

Bruneau, E. (2015). Putting neuroscience to work for peace. In E. Halperin & K. Sharvit (Eds.), *The social psychology of intractable conflicts* (pp. 143-155). Springer International Publishing. https://doi.org/10.1007/978-3-319-17861-5_11

Burgess, G. (2022, February 3, 2022). *Reflections on neuroscience, conflict, and peacebuilding.* https://www.beyondintractability.org/cci-mbi-cv19-blog/gburgess-neuroscience

Fitzduff, M. (2021). *Our brains at war: The neuroscience of conflict and peacebuilding.* Oxford University Press. https://doi.org/10.1093/oso/9780197512654.001.0001

Rock, D. & Cox, C. (2012). Scarf® in 2012: Updating the social neuroscience of collaborating with others. *Neuroleadership Journal*(4), 1-14.

1.1 INTRODUCING NEUROSCIENCE

Introducing Neuroscience and Behavioural Neuroscience

Our brains are built, transformed, and regulated through social interactions (Senland, 2015). During conflict, our social interactions are likely to change, which again impacts our brain and body, thereby affecting our behaviour. For example, when we experience stress, which frequently happens to people during conflict, our brains are aroused. This arousal again can significantly affect our behaviour (including what you may know as "fight or flight behaviours"). Understanding what is happening in the brain in these situations can support analysis and prediction of the behaviours of people in conflict. To increase this understanding, we can look to neuroscience as an interdisciplinary field concerned with studying the brain and nervous system. Neuroscience studies can occur on various levels, including the molecular, cellular, synaptic, network, computational and behavioural levels (Freberg, 2019). This eBook focuses on the behavioural level, which is commonly referred to as "behavioural neuroscience" or "biological psychology" and is defined as "the study of the biological foundations of behaviour, emotions, and mental processes" (Freberg, 2019, p. 2). Since this eBook focuses on connecting neuroscience, psychology and conflict, we will focus on those biological foundations that are most relevant to help explain why people experience conflict and how they may be supported to manage and resolve their conflicts.

We will now take a closer look at those biological foundations with a focus on the human brain, and listen to/watch [14:55] David Rock, the author and founder of the "SCARF model" talk about why people should be interested in learning about the brain (we will consider the SCARF model later in this chapter):

> 🖳 *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=5#oembed-1*

David Rock, in this talk, mentions numerous terms that not everyone may be familiar with, including neural networks, cortisol, dopamine, prefrontal cortex, and the limbic system. We will consider all these (and many more) terms in more detail throughout this chapter.

1.2 FOUNDATIONS OF NEUROSCIENCE

In the introduction to neuroscience, you came across various terms, brain structures and bodily functions/ processes that are frequently mentioned in neuroscience literature relevant to the study of conflict. In fact, many more neuroscience terms are used in such literature. To help you make sense of this literature and to prepare you for some later chapters that use neuroscience knowledge (e.g., Chapter 3), we will take a closer look at neuroscience and human biology in this topic. We will describe and explain various brain structures and bodily functions and note why knowing about them may be useful for conflict management scholars and practitioners.

As an introduction to the topic, you may want to watch *The Chemical Mind: Crash Course Psychology #3* [10:14]:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=70#oembed-1*

Below, we will look at some of the structures and processes discussed in the video in more detail, starting with the smallest entity: the neuron.

Neurons

Neurons are nerve cells that are central to all our brain functions. They are the primary functional unit of the nervous system and enable communication between different brain areas as well as between the brain and other body parts. Our brains contain an estimated 85-128 billion neurons (Feldman Barrett, 2017a; Freberg, 2019).

Below, we will briefly consider key components of neurons and their functions, without going into too much detail.

Extension:

If you are interested in learning more about how neurons are made up, you may choose to watch this video [1:47]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=70#oembed-2

Neurons look a bit like a tree. They have multiple branches (called dendrites), a trunk (the axon) and roots (the axon terminal).
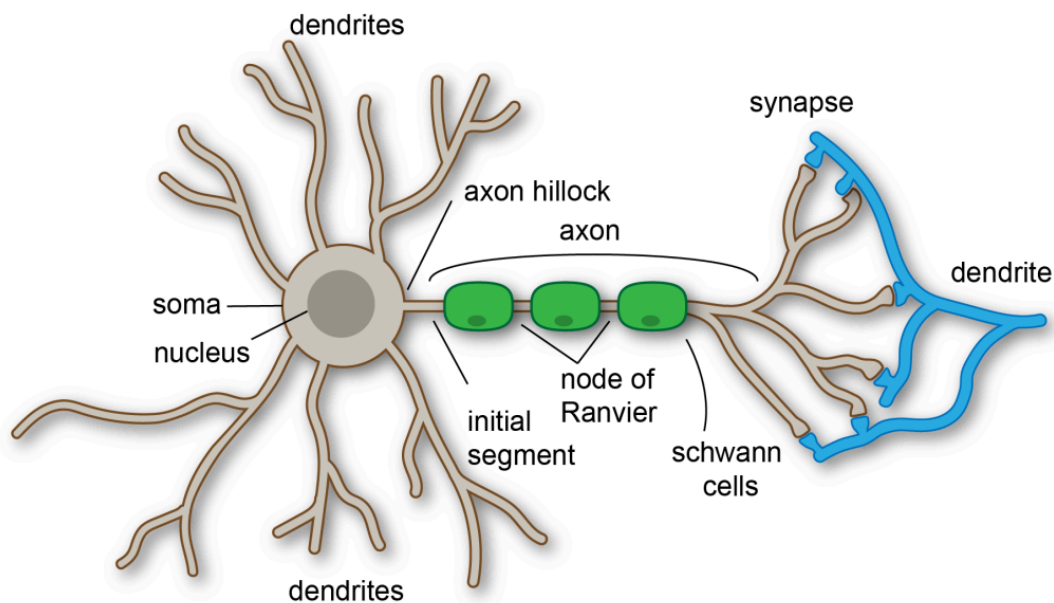
Figure 1.2.1. Anatomy of a neuron by Curtis Neveu used under a CC BY-SA 4.0 licence

Neurons transmit electrical signals through our brain and body (we can say that the neuron "fires" to describe the action of sending a signal). When a neuron receives an electrical signal at one of its branches (*dendrites*) from another neuron, this signal (called *action potential*) travels down the "trunk" of the neuron (the *axon*) to its "roots" (*axon terminal*), from where the signal is sent (or "fired") to the next neuron via *the synapse*.
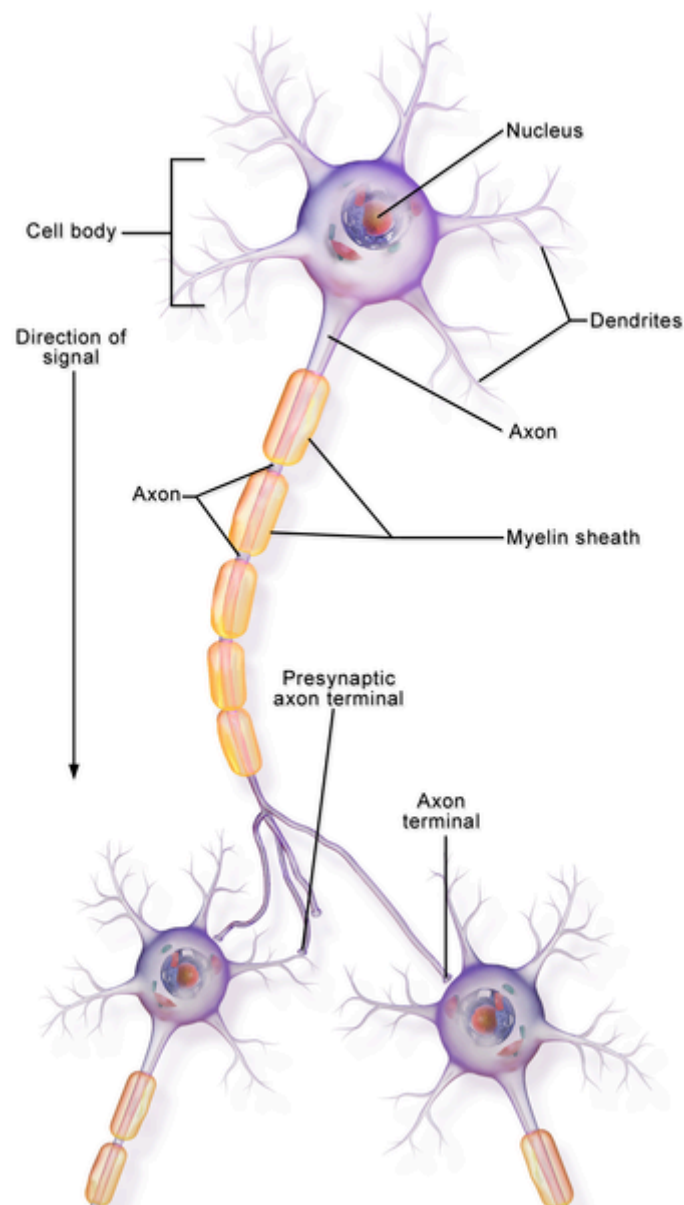
Figure 1.2.2. Parts of a Neuron by Bruce Blaus used under
CC BY-SA 4.0 licence

In the process, the first neuron releases chemicals into the *synaptic gap,* which are received by the next neuron.
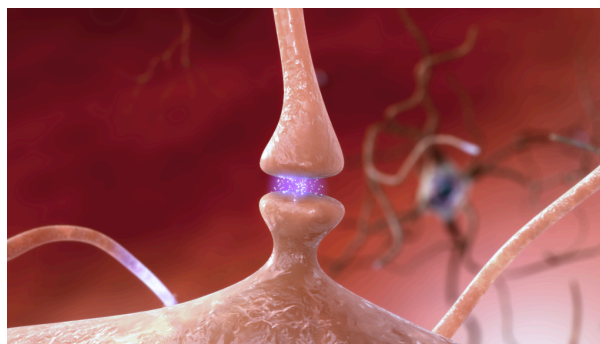
Figure 1.2.3. Synapse by the National Institute on
Aging, NIH is used under a CC BY-NC 2.0 licence

Then the process is repeated by that neuron and so on. Communication via the synaptic gap is called synaptic transmission. Understanding the gist of synaptic transmission (without the need to go into too much detail) will help you make sense of any information about neurotransmitters, which we will look at later in this chapter as well as in some subsequent chapters like Chapter 3 on emotions.
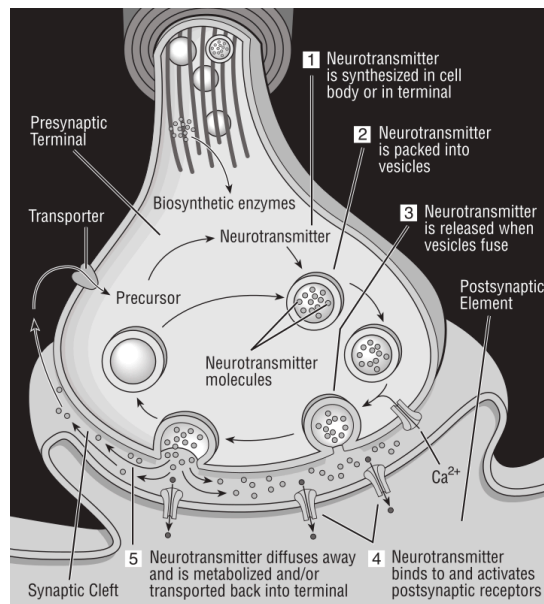
Figure 1.2.4. Synapse diagram by rejon used under a CC0 licence

Extension:

If you want to learn more about how information is passed on from one neuron to the next via the synapse, please watch the following video [1:51]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=70#oembed-3

We will now consider how our neurons are connected.

Neural Networks

As you learned above, neurons have multiple branches (dendrites) that connect them to multiple other neurons.
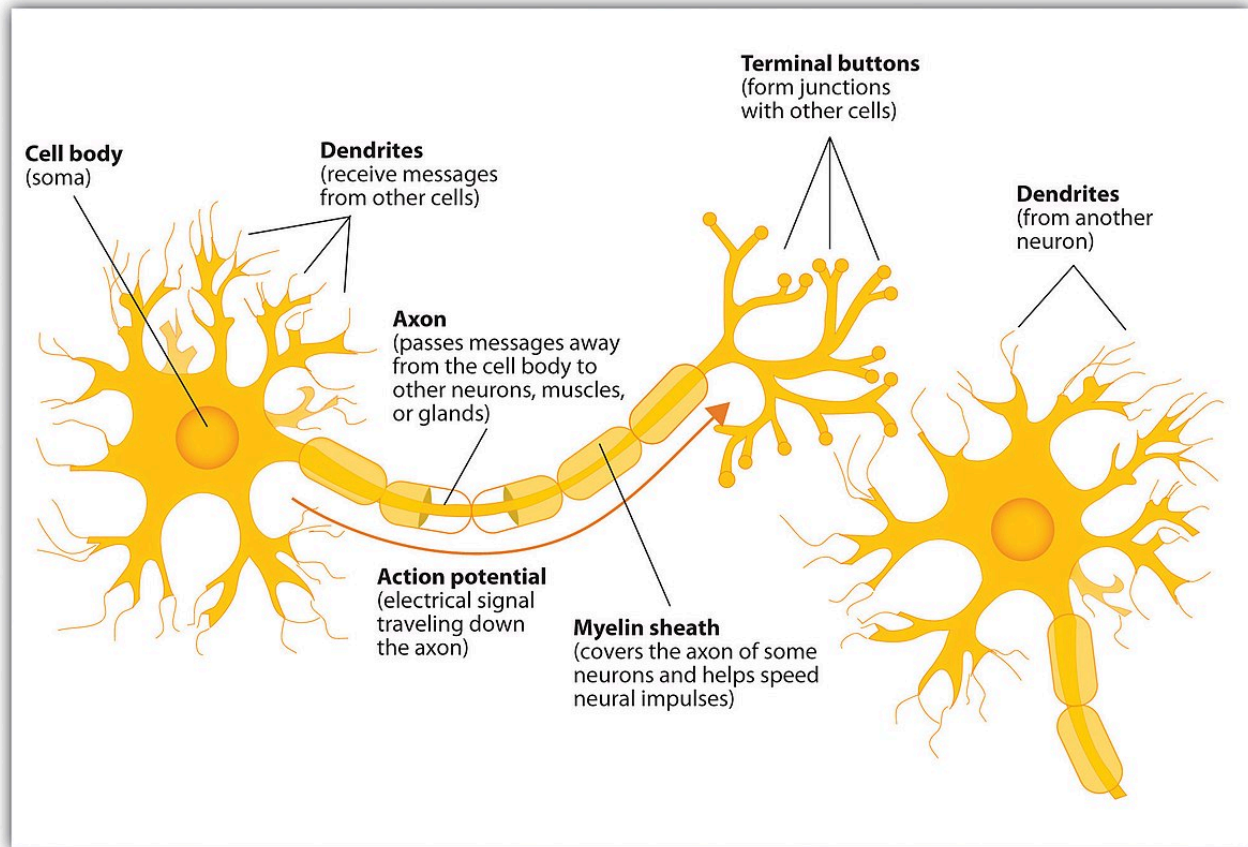
Figure 1.2.5. Diagram of a basic neuron and components by Jennifer Walinga used under a CC BY-NC-SA licence

Through these connections, our neurons make up a massive, complex neuronal network (Feldman Barrett, 2017a). Some neurons are better connected than others. These close connections can be grouped as neuronal clusters. Lisa Feldman Barrett (2020), in her book, *7 and a half lessons about the brain*, compares the neuronal network with the global airport system. According to Feldman Barrett, the global airport system comprises about 17,000 airports. Some of these airports are hubs, like Singapore, Dubai, Frankfurt, London Heathrow, etc. Multiple domestic and other smaller international airports connect to these hubs so that people can travel from A to B when there are no direct flights between the two locations.
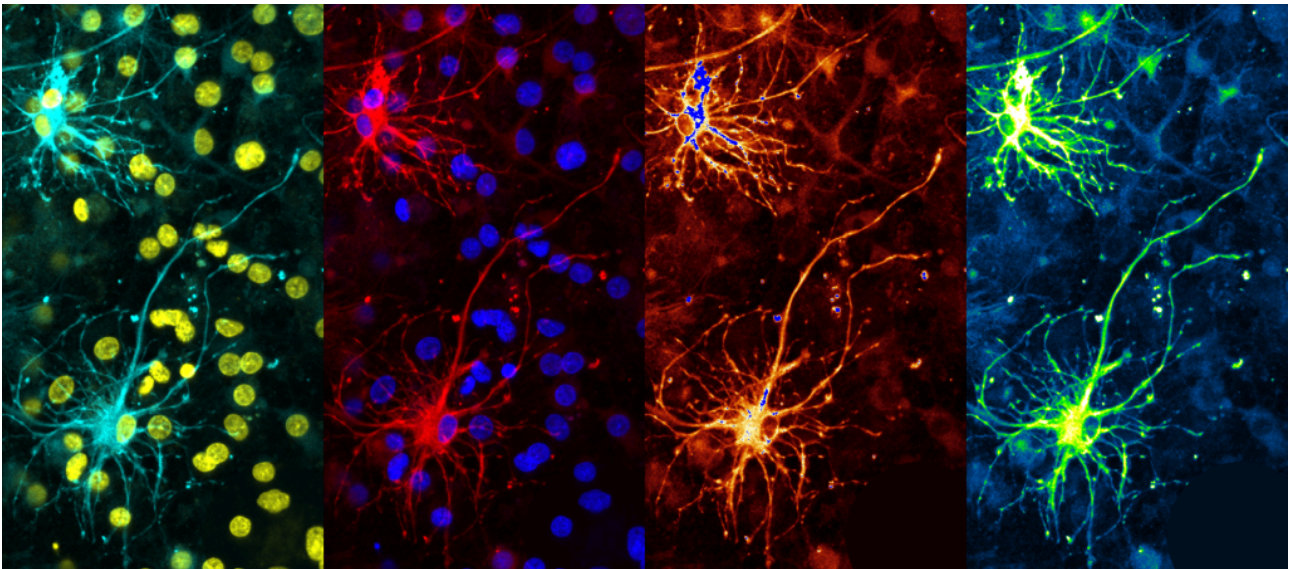
Figure 1.2.6. Warhol's Neuron by Enricobagnoli used under CC BY-SA 4.0 licence

Our network of neurons is similarly organised. Not all neurons are connected with all other neurons (that would be a crazy network seeing that we have billions and billions of neurons), but many are just connected with the neurons around them, forming a local cluster, a bit like the domestic air travel system. Some of these clusters serve as "communication hubs". They connect with other clusters via some neurons with long axons that reach far across the brain, a bit like a long-distance flight. If a hub is temporarily or permanently damaged, like a major airport shutting down, it may be possible that other neurons take over the functions of the damaged hub. In other cases, for example, when a person suffers from Parkinson's disease, the functions may not be replicated.

Feldman Barrett (2017a) explains how the brain achieves its complexity through "degeneracy". This term refers to "the capacity for dissimilar representations" (e.g., different sets of neurons) to give rise to instances of the same category (e.g., the experience of a particular emotion) in the same context.

Plasticity

As the analogy with an airport hub shutting down has indicated, our brain is not a static system, but it is ever-changing and evolving. The brain's capacity to change its structures over time is called plasticity. In this process, new neuronal connections can be formed, while existing connections can be strengthened, weakened or entirely abandoned, depending on how frequently and intensely these connections are used. For example, learning, remembering, and new experiences are processes that are likely to create and strengthen connections (Gluck et al., 2020).

While our brain changes and evolves throughout our lives (Kolb & Fantie, 1989), it is important to note that the foundational neuronal wiring is done in the early childhood years of development. In other words,

childhood experiences have a significant impact on the foundations of the neuronal network and changes to the network in later age are more difficult to create.

Feldman Barrett (2020) discusses that narrow-mindedness and prejudice may derive from the lack of exposure to different beliefs, skin colours, religious practices, etc. of an individual during childhood. This may help explain why some people find it more difficult than others to consider other people's perspectives, beliefs and values. This lack of perspective-taking frequently contributes to conflict and makes conflict resolution more difficult.

To learn more about neuroplasticity and how we may use its principles to shape our own brains, please watch the following video [14:24]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=70#oembed-4

Mirror Neurons

The term mirror neurons refers to a specific type of neuron that fires both during the performance of an action and merely by observing someone else perform the action (Gluck et al., 2020; Goldstein, 2019). Mirror neurons were first discovered "by accident" in the cerebral cortex of monkeys in the early 90s. Afterwards, they were also found in the human brain, albeit with slightly different functions than those in the monkey brain. Multiple readings on neuroscience and conflict frequently praise the role that mirror neurons play in our predictions and experience of the emotions of others, including through empathy (Fitzduff, 2021; Izard, 2009; Lindner, 2014). However, other sources note that research to date is inconclusive and does not clearly assign this role to mirror neurons, so it may be best to treat readings on the value of mirror neurons with care.

To learn more about the research and about some myths about and actual functions of mirror neurons, please watch the following video [6:46]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=70#oembed-5

1.3 THE BRAIN

Following the introduction to neurons, and how they are connected and communicate with each other, in the previous topic, we will now turn our attention to how these neurons make up our brain and nervous system. We will focus on those areas that are important for understanding people's behaviours in conflict, including those structures that are particularly involved in cognition and emotions.

Our brain, together with our spinal cord, makes up our central nervous system. The spinal cord is a long cylinder of nerve tissues that extends from the brain. Understanding the specific areas and functions of the spinal cord is less important for analysing people's conflict behaviours, which is why we will not focus on this topic here but go straight to the brain.
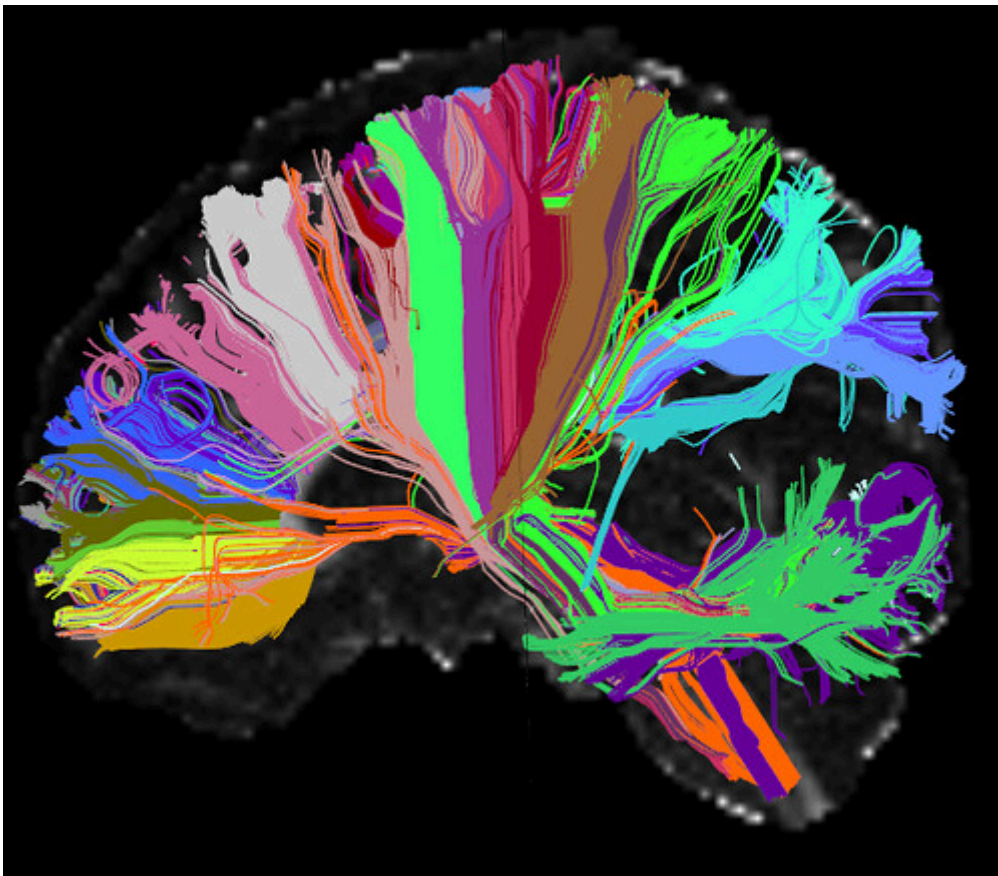
Figure 1.3.1. High Angular Resolution Diffusion Image of human brain by Viviana Siless and Anastasia Yendiki used under CC BY-NC 2.0 licence

Watch this video as an introduction to the human brain [12:33]:
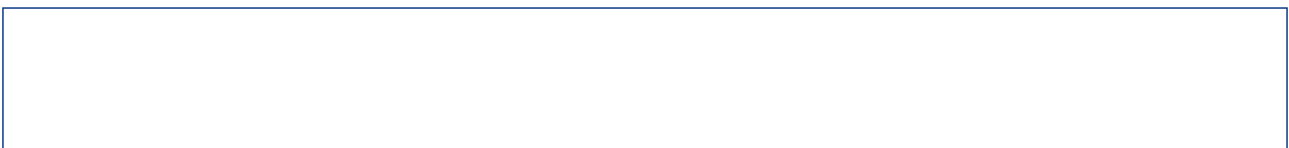
One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=72#oembed-1

As you may have just heard in the video, understanding our brains is critical to understanding our minds ("the mind is what the brain does"), which is again central to this eBook.

Scientists have divided the brain in multiple different ways. To support your understanding of the various brain regions, we will first distinguish between the brain stem (consisting of the hindbrain and the midbrain) and the forebrain below.

The Brainstem
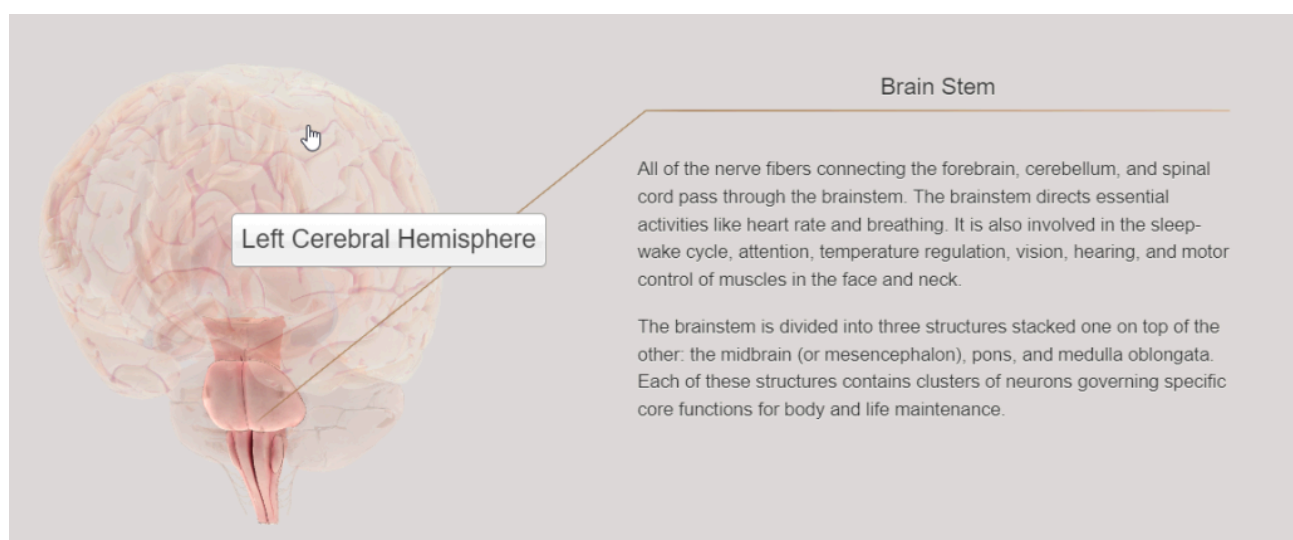
Figure 1.3.2. BrainFacts.org 3D Brain allows you to move the image of the brain, looking at different angles and different parts of the anatomy. Click on the image above to go to the section looking at the brain stem. (Brainstem by Society for Neuroscience, Copyright © Society for Neuroscience, 2017, used with permission)

The brainstem is involved in the regulation of vital automatic functions, like breathing and regulating body temperature (Gluck et al., 2020). It comprises several structures that connect the brain with the spinal cord, inducing the medulla, the pons, the cerebellum, as well as the midbrain.

The *medulla* is located right above the spinal cord and all information passing to and from the higher brain structures to our body must pass through the medulla. The medulla is involved in vital functions like breathing, heart rate and blood pressure, as well as in consciousness, movement and pain.

Above the medulla is the pons, which is involved in processes like sound perception, motor control of eyes, head position and movement. The pons also plays a role in mood, arousal, aggression, appetite, and sleep.

The cerebellum is located at the back of the brain stem. It contains more neurons than the rest of the brain combined. The cerebellum has been found to contribute to motor coordination, the encoding and retrieval of skill memory, executive functions, emotional processing, learning and social awareness. People with autism frequently have abnormal development of the cerebellum and may thus struggle with the processing of emotions and social cues. The cerebellum is also the brain structure that is first affected by alcohol consumption, impacting speech and balance.

The midbrain fulfils several functions, including the communication of information between the spinal cord and the cerebellum. Another function of the midbrain that may be relevant for people in conflict and conflict resolution is that of arousal; after all, emotions experienced by people in conflict typically involve high arousal. One important area of the midbrain is the PAG (which is short for periaqueductal grey). While this area is mainly involved in pain reduction, it also plays an important role in the regulation of the heart rate, blood pressure, autonomic processes, as well as fearful and defensive reactions, which are all implicated in the experience of certain emotions (we will look at these in more detail in Chapter 3). Another structure of the midbrain that may be of interest to neuroscience research on people in conflict is the substantia nigra. This structure is one of the sources for the neurochemical dopamine, which is associated with motivation and reward. You will learn more about dopamine and other neurotransmitters later in this chapter.

The Forebrain

The forebrain contains many structures that play a major role in cognition and the experience of emotions, and is therefore particularly relevant for this eBook. We will look at some of these structures in more detail below.

Cortex

Primary Visual Cortex

The primary visual cortex is the first part of the occipital lobe to receive visual information. Each neuron in the primary visual cortex receives information from both eyes working together to cover a specific portion of the visual field. Each side of the primary visual cortex processes information from the opposite half of the visual field—everything in the left half of your visual world is decoded by the right side of the brain and vice versa. Together, the collective activity of these neurons forms a complete map of the visual world. A disproportionately large amount of this map is devoted to information coming from the fovea, the area of the retina responsible for high visual acuity.

From the primary visual cortex, visual information is relayed to other areas in the occipital, parietal, and temporal lobes for further processing.

Figure1.3.3. BrainFacts.org 3D Brain allows you to move the image of the brain, looking at different angles and different parts of the anatomy. Click on the image above to go to the section looking at the primary visual cortex. (Primary Visual Cortex by Society for Neuroscience, Copyright © Society for Neuroscience, 2017, used with permission)

The *cerebral cortex* is the outer covering of the brain and the largest structure of the brain (Freberg, 2019; Gluck et al., 2020). It is commonly divided into lobes, which are involved in many different functions.

Check out the following video to learn more about these lobes [1:59]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=72#oembed-2

Before we look at the various lobes in more detail, we will briefly consider some differences between the left and right cerebral hemispheres (called hemispheric asymmetry). For example, two brain regions that are critical for speech production (the Broca's area and the Wernicke's area) are located in the left hemisphere of the brain of most right-handed people. For those who are left-handed, the area could be located in the right hemisphere.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=72#oembed-3

Some hemispheric asymmetries discussed in the neuroscience literature may be relevant for understanding and supporting people in conflict. According to Freberg (2019), the right hemisphere is viewed as the more emotional hemisphere and is thought to play a larger role in processing emotions, the perception of emotions in others' faces, and the expression of emotions. The right side of our brain controls the left side of our face, which is generally more expressive than the right side (this may vary in left-handed people) (Freberg, 2019). Research has found that the meaning of emotion-related words are processed faster by the left hemisphere of the brain, while the identification of emotional tone is more accurately processed by the right hemisphere. The left hemisphere is generally associated with "approach" behaviour, while the right hemisphere is generally associated with "avoidance" (Fetterman et al., 2013; Freberg, 2019). We will consider some of these phenomena in Chapter 3, which focuses on emotions.

Please note that hemispheric asymmetry does not relate to the alleged "creative right versus analytical left brain" myth, which is not supported by neuroscience research (Nielsen et al., 2013).

The Four Lobes of the Cerebral Hemispheres

The frontal lobe is of great interest to this eBook since it participates in many higher-level cognitive processes such as rational thought, behaviour planning and decision-making. One of the main components of the frontal lobe is the motor cortex, which is involved in control movement. Two other areas within the frontal lobes are frequently discussed in readings on neuroscience and conflict and are of interest to this eBook because of their functions: the dorsolateral prefrontal cortex (DPC) and the orbitofrontal cortex. These cortices have strong connections with other parts of the cortex, like the limbic system and the basal ganglia. The DPC is involved in short-term working memory, while the orbitofrontal cortex is involved in impulse control and emotional regulation. We will learn more about the frontal lobe in Chapter 3 when we focus in more detail on the brain structures involved in the experience of emotions.

The other major lobes of the *cerebral cortex* include:

- parietal Lobe, which is involved in the processing of sensory information
- occipital lobe, which is responsible for visual processing
- temporal Lobe, which is involved in auditory processing, as well as learning and memory.
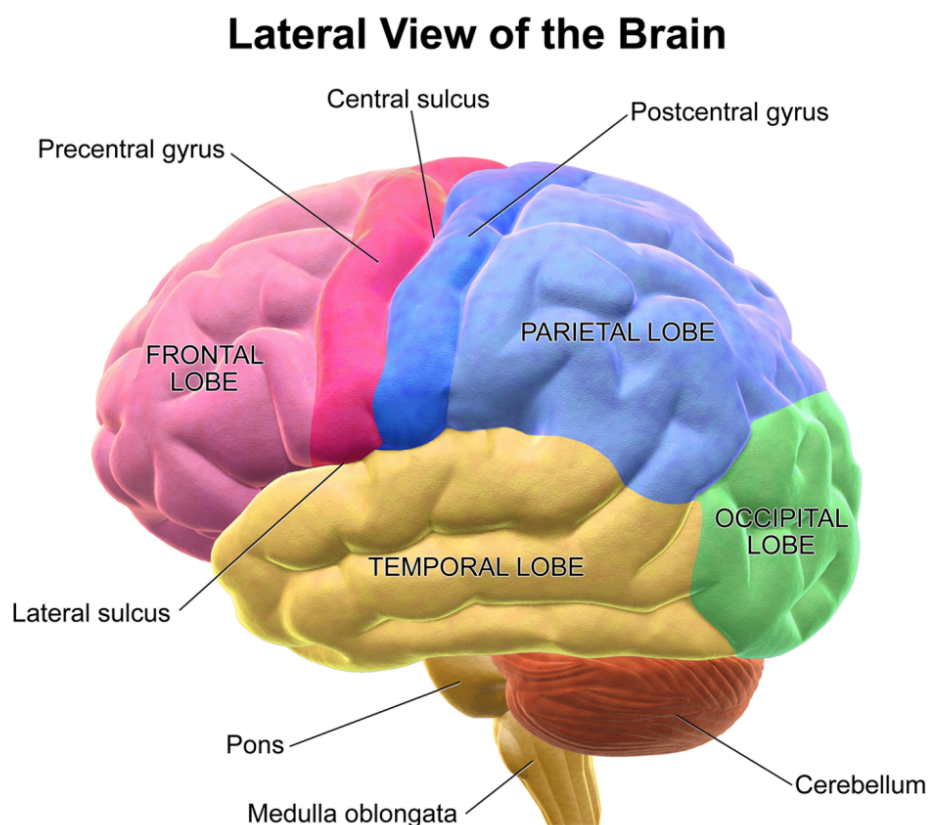
Figure 1.3.4. Lateral View of the Brain by Bruce Blaus used under CC BY 3.0 licence

Extension:

To learn more about the four lobes, including some visual information, you may want to visit the following resource: External brain anatomy.

One structure that forms part of the temporal lobe and that is frequently mentioned in the literature relevant to this eBook is the insula. The insula is involved in the anticipation of negative events, fear learning and avoidance behaviours (Davidson, 2010) It has also been found to play an important role in other types of emotional processing, e.g. in that of negative emotions such as disgust (Freberg, 2019). We will revisit the role of the insula when we look at decision-making in Chapter 2.

Extension:

For some 3D animation of the various lobes, visit BrainFacts and select each lobe in the dropdown menu on the left.

Thalamus and Hypothalamus

Both the thalamus and hypothalamus play an important role in emotional experiences (LeDoux, 1996; Papez, 1937, cited in Gluck et al., 2020), which is why we will look at them in more detail again in Chapter 3.

The *thalamus* can be referred to as the "gateway to the cortex" because it receives and processes sensory and regulatory input from the environment (with the exception of olfaction). The thalamus filters the information depending on a person's arousal state before forwarding the filtered information to the cerebral cortex for further processing. The thalamus receives information from many brain regions, including the amygdala (discussed in more detail below) and sends projections back to these structures to create circuits involved in many different functions. The information passing through the thalamus relates, for example, to motivation, behaviour planning and sleep regulation. The thalamus also participates in learning and memory.
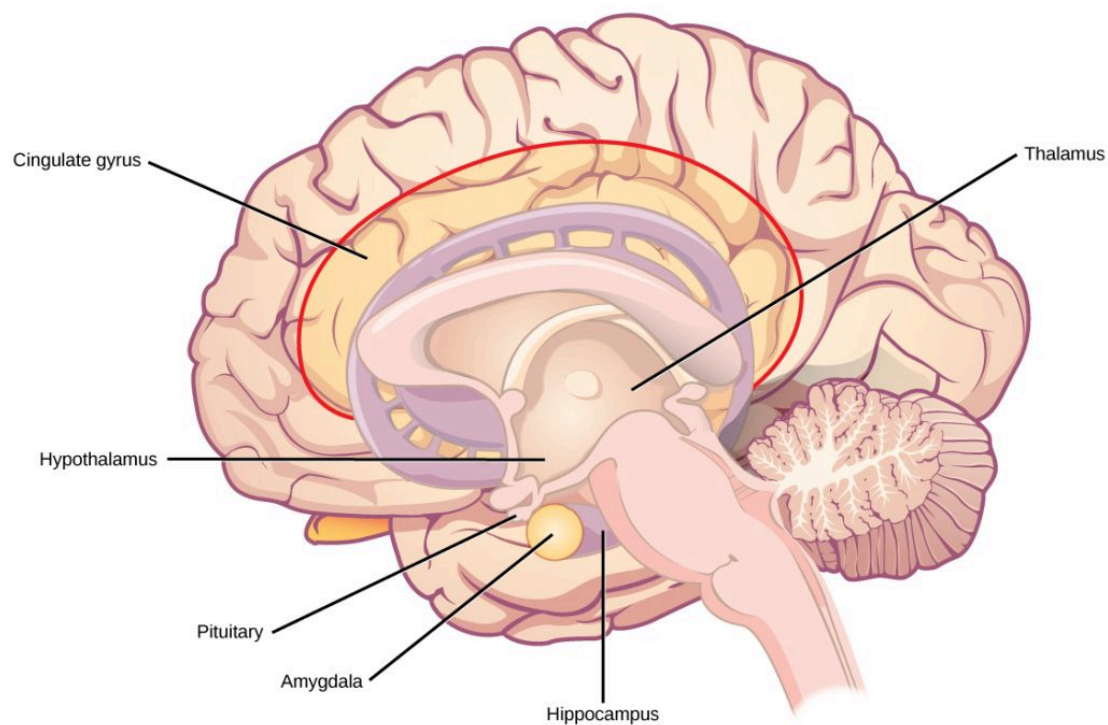
Figure 1.3.5. The thalamamus and hypothalamus by CNX OpenStax used under a CC BY 4.0 licence

The *hypothalamus* plays an important role in regulating the autonomic nervous system. It connects to sites of the endocrine system that are involved in the release of hormones, including the adrenal glands, which are critical for the release of so-called "stress hormones". The hypothalamus is also involved in regulating behaviours that are critical to keep us alive, including eating, drinking and temperature control.

Basal Ganglia

The basal ganglia (BG) consist of a group of brain structures including the subthalamic nucleus, the nucleus accumbens (sometimes called *ventral striatum)* and the corpus striatum, which again consists of the caudate nucleus, the putamen and the globus pallidus. You don't have to remember all the substructures of the BG and their functions. You are introduced to these terms here because they may appear in some readings relating to the neuroscience of conflict management. You can then refer back to this chapter to make sense of any relevant readings. The BG are primarily involved in motor control and movement but have also been found to be involved in the perception and interpretation of emotions (Pierce & Péron, 2020) and emotional speech processing (Paulmann et al., 2011), which is why we are mentioning the basal ganglia here. The nucleus accumbens, one of the substructures of the BG that we mentioned above, is the region in which dopamine is released and research suggests a link between the nucleus accumbens and positive arousal, as well as behaviours associated with that arousal (Davidson, 2010).

Limbic System

The term "limbic system" was first introduced in the middle of the 20th century by MacLean (1952) and is still commonly used to describe several structures that are located on the inside edge of the cerebral cortex and that are thought to play a significant role in motivation, memory and emotion.

Limbic System

The limbic system is a large group of brain structures responsible for motivation, emotion, learning, and memory. Structures in the limbic system include the olfactory bulb (smell), hippocampus (memory), amygdala (fear and reward), hypothalamus (hormones and sleep), basal ganglia (motivation and voluntary motion), and cingulate gyrus (gateway to the limbic system from the cerebral cortex).

Figure 13.6. BrainFacts.org 3D Brain allows you to move the image of the brain, looking at different angles and different parts of the anatomy. Click on the image above to go to the section looking at the limbic system. (Limbic System by Society for Neuroscience, Copyright © Society for Neuroscience, 2017, used with permission)

There has been ongoing disagreement as to which structures exactly form part of the limbic system (Ledoux & Phelps, 2008). Furthermore, neuroscience research has found that emotional processing cannot be localised to the structures of the limbic system (Feldman Barrett, 2017a; Feldman Barrett, 2020; Ledoux & Phelps, 2008; Pessoa, 2017). Research has also found that some structures of the limbic system, e.g., the hippocampus, are far more important for other cognitive processes (e.g., memory) than for processes involved in the experience of emotions (Ledoux & Phelps, 2008). Furthermore, multiple brain areas, of which many are not included in the limbic system, have been found to play an important role in the perception, experience and communication of emotions (Feldman Barrett, 2017a; Feldman Barrett, 2020; Ledoux & Phelps, 2008; Pessoa, 2017). Several contemporary neuroscientists reject both the idea that there is an ancient, emotional centre in our brain as which the limbic system is frequently presented in both scientific publications and popular press (and surely you would have come across courses, books or articles that promised you to help you learn to control your emotional brain), and the idea that emotions and cognitive processes can be clearly separated (Feldman Barrett, 2017a; Feldman Barrett, 2020; LeDoux & Brown, 2017; Ledoux & Phelps, 2008; Lempert & Phelps, 2016).

While we acknowledge that the experience of emotions is not limited to the limbic system, we will consider

the limbic system here as the umbrella term that typically refers to several brain structures that play an important role in emotional experiences. Many sources include at a minimum the hippocampus, amygdala and cingulate cortex, which we will introduce below in more detail. You may wish to watch this short video as an introduction to these structures [1:52]:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=72#oembed-4*

Hippocampus

The hippocampus is located inside the temporal lobe and plays an important role in learning and memory, especially for episodic memory and autobiographical events (note how these functions relate much more to cognition than to emotions) (Gluck et al., 2020). The hippocampus is vulnerable to damage caused by the experience of stress. People who are exposed to ongoing conflict may suffer chronic stress and are thus vulnerable to hippocampus damage, which may again result in the loss of memory.

Amygdala

The amygdala has been found to play an important role in emotional memories, identifying emotional stimuli, including the emotional stage of other people, and physical arousal in response to certain stimuli (Davidson, 2010; Freberg, 2019). The amygdala is particularly active when we are confronted with danger/thtrets and when we are in negative emotional states, but it also appears to play a role in reward and some positive emotional states (Freberg, 2019; Ledoux & Phelps, 2008). Furthermore, research has found that the amygdala also reacts to emotionally neutral, but unusual stimuli, which may suggest that the amygdala processes novel, unusual stimuli, especially those that might be important to safety and survival (Freberg, 2019; Ledoux & Phelps, 2008). We will look at the amygdala in much more detail in Chapter 3 since this structure has been found to play an important role in the perception and experience of emotions (as well as during "the stress response"). If you want to learn a bit more about the amygdala as early as now, please watch this video:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=72#oembed-5*

Cingulate Cortex

The cingulate cortex consists of the anterior cingulate cortex (ACC) and posterior cingulate cortex (PCC). You may come across both terms in readings on neuroscience and conflict management, which is why they are both briefly mentioned here. The ACC is involved in emotion regulation and decision-making, while the PCC is of interest for its involvement in memory and consciousness.
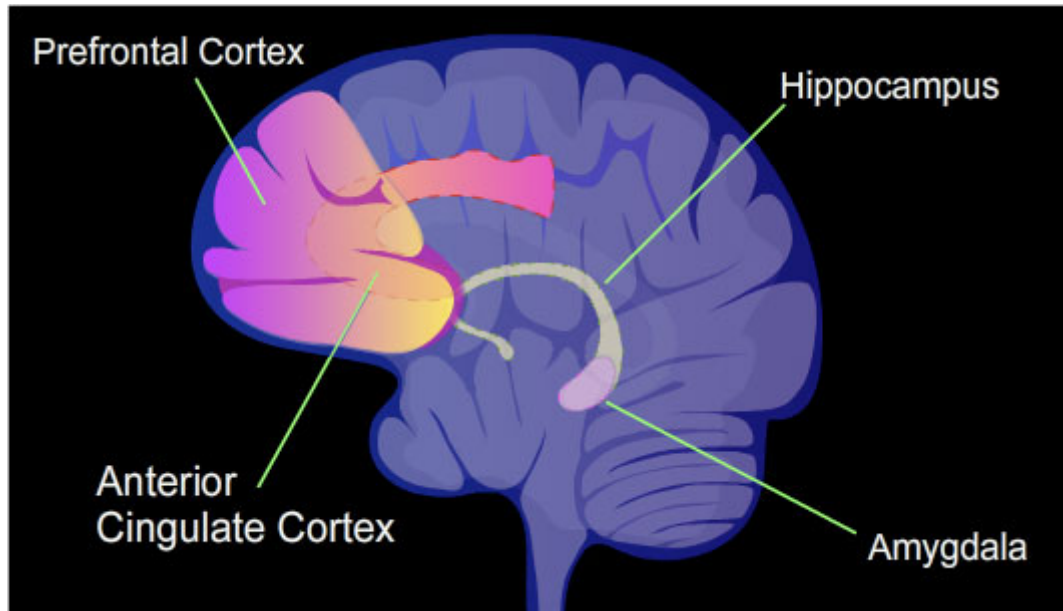
Figure 1.3.7. Illustration of brain regions by National Institute of Mental Health, National Institutes of Health is in the public domain

1.4 THE PERIPHERAL NERVOUS SYSTEM, NEUROTRANSMITTERS AND HORMONES

The Peripheral Nervous System

Our nervous system can be divided into two major parts: the central nervous system and the peripheral nervous system (PNS). We covered the central nervous system (the brain and spinal cord), in the previous topic, and will now turn to the PNS. The main role of the PNS is to facilitate the communication of the body with the spinal cord and the brain. It contains two subsystems: the somatic nervous system (SNS) and the autonomic nervous system (ANS).
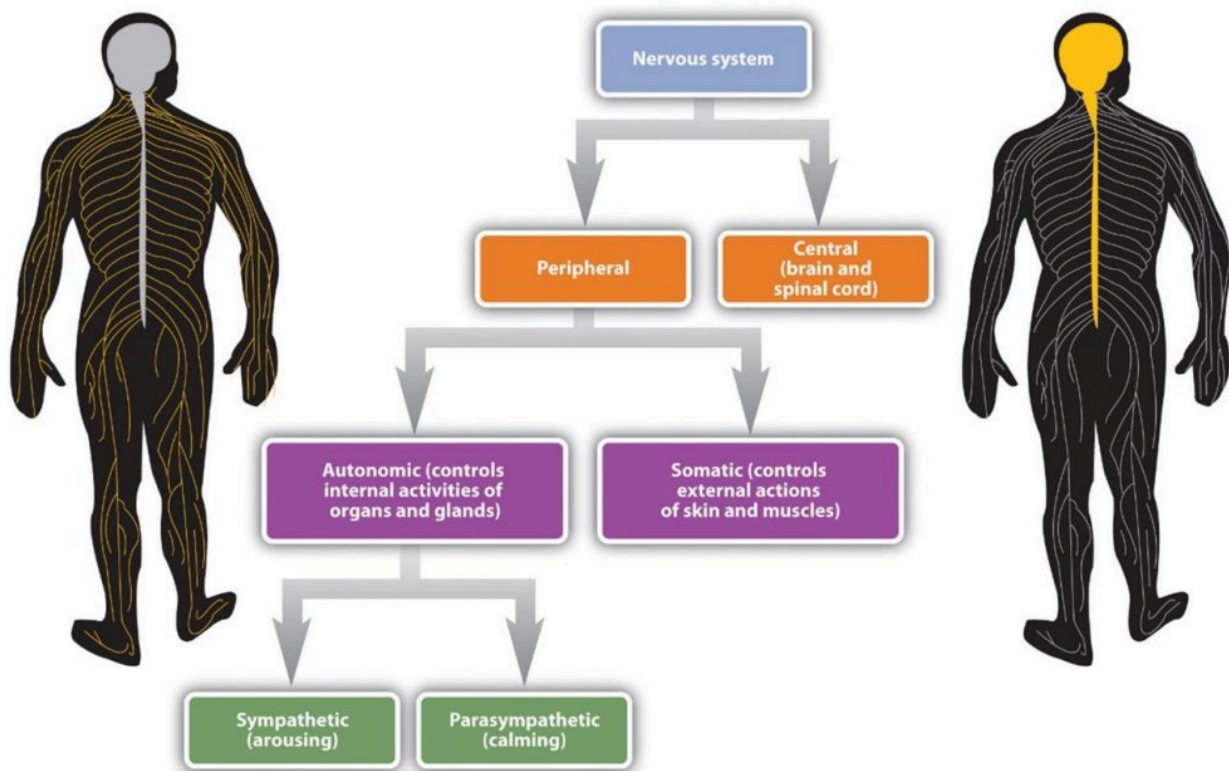
Figure 1.4.1. This image by The Saylor Foundation used under a CC BY-NC-SA licence.

Please watch the following video to learn more about the nervous system [2:01]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=74#oembed-1

The SNS consists of the cranial nerves and the spinal nerves and is involved in voluntary movement. The ANS controls vital organs like the heart, lungs and the digestive system and participates in regulatory functions like blood circulation and reflex behaviours (e.g., respiration, coughing and vomiting). The ANS is regulated by the hypothalamus, which we described earlier in this chapter. Since the hypothalamus gets activated when we are aroused, emotional experiences frequently involve changes in our ANS.

The ANS can be further divided into two main parts: the sympathetic and the parasympathetic nervous system (there is a third system, the enteric nervous system, but we will not cover this system in this eBook).

Sympathetic Nervous System

The sympathetic nervous system is of great importance to this eBook since it is involved in the experience of stress and intense emotions. You will most likely have heard about it as the **fight or flight system**. This system prepares our bodies for action when we perceive danger, threat or some other form of emergency, like witnessing an accident unfold in front of us. When we are faced with danger or another type of emergency, the sympathetic nervous system will kick in in various ways, including by increasing our blood and oxygen flow to the essential body parts like the heart, lungs and large muscle groups. At the same time, other functions like digestion and salivation are placed on standby. We will learn more about this system in Chapter 3 when we consider the stress response in more detail.

Parasympathetic Nervous System

The parasympathetic nervous system balances the sympathetic nervous system's actions during the stress response. Its role is mainly to provide rest, repair, and energy storage. It is also activated by internal stimuli like the arrival of food in the digestive system.

Methods and Digital Technologies to Measure Brain Activity

Many of the readings that discuss implications from neuroscience research for conflict management mention methods and digital technologies that are commonly used in such research. If you don't have a

background in medicine or neuroscience, you may not be familiar with all these methods. Therefore, we will very briefly introduce you to the most used methods to facilitate your understanding of such research. These methods and technologies include:

- EEG (electroencephalography)
- MEG (magnetoencephalography)
- CT (computed tomography)
- PET (Positron emission tomography)
- MRI (magnetic resonance imaging)
- fMRI (functional magnetic resonance imaging).

Figure 1.4.2. PET/MRI by Tomas Vendis used under CC BY SA 4.0 licence
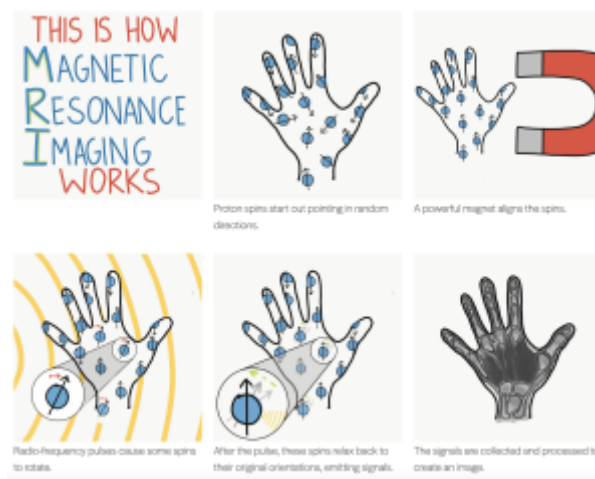
For a brief overview of neuroimaging, please watch [2:05]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=74#oembed-3

Extension:

You may also want to access the blog post "EEG vs. MRI vs. fMRI – What are the Differences?" in which Dr Bryn Farnsworth explains some of the major methods and techniques and their differences in easy-to-understand language.

Neurotransmitters and Hormones

Neuroscience studies relating to conflict and conflict management frequently focus on the role of neurotransmitters and hormones. To help you make sense of these studies, we will briefly introduce you to some of the main neurotransmitters and hormones in this section. Neurotransmitters and hormones are the chemical messengers of the human body. Summarised as neurochemicals, they differ in their way of transmission (neuromodulators are another group of neurochemicals, but we will not consider

this distinction in this eBook). Neurotransmitters are molecules used by our nervous system to transmit messages between neurons, or from neurons to our muscles. This communication occurs at synapses, which we briefly discussed earlier in this chapter.

(a)   (b)
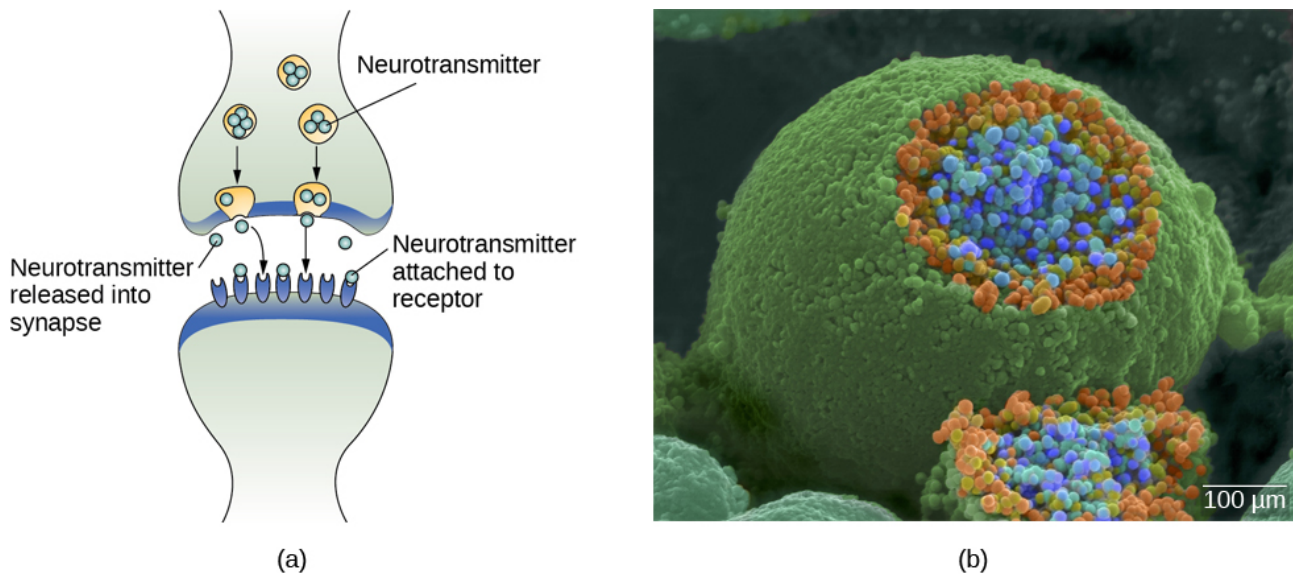
Figure 1.4.4. This image by Tina Carvahlo and Matt Russell, combined and modified by Lumen Learning used under CC BY 4.0 licence

Some neurochemicals function as both neurotransmitters and hormones, including epinephrine (adrenaline) and norepinephrine (noradrenaline). Major neurotransmitters that are important to cognition, emotions and other phenomena relating to conflict and conflict management and that are frequently discussed in relevant literature are dopamine, serotonin, melatonin and endorphins.

Please see Table 1 for information about these neurotransmitters (of which some also function as hormones), including the main processes in which they are typically involved.

Table. 1.4.1 Neurotransmitters/Hormones

Dopamine	Motor control, movement, mood, learning, planning, motivation, processing of reward, psychosis Involved in addictions, including drugs and other addictive behaviours such as gambling
Norepinephrine (Noradrenaline)	Both the primary neurotransmitter in the sympathetic nervous system and a neurohormone. Involved in: • control of blood pressure and heart rate • arousal and vigilance • mood • as a hormone, it stimulates the central nervous system
Serotonin	Mood, sleep, aggression, memory, appetite
Epinephrine (Adrenaline)	Coordination of eating and regulation of blood pressure As a hormone, it stimulates the central nervous system
Melatonin	Sleep; secreted from the pineal gland; sensitive to light
Endorphins	Pain and stress regulation, general wellbeing, pleasure Increased release through vigorous exercise, orgasm

Hormones

Like neurotransmitters, hormones influence people's behaviour and attitudes. However, they are not involved in communication between neurons, but between different parts of the body. Hormones are produced in the endocrine glands and transmitted via the bloodstream to trigger a reaction in specific cells of the body.
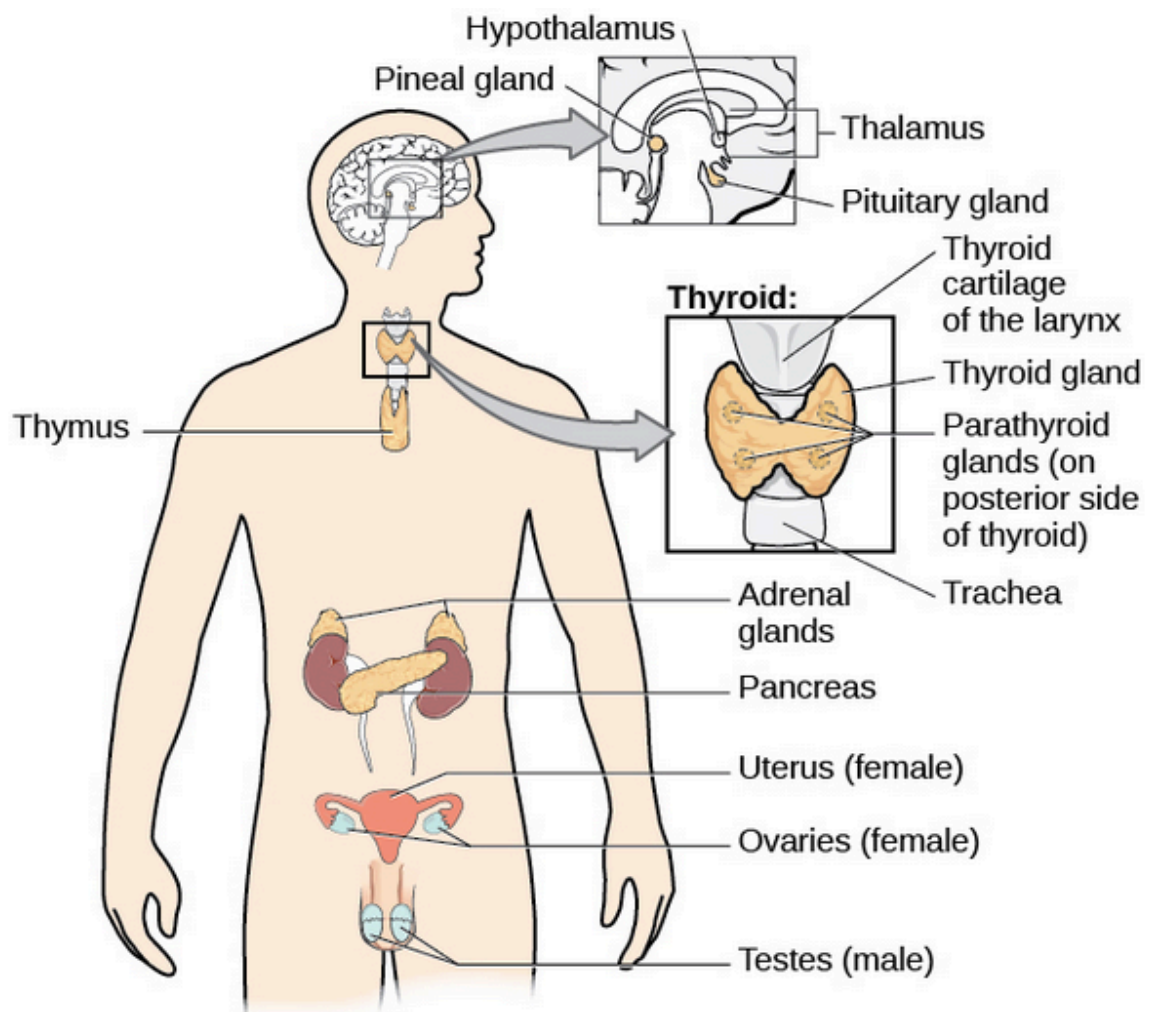
The major glands of the endocrine system are shown.

Figure 1.4.5. Endocrine System by OpenStax CNX used under CC BY 4.0 licence

While there are more than 50 different hormones involved in people's general bodily functions, we will focus on those that are of interest to study people in conflict including:

Norepinephrine (noradrenaline) and epinephrine (adrenaline)

As indicated in the table above, the two important neurotransmitters adrenaline and noradrenaline are also neurohormones, which are released from the adrenal glands into the bloodstream to stimulate the central nervous system. When confronted with danger or other stressful situations, we would experience this release as the so-called "adrenaline rush". Because of their involvement in the stress response, epinephrine and norepinephrine are of particular interest for this eBook (we will deal with the stress response in Chapter 3 when we focus on emotions and stress). When released into the bloodstream in response to stress, both neurohormones have the following effects:

- increasing blood sugar levels
- increasing heart rate

- increasing contractility of the heart.

Additionally, epinephrine is also involved in relaxing muscles in the airways to facilitate breathing, while noradrenaline is involved in narrowing blood vessels to increase blood pressure.

Cortisol is one of the two key hormones (the other one is epinephrine/adrenaline) involved in the stress response. Cortisol is produced in the adrenal glands and is predominantly involved in arousal.

Oxytocin and Vasopressin are released from the pituitary gland and act as both neuromodulators and hormones (Freberg, 2019). Oxytocin is particularly important to social cognition and social behaviour (e.g. bonding) (Kosfeld et al., 2005), and is therefore also important for conflict management. For example, oxytocin appears to influence empathy of people in conflict (Influs et al., 2019), as well as levels of trust (Bianco et al., 2021). Furthermore, both oxytocin and vasopressin are involved in stress-related processes in group conflicts (De Dreu et al., 2012; Chatterje & Luterbach, 2017).

The sex hormones testosterone and estrogen are implicated in aggression and gender differences in some cognitions and emotions (Ferberg, 2019, p. 51).

Extension:

To learn more about hormones and how they may affect human behaviour and attitudes, please watch:

Endocrine System, Part 1 – Glands & Hormones: Crash Course Anatomy & Physiology #23 [10:25].

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=74#oembed-2

1.5 GENETICS

Psychologists and neuroscientists are interested in genetics because genetics help to better understand the biological basis that contributes to people's attitudes and behaviours (Hatemi & McDermott, 2012). As part of this topic, we will give a very brief overview of genetics and two related topics: heredity and epigenetics. You will be directed to some further readings, should you be interested in deepening your knowledge.
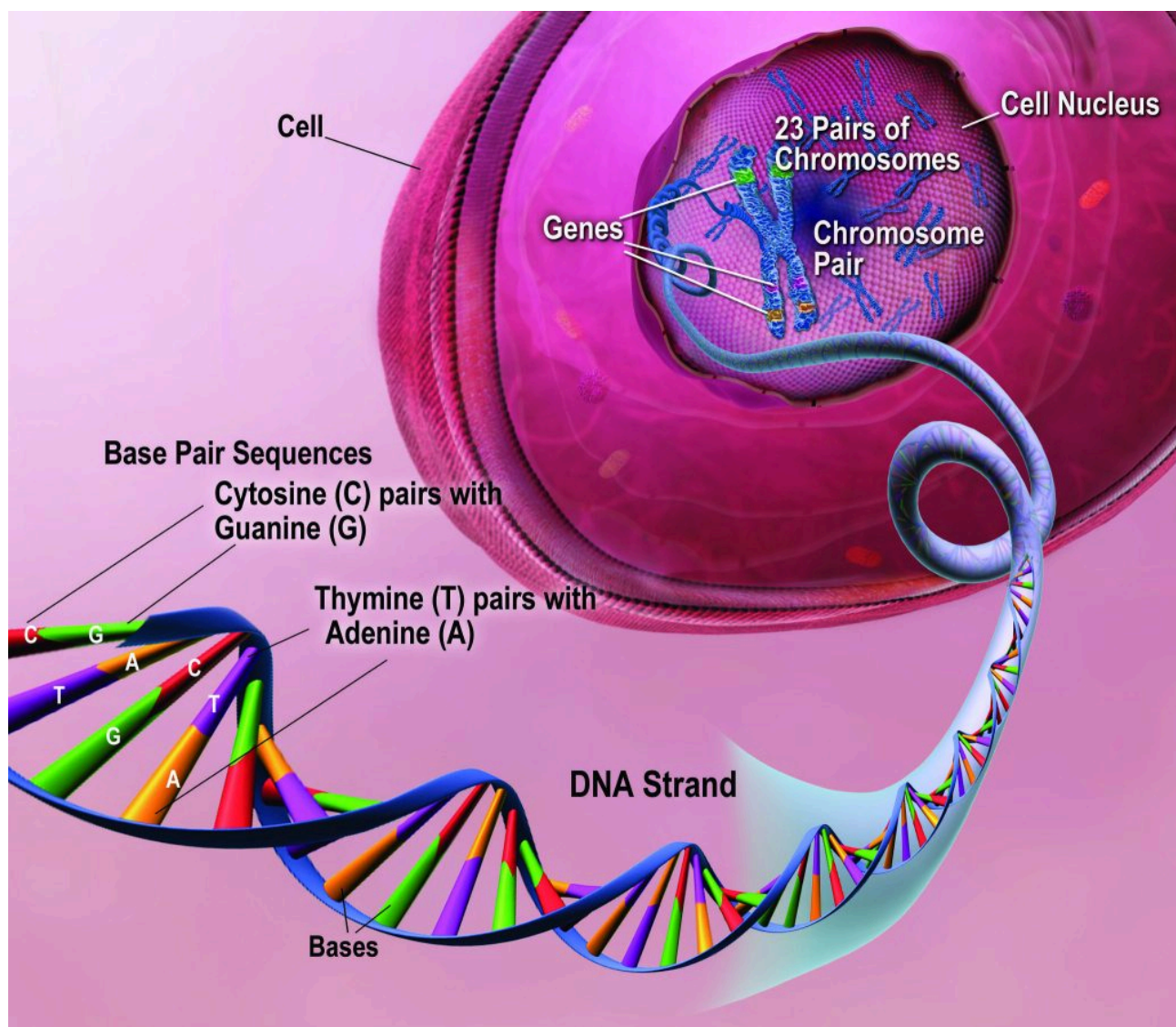
Figure 1.5.1. DNA, Chromosomes and Genes by National Institute of Aging/National Institutes of Health used under CC BY-NC 2.0 licence

A great starting point is Fitzduff's introduction to genetics and epigenetics (and their relevance for conflict and peace studies) on pages 20-22 in:

Key Reading

Fitzduff, M. (2021). *Our brains at war: The neuroscience of conflict and peacebuilding.* Oxford University Press. https://doi.org/10.1093/oso/9780197512654.001.0001

Extension:

Read this introduction to genetics and psychology

Heredity

The term heredity refers to the passing on of genetic traits from biological parents to their offspring. Heredity research can help contribute to a better understanding of what makes a person and contribute to answering the question: Are people's behaviour predominantly shaped by their surroundings and experiences (nurture) or are they simply a result of people's biology (nature)? This question has been discussed as the nature/ nurture debate for nearly 200 years. The twin-study research method has helped to shed some light on the role of genetics versus the role of the environment (Burger, 2019). Nevertheless, many researchers agree that it is frequently impossible to clearly distinguish the effect of the environment and people's genes on their behaviours and personal characteristics because both are so closely intertwined.

Therefore, the debate about the impact of nature or nurture on a person's behaviours, thoughts, feelings and personality overall is likely to persist for a long time.

Extension:

If you want to learn more about the basics of genetics and heredity, please watch Heredity: Crash Course Biology #9 [10:18]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=76#oembed-1

Extension:

If you want more information about the nature-nurture discussion, see the chapter The Nature-Nurture Question.

Epigenetics

Researchers have been increasingly involved in exploring inheritance mechanisms called *epigenetics*. Epigenetics involves the activation or deactivation of various gene expressions (you would have learned about gene expression if you watched the video *Heredity: Crash Course Biology* above), resulting in changes in appearances and functions of different body parts and traits of a person. In more simple terms, this means that while a person's DNA does not change, changes to the way that the person's genes are expressed can lead to variation in their appearance and behaviours.
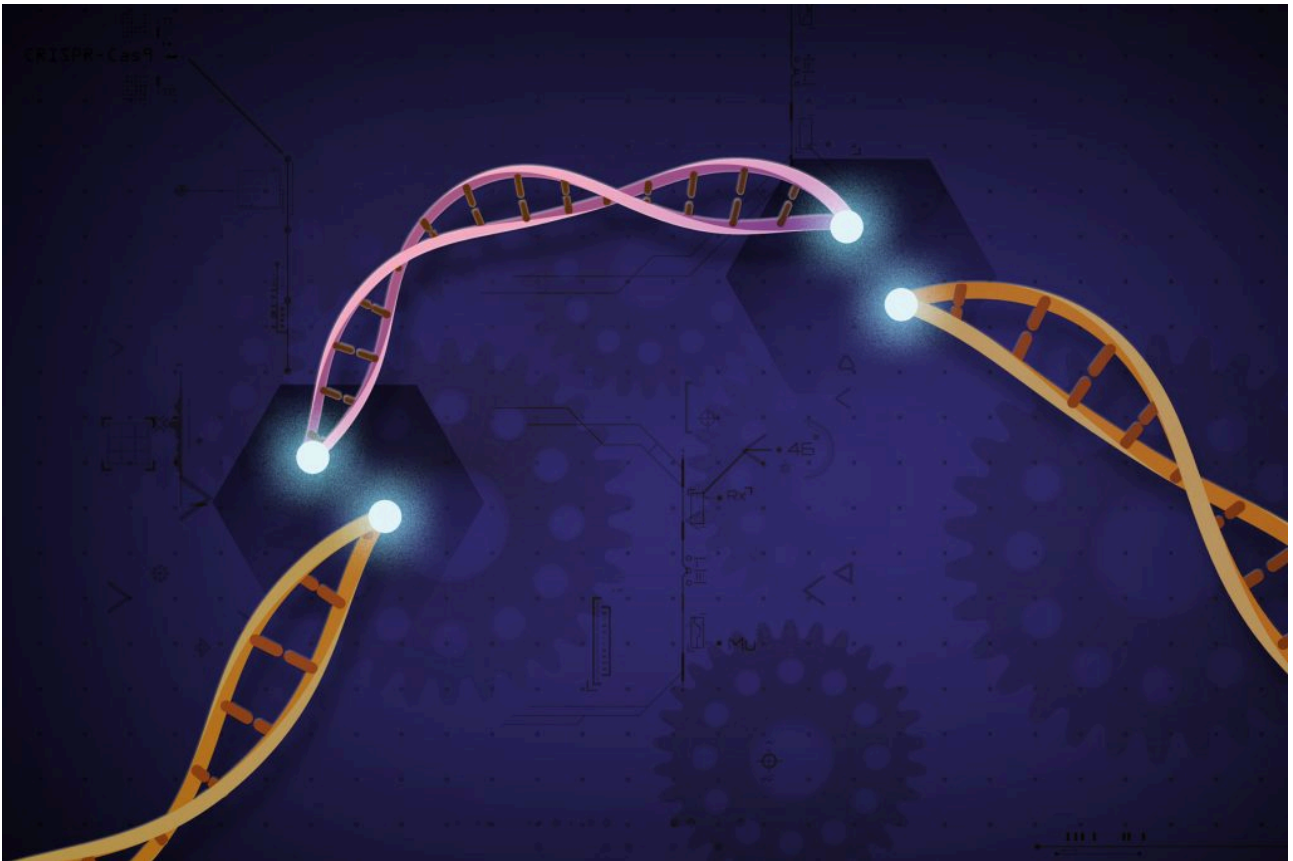
Figure 1.5.2. CRISPR Cas9 by Ernesto del Aguila III, NHGRI is in the public domain

Extension:

You may also want to check this video for a more detailed biological explanation of how epigenetics works [4:10]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=76#oembed-2

Extension:

To deepen your knowledge of epigenetics and what it means for psychology, you may see the following resource:

https://openpress.usask.ca/introductiontopsychology/chapter/epigenetics-in-psychology/

1.6 APPLYING NEUROSCIENCE TO CONFLICT MANAGEMENT

We will now consider how neuroscience knowledge and research may help inform and support conflict management in different contexts. These contexts include 1) conflict resolution processes, 2) leadership and workplace conflict, 3) intergroup conflict and peacebuilding.

Neuroscience and Conflict Resolution Processes

Knowledge from neuroscience can help inform and evaluate the purpose, potential, design and principles of justice and conflict resolution processes, as well as the role and skills of conflict practitioners.

As an introduction to the topic, please watch the following Ted Talk [14:35], which discusses findings from neuroscience to increase our standing of aggression in people. The talk also discusses implications from neuroscience research for restorative justice.

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=78#oembed-1*

We will now focus on mediation, a conflict resolution process that can be defined as a process where "a mutually exactable third party ... intervenes in a conflict or dispute to assist the parties to improve their relationships, enhance communications, and use effective problem-solving and negotiation procedures to reach voluntary and mutually acceptable understandings or agreements on contested issues" (Moore, 2014, p. 20). Learning about the principles of mediation and the roles and skills of mediators frequently forms part of education and training in conflict management. The following readings explore how neuroscience knowledge may help explore and evaluate the purpose and value of various stages of the mediation process, as well as the role and skills of the mediator.

Key Readings

Bader, E. E. (2016). The psychology and neurobiology of mediation. *Cardozo Journal of Conflict Resolution*, *17*, 363-392. https://www.elizabethbader.com/NeurobiologyofMediation.pdf

Weitz, D. (2011). The brains behind mediation: Reflections on neuroscience, conflict resolution and decision-making. *Cardozo Journal of Conflict Resolution*, *12*, 471-490. https://www.pdx.edu/center-child-family/sites/centerchildfamily.web.wdt.pdx.edu/files/2020-07/FC-the-brain-behind-mediation.pdf

Neuroscience and Management, Leadership and Workplace Conflict

Knowledge of neuroscience can also increase our understanding of how individuals and teams think, feel, and behave at work, as well as which factors may contribute to the occurrence of workplace conflict. Thereby, insights into neuroscience can inform managers, team leaders and system designers in their management, leadership and (ideally) prevention of workplace conflict management and resolution.

On this topic, please read the following readings:

Key Readings

Rock, D., & Cox, C. (2012). Scarf® in 2012: Updating the social neuroscience of collaborating with others. *Neuroleadership Journal* (4), 1-14.

Freedman, B. D. (2019). Risk factors and causes of interpersonal conflict in nursing workplaces: Understandings from neuroscience. *Collegian*, *26*(5), 594-604. https://doi.org/10.1016/j.colegn.2019.02.001

Extension:

If you are interested in finding out more about the work of David Rock and the origins and details of the SCARF model, you may wish to watch the following video [2:13]:

Your Brain at Work Live | The SCARF Model: Origins, Applications, and Future

After you have read the article, you may wish to complete the SCARF assessment, which may "give you a better understanding of your relative sensitivity towards different types of social drivers in each domain of SCARF."

Social Neuroscience and Intergroup Conflict

Knowledge from social neuroscience can increase our understanding of intergroup and social conflict, including our understanding of the sources and factors that create, perpetuate, contribute to, and escalate intergroup conflict. This knowledge may also help plan and design conflict intervention initiatives to help manage intergroup and social conflict.

To learn more about how neuroscience may be used to analyse intergroup conflict and support conflict resolution and peacebuilding efforts, please read the following reading:

Key Reading

Bruneau, E. (2015). Putting neuroscience to work for peace. In E. Halperin & K. Sharvit (Eds.), *The social psychology of intractable conflicts* (pp. 143-155). Springer International Publishing.

Extension:

As an introduction to the topic of social neuroscience, please watch the following 12-minute video:

- The neuroscience of social conflict | Tim Phillips | TEDx Boston

You may also wish to watch this 1-hour video, in which Mari Fitzduff introduces her book *Our brains at war* to which we have referred several times throughout this chapter:

- 6 May 2022, PeaceCon@10: Our Brains at War – The Neuroscience of Conflict and Peacebuilding

De Dreu, C. K. W., Greer, L. L., Handgraaf, M. J. J., Shalvi, S., & Van Kleef, G. A. (2012). Oxytocin modulates selection of allies in intergroup conflict. *Proceedings: Biological Sciences*, *279*(1731), 1150-1154. https://doi.org/10.1098%2Frspb.2011.1444

Influs, M., Pratt, M., Masalha, S., Zagoory-Sharon, O., & Feldman, R. (2019). A social neuroscience approach to conflict resolution: Dialogue intervention to Israeli and Palestinian youth impacts oxytocin and empathy. *Social Neuroscience*, *14*(4), 378-389. https://doi.org/10.1080/17470919.2018.1479983

Another interesting reading on genetics and their relevance to conflict is:

Hatemi, P. K., & McDermott, R. (2012). The genetics of politics: Discovery, challenges, and progress. *Trends in Genetics*, *28*(10), 525–533. https://doi.org/10.1016/j.tig.2012.07.004

You may also wish to check out the website NeuroPeace.org, which focuses on research and practice in neuroscience and peacebuilding. You will find further readings about social neuroscience and intergroup conflict in the previously mentioned *Peace and Conflict: Journal of Peace Psychology* as well as other Peace Psychology publications, including the newsletter The Peace Psychologist and the blog Dialogues with Peace and Conflict.

CHAPTER 2: THE MIND – COGNITION

In the next two chapters, we will look in more detail at the human mind, what it is, its functions and which mental processes and emotions it typically involves. Our goal is to better understand the minds of people in conflict. So, we want to go beyond understanding the human mind in general, but we'll also consider how mental processes, cognitive phenomena and emotions may be affected by and contribute to conflict. Exploring the human mind is complex, which is why we are dedicating two chapters to the topic. This chapter focuses on cognitive processes, while chapter 4 explores the emotional mind.

Understanding how the mind functions can help us explain why conflict occurs and how people may be supported in conflict resolution processes. As noted in the previous chapter, conflict parties participating in conflict resolution processes like mediation are frequently using cognitive processes, including verbalising their conflict experience, processing new information, considering the other conflict party's perspective, negotiating disputed issues that they feel strongly about, as well as making decisions for themselves and perhaps even for others. By learning more about how the mind uses different cognitive skills, we can draw some conclusions about how we can support parties in conflict resolution processes. Understanding cognition can also help build our skills as a conflict practitioner. This chapter draws primarily from cognitive psychology, but also from neuroscience and social psychology.

Learning Outcomes

- introduce features of the mind
- describe a range of cognitive processes
- apply principles of cognitive psychology to analyse, manage and resolve conflict
- relate key theories of cognition to challenges in conflict management and resolution
- analyse and synthesise research findings in cognitive psychology as they relate to conflict management.

Key Readings

Brown, J. G. (2006). Creativity and problem-solving. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 407-413). American Bar Association.

Caton Campbell, M., & Seminare Docherty, J. (2006). What's in a frame? In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 37-46). American Bar Association.

Guthrie, C. (2004). Insights from Cognitive Psychology. *Journal of Legal Education, 54*(1). https://scholarship.law.vanderbilt.edu/cgi/viewcontent.cgi?article=1748&context=faculty-publications

Heen, S., & Stone, D. (2006). Perceptions and stories. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 343-350). American Bar Association.

Korobkin, R., & Guthrie, C. (2006). Heuristics and biases at the bargaining table. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 351-360). American Bar Association.

Mullin, G. (n.d.) What is Cognition in *Introduction to Psychology.* Achieving the Dream.

2.1 INTRODUCING COGNITIVE PSYCHOLOGY

Imagine the following situation in a settlement mediation

Based on information from the separated couple Adam and Kelly, the mediator has listed all assets on the whiteboard and has noted the corresponding values. Adam and Kelly are looking at the whiteboard as they present their needs and goals regarding their assets. Afterwards, they start negotiation to settle their property. Both Adam and Kelly would like to maximise their share of the property. Adam has made the first offer to Kelly as to how they could sell their house. After hearing his offer, Kelly starts crying and covers both eyes with her hands. Adam is clenching his handwritten list of assets in his hand and is staring at the floor with a stony face.

Let's take a quick peek at the basics of cognitive psychology and then look again at what is happening in the mediation room with Adam and Kelly. Most generally, cognitive psychology is concerned with the study of mental processes such as thinking, learning, remembering, perception, information processing, language, problem-solving, decision-making and reasoning (Kassin et al., 2020). Cognitive psychology also considers people's emotions and the impact of emotions on cognitive processes. Keeping this in mind, let's go back to Adam and Kelly and see which cognitive processes are most likely involved/required in this mediation and which emotions are likely to affect them. You might want to try to identify some of the cognitive processes listed above for the case scenario with Adam and Kelly first.

Based on information from the separated couple Adam and Kelly (producing this information would have required memory), the mediator has listed all assets on the whiteboard and has noted the corresponding values. Adam and Kelly are looking at the whiteboard (involves visual perception, attention, language recognition and processing) as they present their needs and goals regarding the assets (requiring spoken language and language comprehension, auditory perception, information processing). Afterwards, they start negotiation to settle their property (requiring spoken language and language comprehension, auditory perception, attention, information processing and decision-making). Each of them would like to maximise their share

of the property (requires basic mathematic competencies). Adam has made the first offer to Kelly as to how to sell their house (language, reasoning). After hearing his offer, Kelly is crying and is covering both eyes with her hands. Adam is clenching his handwritten list of assets and is staring at the floor with a stony face (lots of emotions involved! Besides processing the experience of their emotions, Kelly and Adam are likely to also engage in thinking, information processing and decision-making).

As you may have noticed, multiple mental processes and emotions are involved when people try to resolve conflicts (and these mental processes and emotions are likely to have contributed to and have been affected by the conflict in the first place). In terms of cognition, you would have most likely identified perceptions (visual and auditory), spoken language and language comprehension, information processing, thinking, reasoning, decision-making and basic mathematic competencies. In terms of emotions, it is highly likely that during the mediation both Adam and Kelly would feel intense emotions, which they may have labelled as resentment, anger and disappointment with the other, feeling hurt by what the other has said or done, sadness overall, regret over having entered this relationship in the first place, threat to their self-image, entitlement to the best possible outcome for themselves, fear/concerns about their financial, material, social and emotional situation, perhaps even continuing romantic feelings of one party for the other as they come to terms with their breakup, among many more emotions (while you couldn't deduct all these emotions from the brief scenario, they are quite typical for parties in a settlement mediation).

Understanding in detail the cognitive processes involved in and required when parties try to resolve conflict, like during a mediation, and understanding the impact of emotions on these processes, can help practitioners support conflict parties. Furthermore, people working in conflict management may want to increase their understanding of how cognition and the impact of emotions on mental processes may have started and fostered the conflict in the first place. Cognitive psychology can help with both dimensions.

Cognitive psychologists aim to understand how the mind operates to achieve certain behaviours. Modern methods of cognitive psychology research assume that the mind is an information processing system embedded in the human brain. The brain and the mind are viewed as being closely interlinked and together, they cause human behaviour. As previously noted, cognitive psychology focuses on the mind, while neuroscience focuses more on the brain and its biology. Neuroscience plays a critical role in studying the mind, and we will frequently consider brain functions (as described in neuroscience) as they relate to cognitive processes and emotions discussed in this eBook.

Please watch the following video [10:41] to learn more about cognition. While you are watching, please start thinking about how cognition may relate to people in conflict.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=120#oembed-1

You may also want to watch this video [4:45] to learn more about what cognitive psychologists do:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=120#oembed-2

You may also wish to deepen your understanding of cognition and cognitive psychology by engaging with the following reading:

Key Reading

What is Cognition in G. Mullin, (n.d.). *Introduction to Psychology.*

The Cognitive Mind

As you learned earlier, cognitive psychologists are interested in the functioning of the human mind, and a better understanding of the human mind in conflict is one of the aims of this eBook. But what exactly is "the mind"? How we talk about and conceptualise the term "mind" differs depending on the culture that influenced our upbringing and life. For example, in Western cultures, the mind is frequently viewed as having two distinct features of thoughts and emotions, while some other cultures do not make that distinction (Feldman Barrett, 2020). Feldman Barrett (2020) notes, for example, that people from the Balinese culture or the Ilongot culture in the Philippines experience the mind as a *blend* of emotions and thoughts. It's important to understand that our cultures shape our conceptualisation of the mind and that this again influences our behaviours and our evaluations of the behaviours of others.

Joseph LeDoux, a leading neuroscientist on emotions and author of "*The emotional brain*" (1996) notes in his book that "the idea of what the mind is has changed a number of times since the early Greeks ..."

(p. 39). One popular definition of the mind used in cognitive psychology explains that the mind operates by creating representations to help people act, interact, and achieve their goals (Goldstein, 2019). To learn more about the various processes involved in these representations, we will now consider how we use the term "mind" in everyday language:

- That has totally left my mind. (remembering)
- I will put my mind to that and come up with a solution. (problem-solving)
- I haven't made up my mind yet about what to have for dinner. (reasoning and making decisions)

These examples indicate that the mind involves (but is not limited to) various cognitive processes, including problem-solving, memory, decision-making, perception, attention, language, and reasoning (Goldstein, 2019). As we saw in the introductory chapter of this eBook, all of these processes are in some way affected by and involved in the experience of conflict and conflict resolution. We will consider all of these processes in this chapter and the next one, some with more detail and, some with less detail.

Now that you have been reminded of the range of cognitive processes that are frequently included when we refer to the human mind, let's go back and consider some further ways of talking about the mind. Can you figure out which cognitive processes we allude to when using the term 'mind' in the following phrases?

- I have a lot on my mind right now.
- Why did you do that? Are you out of your mind?
- Let's please be mindful and not jump the gun with this decision.
- Mindlessly, they started to destroy the property.
- She was mindless of the knocking on the door.

Besides these cognitive processes, our mind also includes our emotions. Contemporary neuroscience and psychology recognise that cognition and emotions are inseparably linked (Lempert & Phelps, 2016; Panksepp, 2008), and we will acknowledge this blend throughout this eBook. Nevertheless, LeDoux, in his book "The emotional brain" (1996) discusses compelling differences between emotions (as conceptualised in Western cultures) and cognition, which supports the appropriateness of discussing the "cognitive mind", discussed in this chapter, and the "emotional mind", discussed in the next chapter.

In this chapter, we will consider the "cognitive mind" as an umbrella term for multiple cognitions in a typical, developed human brain. At the same time, we need to acknowledge that every person's mind is unique and that our mind is not limited to cognition. As we have learned in the previous chapter (and as we will learn throughout this whole eBook), the human brain, which is a core feature of the human mind, is shaped by a person's genetic makeup and the environments in which they were raised (Feldman Barrett, 2020).

Figure 2.1.1. Brain and Heart by Mohamed
Hassan used under a CC0 licence

Reflection Activity

To capture some key learnings from this chapter, you may now wish to engage in a 15-minute
personal reflection on cognitive psychology and how it may relate to conflict management. You
might want to consider the following prompt questions for your reflection:

- Which of the mental processes mentioned above appear to be particularly relevant for
  conflict that typically occurs in your profession?
- After watching "Cognition – How Your Mind Can Amaze and Betray You: Crash Course
  Psychology #15", what are some preliminary thoughts as to how knowledge from
  cognitive psychology may help analyse and manage conflict?

After reading "What is Cognition"? in G. Mullin, (n.d.). *Introduction to Psychology* (see above),
can you identify an example of how one of the "concepts" that you hold and use to make sense
of the world around you may have contributed to a conflict situation?

2.2 PERCEPTION

Have you ever listened to two people in conflict tell their stories of what happened, and then asked yourself if the two parties were really talking about the same conflict because their stories were so inherently different from each other? Sensory perception and the various factors that shape and influence our perception is a great starting point to gain a better understanding of the differences in people's conflict experiences. After all, many definitions and models of conflict consider people's perceptions as main sources or components of conflict (consider, for example, Galtung's [1969] ABC triangle).

Figure 2.2.1. Six or Nine? Image generated with Adobe Firefly

The term perception as a cognition and as we use it in this chapter refers to our experiences that result from the stimulation of our senses and the process of meaning-making of these experiences (note that in Chapter 5, we will look at the phenomenon of "social perception", which relates to how we perceive and make meaning of information about others in a social context). Our cognitive perception is evolving and changing based on the information presented to us. Often, we consider perception as an automatic process, but it is much more complex. Consider perception as the gateway to all other cognitions involving dynamic functions that support our actions. How would you perceive the world if you couldn't see, touch, smell, taste or hear? It would be impossible.

As an introduction, to perception, please watch the following video until about 3:51 (after that, the video goes into the details of visual perception, which you don't have to know about for this eBook): *Perceiving is Believing: Crash Course Psychology #7.*

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=128#oembed-1

In the video, Hank Green refers to perception as "the top-down way our brains organize and interpret information and put it into context" (we will look at the term "top-down" in more detail shortly). We have previously learned that every brain is unique, shaped by an interplay of the genetic makeup and the environment in which the brain developed. Therefore, the process of organising and interpreting information, as well as putting it into context, is heavily influenced by an individual's nature, experiences, moods, social environments, and cultures. Acknowledging our own "lens" and biases in terms of how we perceive our world and give meaning to any incoming information is important to prepare ourselves to appreciate the different perceptions that parties frequently have when it comes to the experience of conflict.

To see how perceptions may influence the stories and experiences of people in conflict, please read the following reading:

Key Reading

Heen, S., & Stone, D. (2006). Perceptions and stories. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 343-350). American Bar Association.

It is important to note here, that our perceptions are frequently inaccurate and can be fooled. Have a look at this "optical illusion" video [2:06] to illustrate how our visual perception can be fooled:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=128#oembed-2

As Hank Green noted in the Crash Course video "Perceiving is Believing", "sometimes, what you see is not actually what you get". Or, in the words of Feldman Barrett (2017a), "you see what your brain believes" (p. 78). Feldman Barrett discusses this phenomenon, which she refers to as "affective realism" in greater

detail in her book, *How emotions are made*. Understanding that our beliefs drive our perception also helps us understand how our beliefs influence our emotions, which we will discuss in more detail in the next chapter.

Approaches to Explaining Perception

Different approaches have been developed to explain the process of perception. While we don't need to know about these different approaches in detail, it is worth briefly considering at least the distinction between bottom-up and top-down processing (you will see these terms again when we discuss emotions in the next chapter).

Bottom-Up and Top-Down Processing

Bottom-up processing is frequently referred to as "data-driven". This type of processing begins with our receptors, which take in sensory information and then send signals to our brain. Our brain processes these signals and constructs a perception based on the signals. When our perception depends on more than the stimulation of our receptors, we speak about top-down processing. During top-down processing, we interpret incoming information according to our prior experiences and knowledge. This process is frequently referred to as concept or schema-driven.

Top   Up

Top-down processing occurs when previous experience and expectations are first used to recognize stimuli.

Bottom-up processing occurs when we sense basic features of stimuli and then integrate them.

Down   Bottom
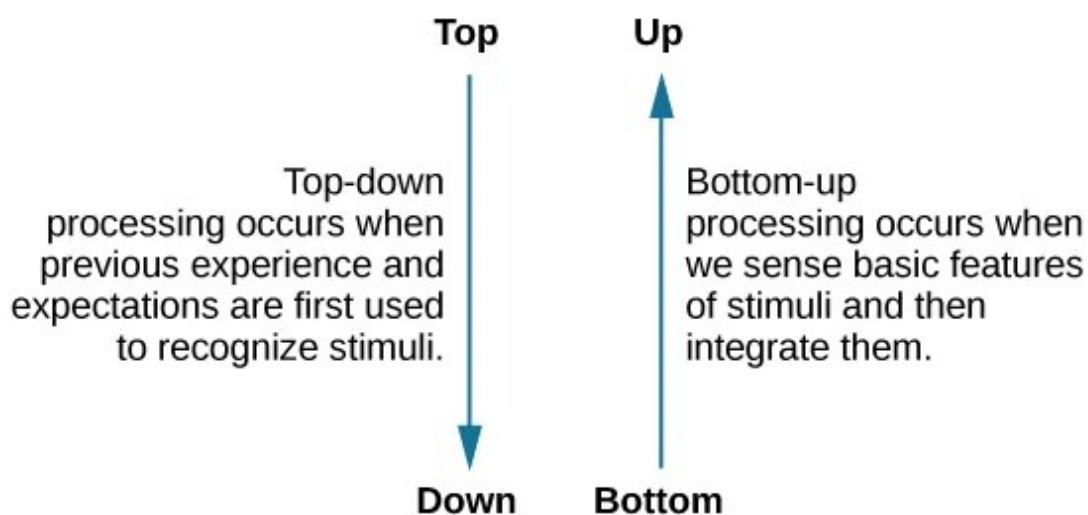
Figure 2.2.2. "Top-down and bottom-up are ways we process our perceptions" by Spielman, Jenkins & Lovett (Psychology 2e) used under CC BY 4.0

Look at the following image. What can you see in the image? Please spend a few moments trying to make sense of the black blobs.

Figure 2.2.3. Illusion from *The Intelligent Eye* by Gregory (1970). All rights reserved

If you have never seen this picture before, you are likely to continue seeing black blobs, even if you keep looking at it for longer. This is an example of sensory stimulation (bottom-up processing) being insufficient to correctly experience what is depicted in the picture. Once you know what is in the picture (it depicts a Dalmatian sniffing the ground in front of a tree) – or as Feldman Barrett (2017a) puts it "once you have been cured of your experimental blindness" (p. 26) – you will group some black blobs as the Dalmatian and others as shadows in the background (if you can't see the Dalmatian, please scroll to the bottom of this page for some help). You can do this because "neurons in your visual cortex changed their firing to create lines that aren't present, linking blobs into a shape that isn't physically there" (Feldman Barrett, 2017a, p. 26). Your brain will "construct" this picture out of the blobs, based on your new knowledge of what the picture shows (top-down processing) and will most likely do this every time you see the picture again.

What can we learn from this activity? Hopefully, the photo of the Dalmatian experience will help you appreciate the importance of past experiences to give meaning to any present sensation. As an important side fact, Feldman Barret highlights that our interpretations and giving meaning to sensory perceptions as in the Dalmatian picture happen unconsciously: "The entire process of construction is invisible to you. No matter how hard you try, you cannot observe yourself or experience yourself constructing the image" (Feldman Barrett, 2017a, p. 26). She calls the process of constructing an image based on prior experience as "simulation". What is well worth noting is that simulation can be visual but can also involve any other senses, e.g., when you have an "audio hallucination" and keep rehearsing a song in your head. Furthermore, simulation may not only be common for sensory perception but also for feeling empathy, understanding language, remembering, imagining, etc. Since all these processes are relevant to the experience of conflict, we encourage you to now give some thought to how the phenomenon of simulation may apply to conflict management.

The Gestalt Approach

Another approach to explaining perception is the Gestalt approach. While less relevant to the experience of conflict, we will consider aspects of this approach later in this chapter when we focus on decision-making. So you may want to check out the table below for some key principles of the Gestalt approach. The principle of "closure" may not only be true for the visual perception of objects but may also extend to how people tend to ignore missing or incomplete information about people and events to paint a smooth conflict narrative.

Table 2.1.1: Summary of Gestalt Principles of Form Perception

Principle	Description	Example	Image
Figure-ground relationship	We structure input so that we always see a figure (image) against a ground (background).	At right, you may see a vase or you may see two faces, but in either case, you will organise the image as a figure against a ground.	
Similarity	Stimuli that are similar to each other tend to be grouped together.	You are more likely to see three similar columns among the *XYX* characters at right than you are to see four rows.	
Proximity	We tend to group nearby figures together.	Do you see four or eight images at right? Principles of proximity suggest that you might see only four.	
Continuity	We tend to perceive stimuli in smooth, continuous ways rather than in more discontinuous ways.	At right, most people see a line of dots that moves from the lower left to the upper right, rather than a line that moves from the left and then suddenly turns down. The principle of continuity leads us to see most lines as following the smoothest possible path.	
Closure	We tend to fill in gaps in an incomplete image to create a complete, whole object.	Closure leads us to see a single spherical object at right rather than a set of unrelated cones.	

Note: "Summary of Gestalt Principles of Form Perception" by J. A. Cummings & L. Sanders, Introduction to Psychology is licensed under CC BY-NC-SA

Perception

(Excerpt from Gestalt principles of perception in Introduction to Psychology & Neuroscience, 2nd ed.)

According to Gestalt theorists, **pattern perception**, or our ability to discriminate among different figures and shapes, occurs by following the principles described above. You probably feel fairly certain that your perception accurately matches the real world, but this is not always the case. Our perceptions are based on **perceptual hypotheses**: educated guesses that we make while interpreting sensory information. These hypotheses are informed by a number of factors, including our personalities, experiences, and expectations. We use these hypotheses to generate our perceptual set. For instance, research has demonstrated that those who are given verbal priming produce a biased interpretation of complex ambiguous figures (Goolkasian & Woodbury, 2010 cited in Stevens & Stamp).

Extension:

If you want to learn more about the principles listed in the table above, you may wish to watch this video about Gestalt Principles.

The Depths of Perception: Bias, Prejudice, and Cultural Factors (adapted from Introduction to Psychology & Neuroscience)

Perception is a complex process. Built from sensations, but influenced by our own experiences,

biases, prejudices, and cultures, perceptions can be very different from person to person. Research suggests that implicit racial prejudice and stereotypes affect perception. For instance, several studies have demonstrated that non-Black participants identify weapons faster and are more likely to identify non-weapons as weapons when the image of the weapon is paired with the image of a Black person (Payne, 2001; Payne, Shimizu, & Jacoby, 2005 cited in Stevens, L. & Stamp, J., 2020). Furthermore, White individuals' decisions to shoot an armed target in a video game is made more quickly when the target is Black (Correll, Park, Judd, & Wittenbrink, 2002; Correll, Urland, & Ito, 2006 cited in Stevens, L. & Stamp, J., 2020). This research is important, considering the number of very high-profile cases in the last few decades in which young persons of colour were killed by people who claimed to believe that the unarmed individuals were armed and/or represented some threat to their personal safety.

Reflection Activity

You may now wish to spend 10 minutes reflecting on what you have just learned about perception and how learning about the process of cognitive perception may help you understand and/or support people in conflict. For example, you may want to think about how top-down and bottom-up processing and the phenomenon of simulation may relate to people's conflict experiences. As part of this reflection, you may also want to consider and note some key learnings from the reading 'Perceptions and stories' by Heen and Stone (2006) that you may have undertaken earlier in this topic.

Solution:
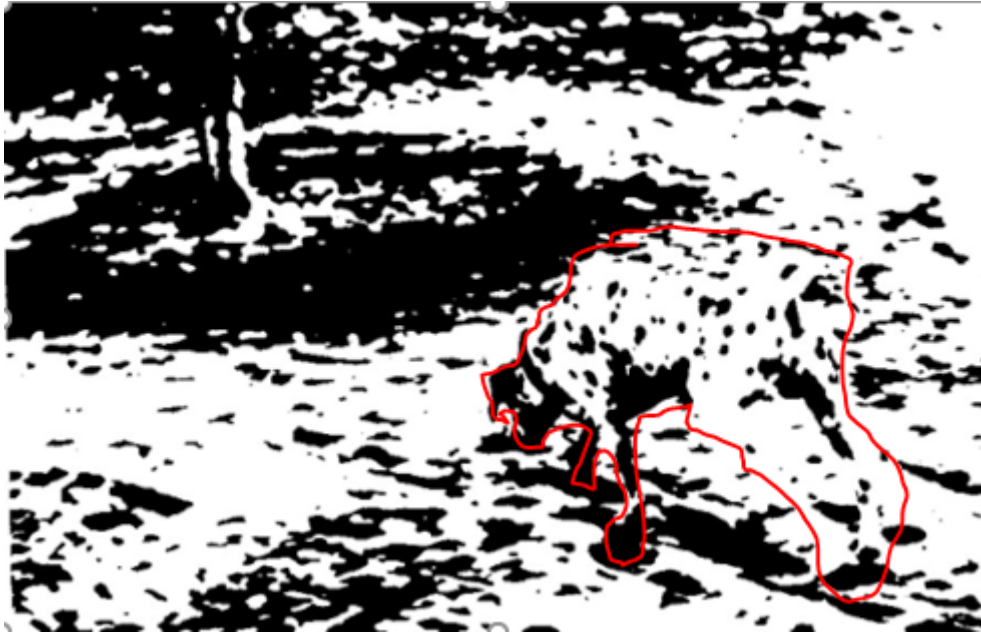
Figure 2.2.4. Dalmatian illusion from *The Intelligent Eye* by Gregory (1970). All rights reserved

Chapter Attributions

Speilman, R. M., Jenkins, W.J., & Lovett, M. D. (2020). Psychology 2e. OpenStax is licensed under a Creative Commons Attribution 4.0 International License

Stevens, L & Stamp, J. (Eds.). (2020). Introduction to Psychology & Neuroscience, Dalhousie University Libraries Digital Edition, is licensed under a Creative Commons Attribution 4.0 International License

2.3 ATTENTION

Our perceptions are heavily influenced by our attention (Goldstein, 2019). As you learned in the reading "Perceptions and stories" by Heen and Stone (2006) in the previous topic, what we pay attention to in each situation will influence how we perceive a situation. In this sense, attention is important to understand people's conflict experiences, and we will have a closer look at the process of attention in this topic.

Attention is our ability to focus on a specific stimulus. There are many types of attention. See the images below for how various types of attention may be distinguished.

In this chapter, we will look in some detail at selective and divided attention. More specifically, we will consider some phenomena of attention that affect perception and thereby people's experiences.
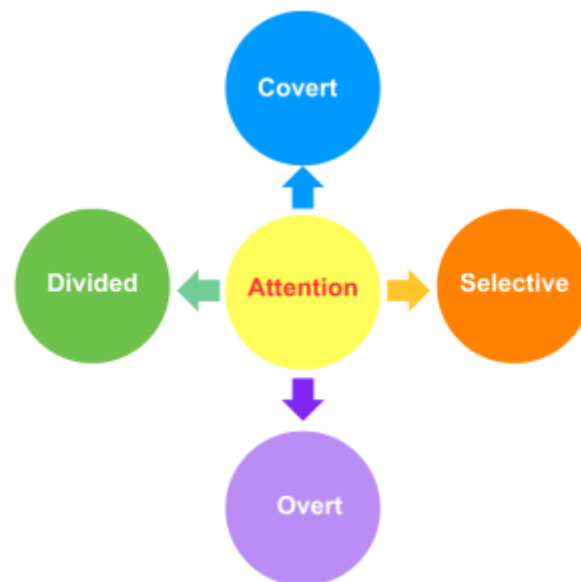
Figure 2.3.1. Different kinds of attention by K. Perry used under CC BY 4.0 licence

Selective Attention

Consider selective attention as a "filter". We constantly act on incoming information – we let some in for further processing and keep some out. Heen and Stone (2006) described how Eric and Fran had access to some common information (what was said in a work meeting that they both attended, etc.) and how they each paid attention to different data from this common pool of information. The authors briefly describe the "user illusion" phenomenon, pointing out that "we think we see everything around us, but in fact take in a very small slice of the available information" (p. 344). As discussed in the conflict scenario with

Fran and Eric, we can see how selective attention can influence our perception, our conflict story, and our conflict experience overall.

Cocktail Party Effect

Within selective attention, there is a phenomenon called the "cocktail party effect". Think of the last time you were at a party. You hear many people chatting, glasses clinking, perhaps there is some music playing, the sound of people cooking food – lots to attend to. But you can easily converse with another person while blocking out all the other noise. Similarly, if someone were to call your name or say another distinctive message like "Fire!" you could easily block out all other noise to attend to that message. This is the cocktail party effect.

We selectively attend due to our limited cognitive capacity. Our ability to ignore a stimulus is a function of the cognitive load of the task we are trying to complete and depends on how powerful the task-relevant stimuli is. A great example of a situation where task-relevant stimuli are difficult to ignore is the Stroop task.

Extension:

If you want to complete the task to experience conflicting cognitions yourself, please see the Interactive Stroop Effect Experiment.

To learn more about the Stroop effect and the brain areas involved in the cognitions involved in situations simulated by the Stroop task, please watch: The Stroop Task: The Psych Test You Cannot Beat [7:59].

Divided Attention

When we purposely distribute our attention to more than one thing at one time – this is divided attention. For example, we can have a conversation while driving our car or listen to music while working. Note that our capacity to attend to different activities at once are limited, which we will discuss in more detail in the next topic on memory (2.4).

Inattentional Blindness

By now, you would agree that attention is essential and without it, we wouldn't be able to perceive stimuli.

Before reading on, please now watch the video [1:22]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=132#oembed-1

One way to demonstrate the importance of attention for our perception is through inattentional blindness. This is our failure to notice a fully visible and obvious stimulus because our attention was engaged with another task, event, or object. The video that you have just watched is a great example of inattention blindness created by Simons and Chabris (1999). After watching the video, almost 50% of people failed to report seeing the 'event' even though it was clearly visible. Experiments like this demonstrate how when we attend to one event or stimuli, we may overlook another, even when it's right in front of us.

Extension:

To learn more about how inattentional blindness works, please check out this video from Nova, 'Why You Miss Big Changes Right Before Your Eyes'.

Reflection Activity

You may now wish to spend 10 minutes to consider how what you have just learned about attention may help you understand and/or support people in conflict. For example, you might want to consider how the various phenomena of attention may relate to conflict. These phenomena include selective attention, the cocktail party effect, divided attention and inattentional blindness.

2.4 MEMORY AND INFORMATION-PROCESSING

Negotiators, mediators, facilitators, as well as parties who are negotiating for themselves have to handle complex issues and multiple pieces of information at once during a conflict resolution process (Alexander, Howieson, & Fox, 2015). This includes remembering events from the past and considering new information. These tasks require all types of memory, including sensory, short-term, and long-term memory. We will now have a look at how these different types of memories function. But first, as a fun introduction to the topic of memory, you may want to watch the following Crash Course video [9:55]:

> 📖 *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=136#oembed-1*

We will now consider various types of memory functions in more detail. The sensory memory holds incoming information, but only for a few seconds (Gluck et al., 2020).
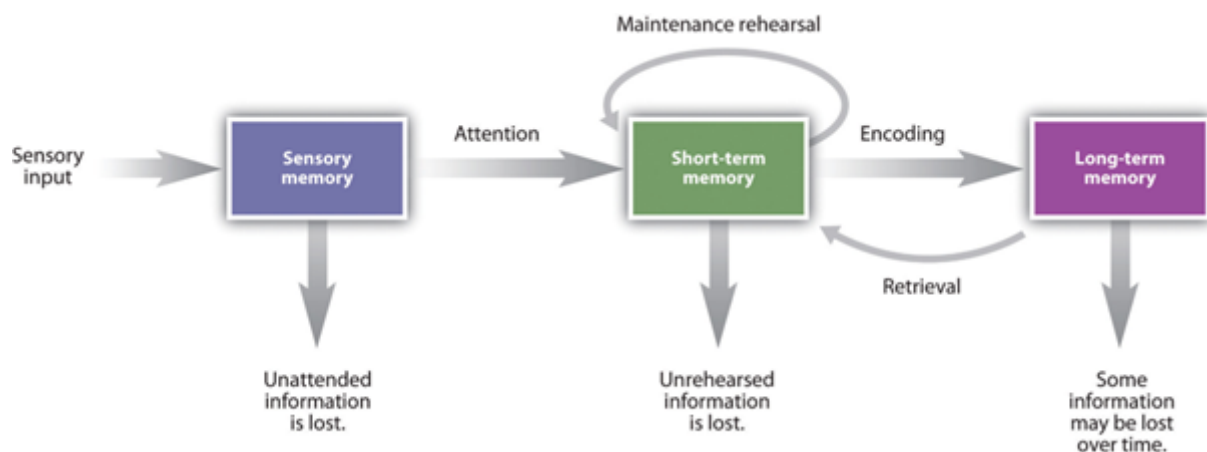
Figure 2.4.1. *Memory Duration* by Jennifer Walinga and Charles Stangor used under a CC BY-NC-SA 4.0 licence

As you can see in the above image, our attention selects which information is passed on from the sensory to the short-term memory. Note how attention, which we discussed in more detail in the previous topic, affects what information gets passed on to our memory. As this example shows, all our cognitions and mental processes are somehow interlinked and connected.

Short-Term Memory

The short-term memory includes the so-called "working memory", which manages control processes such as rehearsal, encoding, decisions and retrieval strategies. Research using the digit-span test (click the link to try this test out yourself) has shown that our short-term memory can hold on average between five to nine items at the same time. You may have heard before that the human mind can pay attention to an average number of seven at the same time (e.g. George Miller's "magical number 7").

To retain information, the short-term memory uses several strategies, including "coding" and "chunking". Coding refers to how information is represented, and there are various types of coding. For example, remembering the sound of your mother's voice is "auditory coding", and remembering what your mother looks like is "visual coding". Chunking, on the other hand, involves combining smaller units into larger, more meaningful units (e.g., instead of trying to memorise the sequence of the numbers 1, 9, 7, and 9 I might "chunk" them as 1979, the year when I was born. Or, if you must remember a suite of words, you could create a short story containing all the words that you need to remember). This process of chunking is relevant to the management of conflict. Conflict management practitioners supporting negotiations between two conflict parties are frequently trained to chunk information relating to complex issues and options when making offers to the other party. You will shortly be referred to a reading by Alexander et al., (2015), pp. 159-162: 'Making the most of memory' to explore how knowledge about memory may help prepare for and conduct a negotiation. Before we refer you to the reading, we will consider the working memory in some more detail.

Baddeley's Working Memory Model

To better understand working memory, Alan Baddeley developed the "working memory model". According to Baddeley, the working memory is a system with several parts controlling the information being processed. Baddeley initially identified three main components, with a fourth (the episodic buffer) added some 25 years after its inception:

- The phonological loop, which holds verbal and auditory information
- The visuospatial sketch pad, which holds visual and spatial information
- The central executive, which works with information and is responsible for updating and re-organising working memory to balance multiple goals and switch attention between different activities
- The episodic buffer was added to explain the temporary integration of information gathered from the phonological loop, visuospatial sketchpad, and long-term memory. Its addition to the original model allowed a clearer connection to be made between working memory and long-term memory. This component is controlled by the central executive and transfers information into and out of the long-term memory.
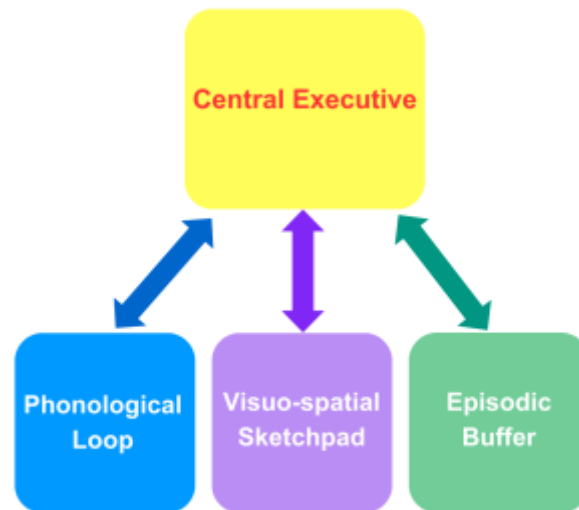
To learn more about the working memory and its components, watch the following 7-minute video: Working Memory (Test + Examples):

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=136#oembed-2

As noted in the video, it is assumed that each component of the working memory has a limited capacity and is largely independent of the others. The visual sketch pad is not affected by the phonological loop and vice versa. We can draw some conclusions for conflict management from knowledge about the working memory. For example, when parties need to process a lot of information at once, such as in a multi-issue, multiparty negotiation, it may be advised to present some information visually, rather than verbally to relieve the phonological loop. For example, a mediator may draw the outline of houses, fences and trees concerned in a neighbourhood dispute on a whiteboard.

Key Reading

Alexander et al., (2015), pp. 159-162: Making the most of memory to explore how knowledge about memory may help prepare for and conduct a negotiation.

There are many ways we can get information from the working memory into our long-term memory. If you need to remember a phone number to use in the future, you are likely to engage in the processes of encoding, storing and retrieval of information. Encoding happens when you initially memorise the number. Storing refers to maintaining the memory of the number over time, e.g., by rehearsing it. The process of retrieving the number when you finally need to use it is known as 'retrieval'.

We will look at the topic of memory again in the next chapter when we consider the impact of emotions on cognitive processes, including memory.

Long-Term Memory and Priming

To conclude the cognition of memory, we will now have a brief look at the long-term memory, with special attention paid to a phenomenon called "priming". The long-term memory can be categorised as explicit and implicit memory (Goldstein, 2019; Gluck et al., 2020). The explicit memory (also called declarative memory) comprises the semantic memory (memory of facts and general knowledge) and the episodic memory (memory of personal experiences) (Goldstein, 2019; Gluck et al., 2020). The explicit memory "consists of memory of which a person is aware; you know that you know the information" (Gluck et al., 2020, p. 280). The implicit memory, on the other hand, is "memory that occurs without the learner's awareness" (Gluck et al., 2020, p. 280). Priming is a phenomenon associated with our implicit memory (Goldstein, 2019), and is, therefore, a process that happens unconsciously.
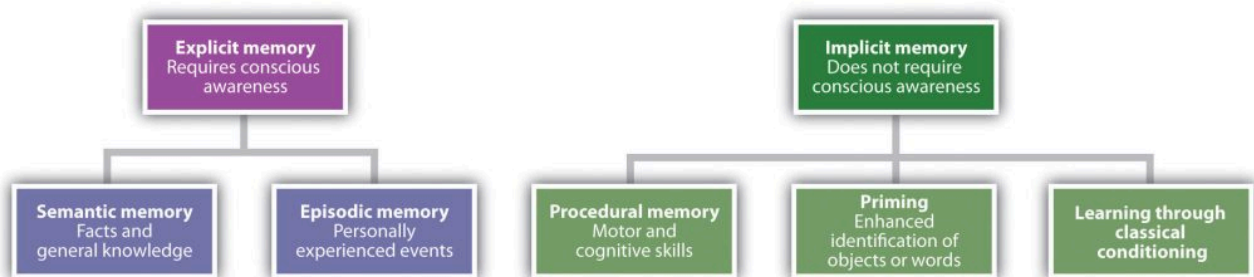
Figure 2.4.3. Types of Memory by Jennifer Walinga and Charles Stangor used under a CC BY-NC-SA 4.0 licence

Gluck et al. (2020) describe priming as "a phenomenon in which prior exposure to a stimulus can improve the ability to recognise that stimulus later" (p. 88). Priming occurs because exposure to a stimulus creates a sense of familiarity, even when an individual is not consciously aware of the exposure and of the resulting familiarity. As an example, exposure to specific words or suite of words, even when this exposure happens

unnoticed, can prompt people to recognise or choose a related word or picture, as has been shown in research (Gluck et al., 2020; Goldstein, 2019; Kassin et al., 2020). If you watched the Crash Course video *Perceiving is Believing*, you may remember that you were primed to see either a rabbit or a duck, depending on the question asked (bird or mammal).

Exposure to a stimulus can also lead people to behave in a particular way without their awareness, in particular when the stimulus was presented subconsciously (Kassin et al., 2020). The impact of priming has been demonstrated in research, including in a provocative study by Bargh, Chen and Burrows (1996).

The researchers found that:

- participants whose concept of rudeness was primed interrupted the experimenter more quickly and frequently than did participants primed with polite-related stimuli.
- participants for whom an elderly stereotype was primed walked more slowly down the hallway when leaving the experiment than did control participants, consistent with the content of that stereotype.
- participants for whom the African American stereotype was primed subliminally reacted with more hostility to a vexatious request of the experimenter.

Extention:

For further information about these experiments, refer to Gluck et al. (2020). The authors discuss the implications of this automatic behaviour priming effect for self-fulfilling prophecies, a phenomenon that is frequently noted in the conflict management literature.

To learn about a similar study on how priming may affect the behaviour of individuals, please watch the following 5-minute video.

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We are considering priming here because this phenomenon has been discussed in some articles that focus on conflict management. For example, Weitz (2011) discusses how priming may apply to and affect the mediation process. The author suggests that by using words like "listen to, hearing each other, dialogue, options, future" mediators may be able to "prime" parties for collaboration rather than competition (Weitz, 2011, p. 478).

Key Reading

Weitz, D. (2011). The brains behind mediation: Reflections on neuroscience, conflict resolution and decision-making. *Cardozo Journal of Conflict Resolution*, *12*, 471-490.

Priming may also affect our perception of other's emotions, which we will discuss in more detail in the next chapter (see also Barrett Feldman, 2017, p. 45).

Extension:

If you are interested in priming and want to learn more about some specific examples and types of priming, you may also want to read this "easy to digest" description of priming.

Reflection Activity

You may now wish to spend 10 minutes to consider how what you have just learned about memory may help you understand and/or support people in conflict. For example, you might want to note some key learnings from the readings by Alexander et al. (2015) and Weitz (2011). You might also want to think about how the phenomenon of priming may relate to people's conflict experiences and what it may mean for the process of conflict resolution.

2.5 LANGUAGE

Language is extremely important to the experience of conflict and for conflict management. For example, as we learned in the reading "Perception and stories" (Topic 2.1), conflict stories are an important way of making sense of a conflict situation and of course, stories are made up by language. Furthermore, producing and perceiving language are essential components of communication. Miscommunication and lack of communication frequently cause or at least contribute to conflict. Additionally, effective communication, requiring effective use of language, is important for managing and resolving conflict. This section will consider language and how our language may be influenced by other cognitive processes and vice versa and thereby affect people's perceptions, conflict narratives, and communication, as well as our brains and bodies. For some basics on language as a cognition, you may want to watch Language: Crash Course Psychology #16 [10:02]:

> 🖳 *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=138#oembed-1*

In the following section, we want to explore the question of how language may affect our perceptions and thoughts. As an introduction to this question, please watch the following video [14:13]:

> 🖳 *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=138#oembed-2*

As Lera Boroditsky explains in her presentation, language affects how people think, feel and behave and some of the points made in the video are relevant to understanding and managing conflict. For example, you learned that language can affect how we lay blame in situations where damage or harm occurred (e.g. the example of the broken vase). We will revisit this example later in this eBook (in Chapter 5).

How Language Can Shape the Way we Perceive, Think, and Behave: An Example from the German

Language

Lera Boroditsky noted in her presentation that the use of different genders in a language influences people's thoughts and feelings (she used the example of the sun, being feminine in German and masculine in Spanish, and the moon, being masculine in German and feminine in Spanish and how these uses of genders for objects influences our thinking and feeling about the objects). In fact, the German language uses three different genders (masculine, feminine and neutral) to refer to objects, people, professions, roles, etc. For example, the English term "teacher" translates to both "Lehrer" (masculine) and "die Lehrerin" (feminine) [similarly, the French language distinguishes between "maitre" and "maitresse", the Spanish language between "el profesor" and "la profesora", etc; depending on which languages you are familiar with yourself, you may have other examples]. In the German day-to-day language, nearly all references to professions and groups of people use the masculine version of each term (this grammar rule is called "generic masculine"). For example, a group of teachers is referred to as "Lehrer" (the plural of the male single word "Lehrer"), which is intended to include both male teachers and female teachers (the exact plural version for the female teacher would have been "Lehrerinnen").

However, while females are theoretically meant to be included in any generic masculine, research has shown that the use of masculine terminology has an impact on people's perceptions and thinking. For example, when asked to list sports and music stars, students in a study were much more likely to think only about male stars when prompted with the German generic masculine of the terms "athletes" and "musicians" than when prompted with both male and female versions of these words (Lesch, 2021). Another study investigated whether the use of language may affect people's profession and career choices (Lesch, 2021). The study found that female students who had learned about various professions through both masculine and feminine terminology were much more likely to indicate their interest in stereotypical male professions than those who were introduced to the profession by way of the generic masculine.

Other research supports the idea that individuals from different cultures develop unique language processing strategies that affect behaviour, specifically in the conflict resolution context. Research by McCarthy et al. (2008) found differences in both language comprehension time and EEG-measured responses of native English-speaking American participants and native German-speaking German participants.

The researchers concluded that "the lexicology and grammar of a language have a role beyond the traditional one of determining how speakers conceptualise the world around them. Language is acted upon by the internal framework of the brain. To understand the nature of conflict at the level of observed behavioural differences, we should also understand the micro-language processing strategies that may underlie these differences. This study demonstrates that social neuroscience may provide a new way of understanding micro-processes in cross-cultural negotiations and conflict resolution." (p. 7).
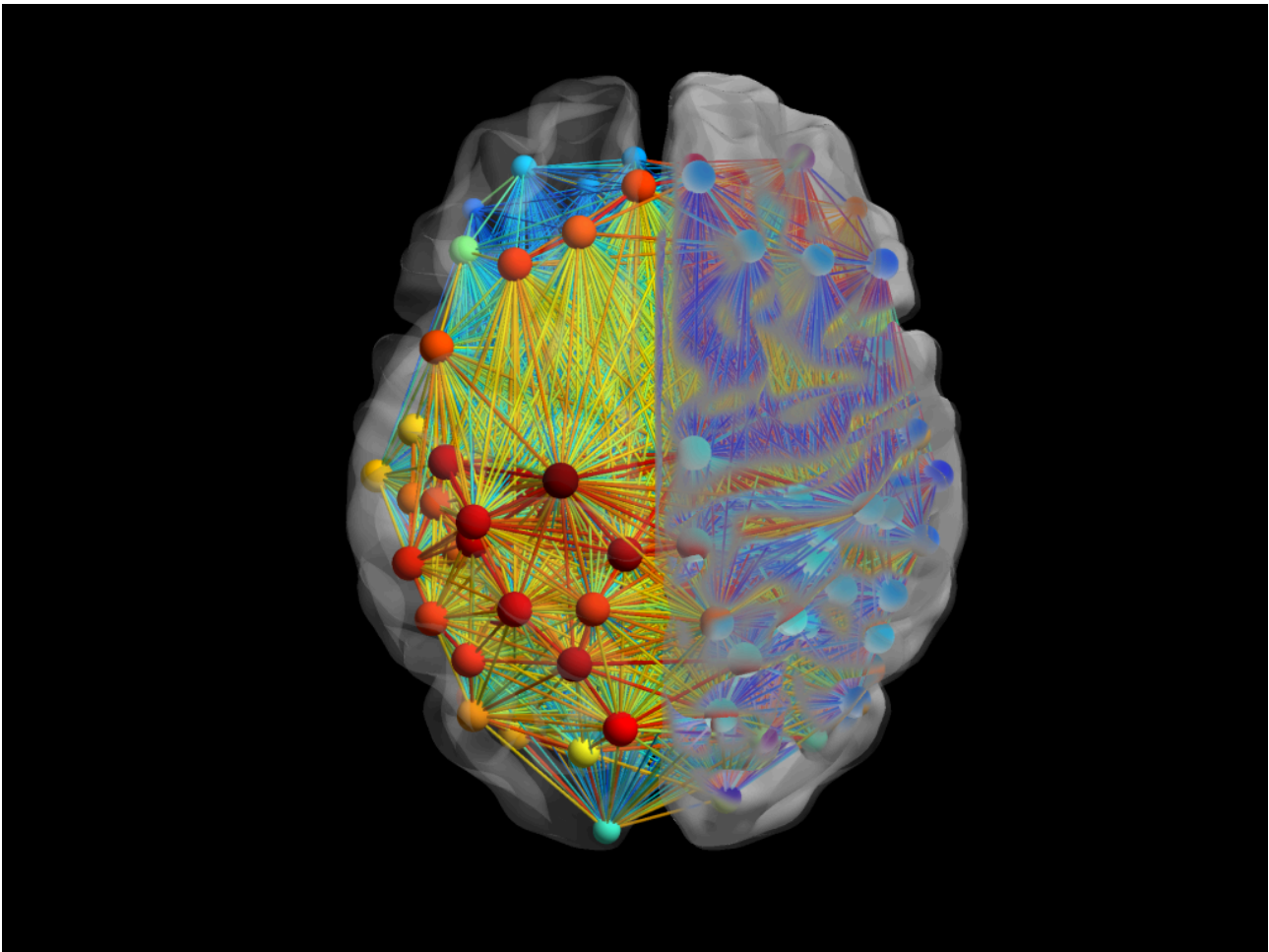
Figure 2.5.1. Neurological connections in the brain controlling speech production by Stefan Feurtinger and Kristina Simonyan used under a CC BY-NC 2.0 licence

Reflection Activity

Please spend a few minutes to think about an example of how language can affect an individual's thoughts, feelings and/or behaviour. Please keep your notes somewhere safe, since you might want to refer to them later.

2.6 PROBLEM-SOLVING

Problem-solving lies at the heart of many conflict resolution processes. Many negotiation and mediation models involve a stage or phase dedicated to problem-solving, e.g., as part of the "option generation and negotiation" (see for example, Alexander et al., 2015). Negotiation and mediation textbooks frequently discuss the value of consensual or joint problem-solving approaches to resolve conflict (Adler, 2006; Alexander et al., 2015; Fisher & Ury, 2012). These approaches typically involve two or more parties solving mutual problems (as a team rather than addressing issues from opposing ends) (Adler, 2006), and are frequently based on "principled bargaining", a negotiation approach developed by Harvard Negotiation Project, also known as interest-based negotiations (Fisher & Ury, 2012). During principled bargaining, conflict parties/negotiators look for mutual gains and independent fair standards and have a desire to maximise each party's gain (they seek to "expand the pie").

While the conflict management literature focuses on the process of how groups of people or at least two parties can jointly solve problems, cognitive psychology can help explore the process of problem-solving as a cognition (Bruce Goldstein, 2019, pp. 356-392). Understanding the cognitive dimension of problem-solving may help practitioners develop their problem-solving skills to support conflict parties to resolve or manage their conflicts.

Approaches to Problem-Solving

Cognitive psychologists have developed several approaches that help describe how the human mind may engage in problem-solving. One approach of interest is the "Gestalt approach" (Goldstein (2019, pp. 356-361). You were introduced to certain aspects of this approach in 2.2 Perception earlier in this chapter. This approach uses reorganisation or restructuring of an initial representation in one's mind to solve problems. It may be useful for conflict practitioners to know about the Gestalt approach since it encourages perspective-taking to find solutions to issues, a process that is frequently discussed in conflict resolution literature.

As an example of what it may mean to organise a representation in your mind, please complete the following activity:

Activity: To illustrate how representing a problem in the mind, and how changing this representation can help find solutions to problems, let's consider the following "problem":

Determine the length of the segment marked x if the radius of the circle has a length r (see image below). Note that this problem was posed by Gestalt psychologist Wolfgang Kohler in 1929 (Goldstein, 2019).
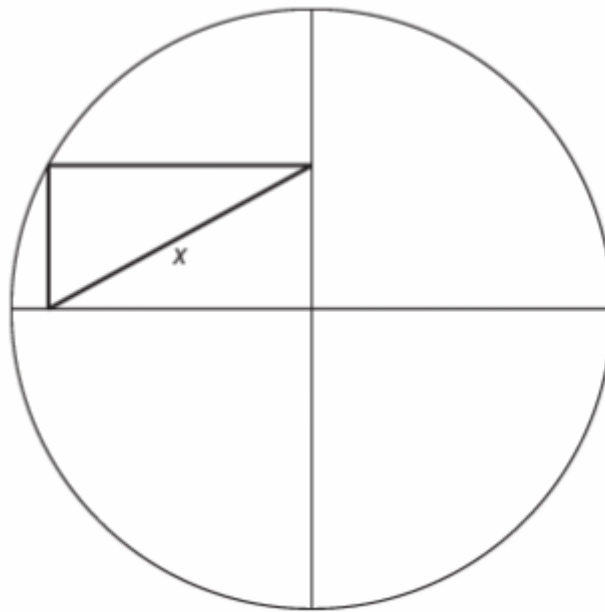
Figure 2.6.1. If the length of the circle's radius is *r*, what is the length of line *x*? Adapted from Gestalt Problem of Circle by TeebaObaid used under a CC BY-SA 4.0 licence

Extension:

Further information about additional approaches to problem-solving, for example using analogies by way of analogical encoding, considering how a problem is being stated, can be found in Chapter 12 of Goldstein's 2019 *Cognitive psychology: Connecting mind, research, and everyday experience*

Creative Problem-Solving

Conflict management textbooks, publications and training frequently include a section on creative problem-solving. Creative problem-solving is meant to help generate new ideas and open people's minds to think outside the box. For an example of what it may mean to think outside the box, please complete the short exercise below, called the nine-dot problem.

Exercise instructions: Connect the dots by drawing four straight, continuous lines that pass through each of the nine dots, without lifting the pencil from the paper.
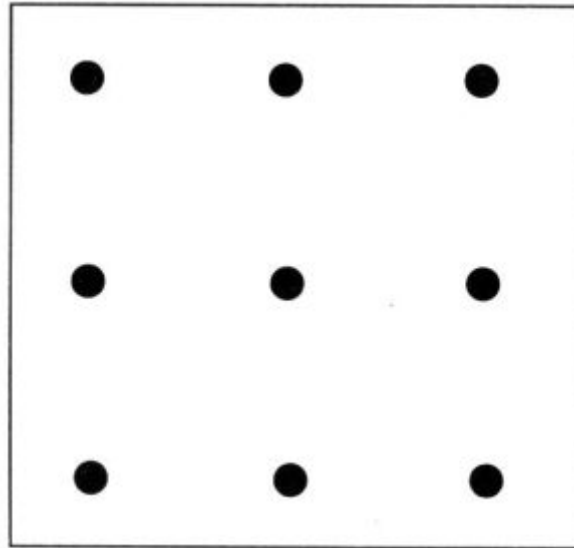
Figure 2.6.2. The nine dots puzzle is in the public domain

Let's now consider how creative problem-solving may apply to conflict management and which approaches and activities may help negotiators, mediators, facilitators or other conflict practitioners become creative (Brown, 2006).

Key Reading

Brown, J. G. (2006) Creativity and problem-solving, in *The negotiator's fieldbook: The desk reference for the experienced negotiator,* pp. 407-413.

This reading talks about creativity and problem-solving techniques to be used in negotiation and mediation, including:

- brainstorming
- wordplay (changing a word, deleting a word, adding a word, shifting emphasis)
- de Bono's Six Hats technique
- atlas of approaches
- visualisation
- feel my pain
- flipping or reversal
- use of props/toys
- idea arbitrage.

Reflection Activity

At this point in the chapter, you might like to spend 10 minutes considering how the various approaches to problem-solving discussed above may relate to conflict management. You might want to consider any insights you gained from the Gestalt approach or creative problem-solving, including by noting some key learnings from the reading by Brown (2006) in more detail.

2.7 DECISION-MAKING

Decision-making is central to many (but not all) conflict resolution processes. It is unlikely that we would be able to move forward in a negotiation if we didn't make decisions as to what to do next after engaging in problem-solving, either in collaboration with the other party or unilaterally. Before we consider decision-making from a cognitive psychology perspective, let's have a quick look at how the process of decision-making is typically viewed in conflict management.

Literature in the field frequently discusses the question of how decisions are reached in groups (Condliffe, 2016). We will not consider decision-making at the group level in this chapter but will focus on individual decision-making. In the past, decision-making in conflict resolution processes, in particular in the context of negotiations, has been predominantly viewed through the lens of economics and microeconomics, with a focus on game theory and rational choice (or rational decision-making) theory (Avruch, 2006; Sally & Todd Jones, 2006). As Avruch (2006) notes: "Almost every formal academic treatment of negotiation, and quite a few informal ones as well, reveals its basis in the larger theory of rational choice (or rational decision-making) ..." (p. 81).

Both game theory and rational choice theory aim to predict how individuals make decisions. Game theory provides a mathematical framework for analysing interdependent interactions of individuals in scenarios where the individuals are trying to reach a particular goal (Sally & Todd Jones, 2006). Rational choice theory forms part of game theory and assumes that people are rational agents who are clearly aware of their goals and preferences, have access to all relevant (and reliable) information about various options, can rationally prioritise their preferences and negotiate the best solutions for their problems. One major (and growing) point of critique of using rational choice to explain decision-making in conflict resolution processes is that decision-making is not a purely "rational" endeavour (if rationality is viewed as thinking without feeling) (Avruch, 2006). As we have previously noted, a growing body of literature, including neuroscience literature, has clearly rejected the idea that cognition and emotions are separate processes and that we rely on emotions and cognitions at the same time when making decisions (we will look at this point in more detail in the next chapter) (Feldman Barrett, 2017a; Feldman Barrett, 2020; Lempert & Phelps, 2016). While conflict resolution literature has discussed the role of emotions in conflict resolution processes for decades, the realisation that emotions are interlinked with cognition and integral to decision-making in conflict resolution processes appears to have gained momentum only in more recent times.

Let's now consider decision-making from a cognitive psychology perspective. Decision-making brings all other cognitive processes together since it involves perception, attention, information processing, working memory, problem-solving, etc. Furthermore, decision-making involves reasoning and making judgements and looking at these processes in more detail can help us to better understand how we make decisions.

Heuristics and Biases

We will now consider some mental phenomena that affect how we engage in reasoning and how we make judgements, and that can lead to decision-making errors. We will focus on those phenomena that are likely to be concerned with conflict resolution processes, including various heuristics and biases. As you will notice in the text below and some of the readings, there is a lot of talk about "heuristics" and it's worth clarifying the term before we move on to considering specific heuristics in the context of decision-making.

Overall, cognitive heuristics can be described as:

- information-processing guidelines that enable us to think in ways that are quick and easy but that often lead to error (Kassin et al., 2020)
- mental shortcuts that people apply when they use past experiences to guide present or future behaviour (Goldstein, 2019)
- a "rule of thumb".

You may have noticed that heuristics reflect "top-down processing" discussed earlier in this chapter. Please watch the following video as an introduction to heuristics and other psychological effects that can impact our decision-making:

The psychology behind irrational decisions – Sara Garofalo [4:39]:

> 📑 *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=145#oembed-1*

Let's now look in more detail at the various heuristics and biases that influence and potentially skew our decisions. Some of them were discussed in the video you have just viewed.

> 📑 *An interactive H5P element has been excluded from this version of the text. You can view it online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=145#h5p-2*

For further information about some of these heuristics and biases see Goldstein (2019, p. 403).

Extension:

If you want to learn about these potential sources of errors in judgement in more detail you may wish you read Chapter 13 in Bruce Goldstein (2019). We will revisit some of these topics in Chapter 5 when we consider social perceptions in more detail.

Now let's consider what all these heuristics, biases and effects may mean for conflict management. For example, "anchoring" (above noted as the anchoring-and-adjustment heuristic) is discussed as a negotiation tactic in many textbooks on negotiation (Alexander et al., 2015; Fells, 2016). A first offer made by one negotiating party constitutes the first "anchor" in the negotiations, and research has shown that this initial anchoring can have an advantage for the party making the offer (Fells, 2016). Therefore, whoever makes the first offer may have this anchoring advantage. Even judges may be influenced by the anchoring effect (Kassin et al., 2020). Research has found that if exposed to a high anchor point (e.g., a sentence of three years instead of one year), judges tended to assign harsher sentences (Kassin et al., 2020).

For further consideration of how the above-noted heuristics, biases and other effects may apply to conflict resolution processes, please read the following reading now:

Key Reading

Korobkin, R., & Guthrie, C. (2006). Heuristics and biases at the bargaining table. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook* (pp. 351-360). American Bar Association.

The reading focuses on negotiations and looks at:

- anchoring and adjustment
- availability
- framing
- contrast effect
- status quo bias.

In another reading of interest, Avruch (2006) discusses the applicability and value of rational choice theory, as well as its limitations in the context of social conflicts that have been caused by factors different from the typical "negotiable interests", including values and needs. He explores these limitations by considering

cognitive psychology, with a focus on the classical "buyer-seller" heuristic that has guided much of the understanding of bargaining in negotiation in the past. If you are interested, please have a look at this reading to explore the value and limitations of some cognitive processes for more complex conflict scenarios.

Extension:

Avruch, K. (2006). The poverty of buyer and seller. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook* (pp. 81-86). American Bar Association.

Decision-Making as Choosing Among Alternatives

Some of the heuristics and biases discussed above apply to the processes during which people judge what reasons are most likely to have caused a problem. However, decision-making may also involve judgment about which course of action to choose between several options. As an example from conflict resolution, let's consider the choice between different conflict resolution strategies, including contending, yielding, avoiding and problem-solving (sometimes called collaborating), considered as part of Pruitt and Kim's (2004) Dual Concern model. While Pruitt and Kim (2004) have developed their own theory of why an individual may choose one strategy over the others (including concern for self and other, perceived feasibility, blame direction and culture), cognitive psychology can give us some further insights as to why people may choose one option amongst several alternatives.

One approach considered in cognitive psychology is the utility approach to decisions. The "expected utility theory" is regarded as a theory of rational choice, which we noted earlier as having substantive implications for explaining decision-making in conflict resolution processes. Like rational choice theory, the utility approach is based on the idea that people make decisions rationally, assuming that if people have access to all relevant information (and this is frequently not the case when it comes to making decisions in conflict), they will decide on the option that results in the maximum expected utility (Goldstein, 2019). The term utility here refers to the outcomes that achieve a person's goal. As for rational choice theory overall, one major weakness of the utility approach is its assumption of decision-making as a purely rational act, neglecting the effect of emotions on decision-making.

Besides an evaluation of the expected utility of an action, decisions may also depend on:

- The context within which they are made.
- How choices are presented (think for example of opt-in procedures versus opt-out procedures).

The idea that how a choice is presented impacts an individual's cognitive processes is important for conflict resolution. One term that is frequently associated with the presentation of choices both in conflict resolution and cognitive psychology is "framing". We briefly discussed the "framing effect" in the table above. Just to recap, this effect refers to how an individual's decisions are influenced by the way information is presented. According to the framing effect, equivalent information can be more or less attractive, depending on the highlighted features.

As a practical example of the framing effect, consider the following hypothetical:

Amos Tversky and Daniel Kahneman explored how different phrasing affected participants' responses to a choice in a hypothetical life-and-death situation in 1981.

Participants were asked to choose between two treatments for 600 people affected by a deadly disease. Treatment A was predicted to result in 400 deaths, whereas treatment B had a 33% chance that no one would die but a 66% chance that everyone would die. This choice was then presented to participants either with positive framing, i.e. how many people would live, or with negative framing, i.e. how many people would die.

Framing	Treatment A	Treatment B
Positive	"Saves 200 lives"	"A 33% chance of saving all 600 people, 66% possibility of saving no one."
Negative	"400 people will die"	"A 33% chance that no people will die, 66% probability that all 600 will die."

Treatment A was chosen by 72% of participants when it was presented with positive framing ("saves 200 lives") dropping to 22% when the same choice was presented with negative framing ("400 people will die").

The researchers concluded that people's decisions are influenced by the way that choices are stated or framed: when a choice is framed in terms of gains, people use a risk aversion strategy, and when a problem is framed in terms of losses, people use a risk-taking strategy (Tversky & Kahneman, 1981).

The impact of framing has profound implications for conflict management. Firstly, understanding conflict parties' frames, or how they have framed specific issues, can help to get a clearer picture of the causes or drivers of conflict (Campbell & Docherty, 2006). Secondly, conflict framing influences parties' conflict resolution behaviours, strategizing, their choice of negotiation tactics, and, as we have seen above, their judgments and decisions (Campbell & Docherty, 2006).

To explore the role of frames and framing in conflict management further, please now read:

Key Readings

Campbell, C. M., & Docherty, S. J. (2006). What's in a frame? In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 37-46). American Bar Association.

Guthrie, C. (2004). Insights from cognitive psychology.*Journal of Legal Education, 54*(1). https://scholarship.law.vanderbilt.edu/cgi/viewcontent.cgi?article=1748&context=faculty-publications

Reflection Activity

At this point in the chapter, you might want to spend 10 minutes considering how the various insights from the cognitive dimension of decision-making discussed above may relate to conflict resolution. This topic is extensive so there is quite a bit to reflect on. You might want to consider the various heuristics and biases that may affect people when making decisions in conflict. You may also want to note some key learnings from the readings of this chapter, including the one by Korobkin & Guthrie (2006) and/or Caton Campbell & Docherty (2006).

CHAPTER 3: THE MIND - EMOTIONS

Like Chapter 2, Chapter 3 also considers the human mind, but instead of focusing on cognition, as we did in Chapter 2, Chapter 3 will look at emotions. Having said that, we will spend some time in this chapter considering the interplay of emotions and cognition. Our goal is to better understand how emotions may create and/or contribute to conflict, and what we can learn from emotion research to support people with their emotions in conflict resolution processes. We will "unpack" emotions and consider some definitions and theories of emotions, as well as the question of "how emotions are made" and expressed. We will especially consider the experience of stress and "stress response" as being closely intertwined with (negative) emotions. In this context, we will also look at how stress and other components of emotions may affect the cognitive processes that you were introduced to in the previous chapter. Finally, we will pay attention to aggression as being closely linked to the experience of negative emotions such as fear and anger.

Learning Outcomes

- define and explain emotions
- distinguish emotions from other related processes and phenomena such as affect, mood and stress
- distinguish various dimensions and components of emotions
- describe the physiological and behavioural dimension of emotions, including the stress response, as well as fight and flight behaviour
- consider neuroscience and cognitive psychology knowledge and research on emotions for people in conflict and conflict resolution processes.

Key Readings

Lindner, E. G. (2014). Emotion and conflict. In P. T. Coleman, M. Deutsch & E. C. Marcus (Eds.), *The handbook of conflict resolution: Theory and practice*. John Wiley & Sons.

Tanz, J. S., & Mcclintock, M. K. (2017). The physiologic stress response during mediation. *Ohio State Journal On Dispute Resolution 32*(1), 29.

3.1 FOUNDATIONS OF EMOTIONS

Conflict and Emotions

In many ways, conflict and emotions are inseparably linked (Chen & Ayoko, 2012; Jones & Bodtker, 2001). This link has also been shown in empirical research (Chen & Ayoko, 2012).

Observe the table below demonstrating some of the relationships between emotions and conflict:

Table 3.1.1. Emotions and Conflict by Samantha Hardy. © All rights reserved, used with permission

Emotions	Conflict
Emotions can cause conflict	Conflict can cause emotions
Emotions can make conflict worse	Emotions can make conflict better
Both emotions and conflict can be negative	Both emotions and conflict can be positive
Both emotions and conflict can be experienced privately	Both emotions and conflict can be expressed publicly
Emotions can sometimes get in the way of our message	Emotions can sometimes BE the message
Everyone experiences conflict, whether or not they admit it	Everyone experiences emotions, whether or not they admit it
Emotions are usually better managed when expressed constructively	Conflict is usually managed better when expressed constructively
Emotions can be contagious, affecting those around us.	Conflict can be contagious, affecting those around us.

As indicated in the table above, conflict frequently causes people to experience emotions, predominantly negative emotions. Why is that? One explanation links in with how people explain conflict to themselves. People in conflict are typically motivated to determine who or what is responsible for causing the conflict (Chen & Ayoko, 2012). According to the "attribution theory", a topic that we will further explore in Chapter 5, people have a general tendency to attribute negative events to others without considering the context. These attributions drive people's emotional reactions to conflict events (Chen & Ayoko, 2012). Research has shown that individuals who lay blame on the "other" are likely to experience hostility (which includes anger, frustration and anxiety), while self-blame is likely to lead to self-conscious emotions, such as guilt, embarrassment, shame, etc (Bell & Song, 2005). Furthermore, when in conflict, individuals and groups frequently perceive that their goals are threatened, contributing to the conflict being an emotional experience (Jordan & Troth, 2004).

As suggested in the table above, conflict does not only generate emotions, but emotions may also instigate and/or fuel conflict. In the previous chapter, we noted that emotions are inextricably linked to our cognition. Therefore, emotions experienced during conflict also affect our thinking and behaviours and vice versa (Chen & Ayoko, 2012). For example, affective events theory explains how conflict events may influence an individual's positive or negative emotional states that are fundamental to attitudes and behaviours in organisations (Chen & Ayoko, 2012).

For an introduction to the study of emotions and a more detailed exploration of the question of how conflict affects emotions and vice versa, you may wish to read the following reading:

Extension:

Lindner, E. G. (2014). Emotion and Conflict. In P. T. Coleman, M. Deutsch & E. C. Marcus (Eds.), *The Handbook of Conflict Resolution: Theory and Practice*. John Wiley & Sons.

The emotions that people typically experience during conflict are not necessarily all negative. Mild conflict is thought to create positive emotions, including, for example, excitement and enthusiasm (Chen & Ayoko, 2012). Nevertheless, conflict is frequently associated with negative emotions, including anger, resentment, distrust, disappointment, anxiety, fear, and self-conscious emotions like shame and guilt (Chen & Ayoko, 2012; Nair, 2008; Rees et al., 2020). You may be able to identify other negative emotions when thinking about your own experience of conflict.

Whether the emotions that parties experience in times of conflict are negative or positive depends on several factors, including:

- the type of conflict, e.g., task conflict, relationship conflict, etc. Mild task conflict is thought to generate positive arousal, while relationship and process conflict are thought to predominantly lead to negative emotions such as anger and frustration (Chen & Ayoko, 2012)
- the intensity of the conflict (mild versus intense)
- the duration of the conflict (e.g., short-term versus intractable/ ongoing conflict)
- the relationship of the people in conflict (e.g., defined by the level of trust between people, which again depends on how people are assigning blame)
- how conflict is being managed.

Now that we have established that emotions are central to the experience of conflict, we will have a closer look at what emotions are, how we process them, and what their purpose is.

Defining Emotions

There is not one generally accepted theory or definition of emotion (Halperin et al., 2011). Different branches of psychology, including cognitive psychology, evolutionary psychology, social psychology, and neuroscience, as well as the field of conflict management have different views on emotions and thus all provide different definitions and focus on different functions of emotions in their definitions.

For example, evolutionary psychology focuses on the "survival and reproductive functions" of emotions and views them as "functional, rather than irrational, and predictable, rather than arbitrary" (Williams & Hinshaw, 2018). Emotions are further defined "as superordinate cognitive mechanisms that coordinate and guide information-processing programs (e.g., attention, perception, memory) and direct behaviour, overriding (or simultaneously activating) programs within the mind specific to the relevant problem at hand" (Williams & Hinshaw, 2018). From an evolutionary point of view, negative emotions linked to social confrontations, such as anxiety, anger and disgust evolved by facilitating the avoidance of similar dangers during our species' development (Luterbach, 2016).

In textbooks on neuroscience, emotions are frequently viewed as "responses to stimuli", which can be both positive and negative (Freberg, 2019). Freberg (2019), describes emotions as involving two major components:

1. physical component (like racing heartbeat and overt behaviour like screaming or crying)
2. conscious, subjective experience that we recognise as a feeling (e.g., feeling sad, happy)

Some definitions, provided for example in cognitive psychology textbooks, distinguish the physical component as 1) physiological responses (e.g. racing heartbeat) and 2) overt behaviours (facial expressions, gestures, specific actions like running away, crying, laughing, etc.) (Gluck et al., 2020).

Other definitions provided by other branches of psychology, in the below case, neuropsychology, distinguish further dimensions, defining an emotion as a discrete response to an external or internal stimulus that entails the three components listed above PLUS evaluation or appraisal (Lempert and Phelps, 2016).

Social psychology and conflict resolution literature are likely to also consider situational factors and may discuss emotions as:

- discrete, adaptive responses to the environment that contain both psychological and physiological components (Todorova & Bear, 2014, p. 541)
- subjective feeling states that the results of an individual's interpretation of a situation (Chen & Ayoko, 2012, p. 22)

Distinguishing Emotions from Affect and Stress

It is useful to distinguish emotions from several terms that are often used interchangeably but mean different things. We will distinguish some of these terms below.

Affect

One distinction that appears to be particularly important to make sense of past and current research and resulting theories of emotions is the distinction between affect and emotion (Clore & Ortony, 2008). Affect is the general sense of feeling that you experience throughout the day. Affect is less complex than an emotion and has two features:

1. valence (including positive and negative valence) and
2. arousal (ranging from low arousal to high arousal)

Figure 3.1.1 represents the two dimensions of affect graphically:
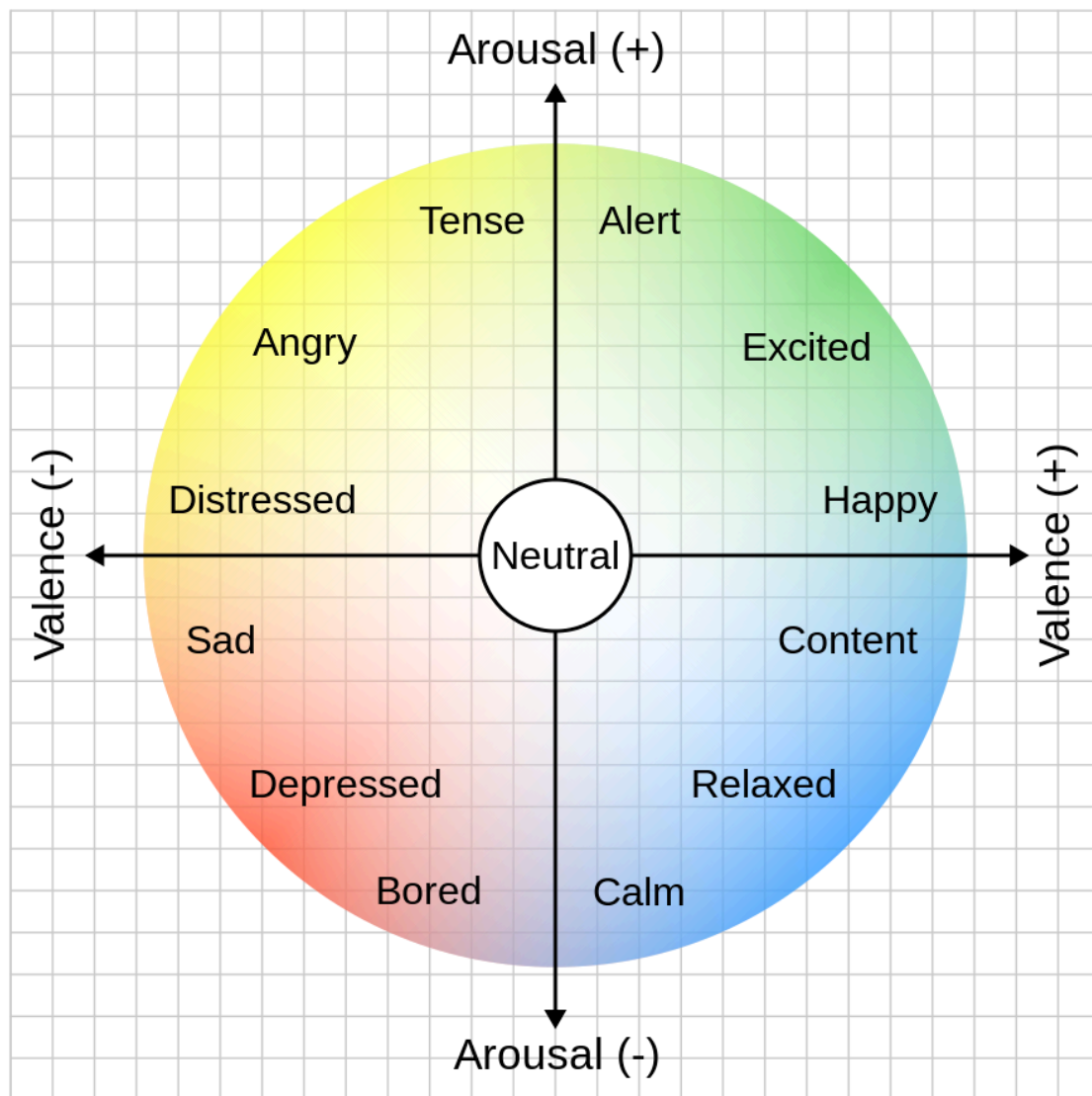
Figure 3.1.1. Circumplex model of emotion developed by James Russell. Image by mrAnmol used under CC BY-SA 4.0 licence

While the neuroscientist Lisa Feldman Barret (2017a), who we will cite several times during this chapter, challenges the idea of universality of emotions, she notes that affect with the two dimensions of valence and arousal seems innate and universal.

There are different "affective states" that a person can experience, including stress (explained in more detail below), mood, and affect dispositions – Lempert & Phelps (2016) distinguish transient emotional responses from stress.

Stress

The term "stress" can mean multiple things and be interpreted in multiple ways. For example, it may be defined as "an unpleasant and disruptive state that may follow the perception of danger and threat" (Freberg, 2019, p. 513).

Other definitions focus less on the context in which stress may be experienced, but highlight the physiological dimension of stress, such as the definition used by Lempert and Phelps (2016):

> Stress is the induction of a response that results in an increase in physiological arousal, glucocorticoid release, and ratings of negative affect. (p. 100)

In the context of emotions, both the causes of stress and the physiological side of it are important, which is why we will take a broad approach to stress, including that:

- It may be experienced by a discrete stimulus, which may include an event, person, object, situation, memory, especially those that a person may perceive as dangerous or threatening to their physical and psychological wellbeing.
- Stress includes a cascade of physiological and neurohormonal changes and the impact of these changes leads to a longer-lasting affective state (Lempert & Phelps, 2016).
- The experience of stress and the resulting bodily changes can range from mild to extreme, depending on everyone (e.g., their previous experiences with the same or similar stressor).
- Can be experienced quickly and for a short period of time (minutes to hours) as well as for an extended period (chronic stress) with implications for a person's health.

Mood

Many publications seem to use the terms affect and mood interchangeably. Lempert and Phelps (2016) describe mood as a specific affective state. Their definition of mood highlights the difference between mood and stress, noting that mood:

> ...may or may not be triggered by a stimulus, and is primarily characterized by subjective feelings. Unlike stress, moods do not have a well-defined neurohormonal or physiological substrate. Furthermore, while stress results in a negative affective state ... there is greater variation in the valence and nature of mood states. (p. 99)

3.2 THEORIES OF EMOTION

Neuroscience and psychology textbooks typically mention at least three theories of emotions that consider different types of relationships between the physical component and the conscious experience of it (Freberg, 2019; Gluck et al., 2020). While some of these theories have been largely criticized, especially by more recent findings in neuroscience (Feldman Barrett, 2017b), we will briefly outline these three theories here (some in more detail than others) to contextualise emotion research. We will acknowledge some of the criticism of these theories before we look in more detail at the theory of constructed emotions, which has majorly influenced this chapter and eBook overall.

James-Lange (from late 19th Century)

Figure 3.2.1. Stimulus by K. Perry used under CC BY 4.0 licence

This theory proposes that a stimulus evokes a particular bodily response (including physiological responses like increased heart rate and overt behaviours like clenching a fist and narrowing the eyes, scowling) and then our mind interprets these bodily responses, which again produces a conscious feeling of an emotion (e.g., anger). Related theories are called somatic theories of emotions (theories of emotion based on the central premise that discrete physiological responses to stimuli come first, and these determine or induce our emotions) (Gluck et al., 2020).

The James-Lang theory of emotion is a "bottom-up" (remember that we contrasted bottom-up and top-

down processing in the previous chapter type of theory and fits in with the "classical view". As we have previously mentioned in this eBook, the classical view of emotions holds that emotions are innate, and that our brain comprises emotion circuits that each cause a distinct set of changes in our body, determining a distinct emotion.

One key criticism of the James-Lang theory is, that there is not enough variation in our physiological arousal to create the variety of emotions that people tend to distinguish. Research supports this criticism, including research by Dutton & Aron (1974) on the Capilano Canyon bridge. This research found that male participants interpreted their physiological reactions when crossing this high bridge as sexual attraction to a female person conducting an alleged survey on the bridge.

Figure 3.2.2. Capilano Suspension Bridge by goobiebilly used under CC BY 2.0 licence

The James-Lang theory is supported by the Facial Feedback Hypothesis. This theory suggests that facial expressions affect how we feel, e.g., that we can increase the intensity of emotions by expressing it (e.g. that we will feel better when we smile), or that we can reduce the intensity of an emotion by suppressing the display of a negative emotion (e.g. that we will feel more capable of confronting a threatening situation by putting on "a brave face" instead of displaying fear on our face). Some research confirmed the Facial Feedback Hypothesis (see for example Gluck et al., 2020, p. 422).

It is easy to imagine that expressing an emotion might increase the emotion associated with the expression. For example, it would seem that performing the haka not only elicits an emotional response in rugby players but also raises their intensity of the emotion (Freberg, 2019). To get a sense of this, you might want to watch the below Haka performance [2:24]. Watch out for the intensity of the facial expressions!

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=155#oembed-1

Research by Ekman (1992) found that smile-inducing manipulations lead to research participants judging cartoons as funnier. However, this research has been challenged by "recent large scale replication attempt by 17 research teams" around the globe, in which only about half of the research teams reported any effect of facial manipulations. While the facial feedback hypothesis has been criticised because of the mixed evidence, it supports the idea that expressing an emotion is unlikely to reduce your feelings, but on the contrary, enhance them. This again has implications for concepts like "catharsis" and "venting", suggesting that expressing an emotion, e.g. when "having a vent", may in fact increase the feeling that the venter may have intended to reduce. Indeed, research regarding venting shows that venting does not help to "let off steam" as conventionally assumed, but, on the contrary, that it increases anger (Tanz & Mcclintock, 2017). Research with participants who were prompted to experience anger showed that those participants who were given an opportunity to "let off" their anger by hitting a punching bag experienced more anger and behaved more aggressively than those participants who just sat quietly after the initial experience of anger (Bushman, 2002, cited in Burger, 2019).

Cannon-Bard Theory (from 1927)
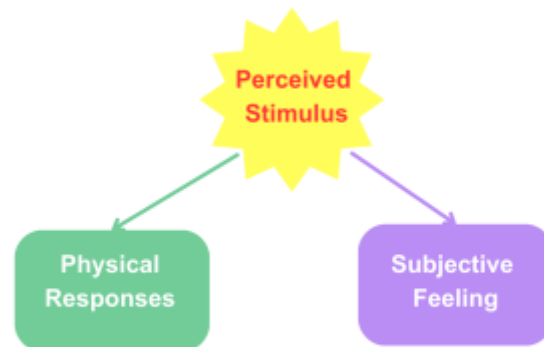
Figure 3.2.3. The Cannon Bard Theory of Emotion by K. Perry used under CC BY 4.0 licence

This theory proposes that conscious feeling of emotion and bodily responses (including physiological responses like increased heart rate and overt bodily responses such as a particular facial expression and body gestures) occur simultaneously but independent of each other (Gluck et al., 2020). This theory has been majorly challenged by research that demonstrated the link between the physiological response and the subjective feeling.

Two-Factor Theory
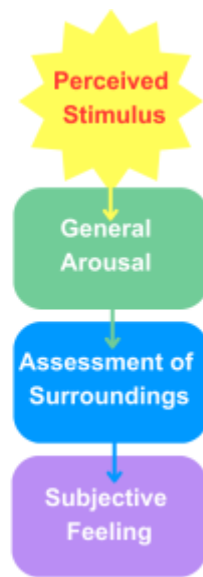
Figure 3.2.4. The Schachter-Singer Theory of Emotion by K. Perry used under CC BY 4.0 licence

This theory was established by Stanley Schachter and Jerome Singer and holds that emotional stimuli provoke bodily responses (unlike the James-Lang theory, these responses are viewed as general rather than emotion-specific arousal) and cognitive appraisal of the situation, which in combination lead to a consciously felt, distinct emotion (Gluck et al., 2020). The theory is based on and supported by a famous experiment where people were unknowingly injected with epinephrine, leading to physiological arousal like an increased heart rate (Kassin et al., 2020). This bodily stage was interpreted by participants differently, depending on the context. Some were paired with accomplices who pretended to be in a happy mood and acted joyful, so the research participants replicated the moods and behaviours of their accomplices. Others were paired with accomplices who acted angrily, and again, research participants adopted the mood and behaviours of these accomplices. The research findings suggest that our environment affects how we interpret otherwise ambiguous bodily sensations (like increased heart rate, which may be associated with many different emotions), which again influences which emotion we are feeling.

Contemporary Theories: The Theory of Constructed Emotions

Advances in neuroscience research have enabled a more nuanced investigation of how the brain processes emotions, which helps explain the origins and purpose of emotions. Please note though that there is still no clear consensus amongst scientists on the question of what emotions are and what their purpose is. Neuroscientist Lisa Barrett Feldman, who we have previously cited in this eBook has developed the "theory

of constructed emotions". This theory differs from the previously noted "classical view" of emotions. To briefly recap, the "classical view" assumes that emotions (or at least some emotions) are inherited and universal across cultures. The classical view has been majorly shaped and supported by the research by Paul Ekman and his team, including his studies on facial expressions.

As an introduction to the theory of constructed emotions, please watch Feldman Barrett's Ted Talk [18:28]:

> 🖳 *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=155#oembed-2*

As discussed by Feldman Barrett during her talk, the theory of constructed emotions holds that emotions:

- are not something that is built in from birth, but they are "built" through an individual's socialisation and experience with the people around them, especially during the early years of their life
- are not universal across all humans, but they are shaped by the culture in which we live and may thus differ depending on our cultural context
- don't have a distinct biological fingerprint but show great variation in terms of how they are being experienced and expressed
- cannot be localised to specific brain structures (even though they involve specialised brain areas)
- don't follow the same neuronal pathways each time an emotion is experienced (degeneracy).

In the theory of constructed emotions, emotions are viewed as *predictions* that our brain constructs to give meaning to bodily sensations in each situation. Our mind analyses our physiological sensations (the inside of our body) and the situation (outside of our body) and compares that with our past experiences and expectations (remember the top-down processing to which you were introduced in the previous chapter. Each person's current and past experiences, which they have gained from life experience, movies, books and learning from others around them, help to give meaning to present situations.

Please see the infographic below to capture the factors that contribute to our experience of emotions.

Figure 3.2.5. Emotions by K. Perry used under CC By 4.0 licence. Adapted from image by Sam Hardy.

Extension:

You may also view the scholarly article in which Feldman Barrett (2017b) discusses her theory:

Feldman Barrett, L. (2017b). The theory of constructed emotion: An active inference account of interoception and categorization. *Social Cognitive and Affective Neuroscience,* 1-23. https://doi.org/10.1093/scan/nsw154

Dr Sam Hardy developed a course on emotions and conflict, in which she considers Lisa Barrett Feldman's work as well as other theories to discuss what emotions are. To hear Sam's summary of emotion theories, including Feldman Barrett's theory of constructed emotions, please view the following video [17:44] (created by Sam Hardy and used with her permission):

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=155#oembed-3

To learn more about Lisa Feldman Barrett's work, you may also wish to watch the following cinematic lecture on how emotions are made [40:01]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=155#oembed-4

3.3 THE BRAIN AND BODY DURING THE EXPERIENCE OF EMOTIONS

We neither have "happy centers" nor "sadness centers" in the brain (Freberg, 2019, p. 505). Demasio and colleagues in 2000 found in their research that each emotion is characterized by "complex patterns of activity involving multiple regions of the brain" (cited in Freberg, 2019). However, they also suggested that each time the same emotion was experienced and expressed, the same regions would be activated in the same way. A bit like an emotional fingerprint for each emotion. Feldman Barrett, however, found in her research that even individual emotions (called "emotion categories") such as anger, fear and sadness do not have a "biological fingerprint", but that each instance of emotion can vary in terms of how they are processed by the brain (you have learned about this phenomenon as degeneracy).

We will now briefly revisit some (but not all) of the brain structures to which you were introduced in Chapter 1, focusing on those brain structures that have been found to play a significant role in the experience of many emotions.

An interactive H5P element has been excluded from this version of the text. You can view it online here:

https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=157#h5p-3

Note: Much of the information listed above is adapted from Freberg (2019), but also from other sources included in the references.

Now that we have brushed up on our knowledge about brain structures that play an important role in the experience of emotions, we will have a look at how these structures and systems may function during affective states and emotions, including during stress and fear. We will start with an exploration of what is commonly termed the "stress response". As an introduction to this topic, please watch the following video [11:22] by Sam Hardy (used with her permission):

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=157#oembed-1

We will look at some of the topics discussed by Sam in her video in more detail now.

Stressors

Stress, as we noted earlier in this chapter, may be defined as an unpleasant and disruptive state resulting from the perception of a so-called stressor (Freberg, 2019). The term stressor refers to situations or events that elicit a physiological stress response in a person, like the perception of danger and threat. Note that the perception of threat and danger is not limited to obvious and objectively dangerous events (like exposure to extreme heat, confrontation with a weapon, or seeing a crocodile jump out of the water in front of you), but may also be of psychological, emotional, or social nature, such as reliving a specific traumatic event, losing a loved one, or being ridiculed by your boss in front of your co-workers.

According to Tanz & McClintock (2017) "the two most potent psychological stressors are being negatively evaluated by others and not having a sense of control" (p. 37). The latter is of great importance in the context of conflict resolution processes like mediation and coaching, since the feeling of being in control can be supported through these processes.

Certain stressors are likely to evoke a much stronger reaction in some individuals than in others, depending on factors like gender, cultural background, personality, etc. For example, research suggests that men are more likely to respond to insults than women (O'Dea et al., 2017). Research also indicates that a strong belief in masculine honour may make it more likely for men to engage in fighting behaviour in response to insults that challenge masculine honour (e.g. being called a "pussy") (O'Dea et al., 2017).

Please now watch the following video [9:48] by Sam Hardy (used with her permission) in which she discusses stressors (also referred to as triggers or hooks) in more detail:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=157#oembed-2*

In the previous chapter, we learned that perception depends on subjective experiences. The perception of a stimulus as a stressor and the resulting experience of stress is also highly subjective and variable from person to person (Freberg, 2019). This also means that the perception of a stressor may be altered, such as that a person may be able to change the meaning of a stimulus from being a stressor to being a neutral or even positive stimulus (as also discussed by Lisa Feldman Barrett in her Ted Talk in Chapter 3.2). We will talk more about strategies to master our reactions to stressors further below as part of the topic on "emotion regulation".

Components of the Stress Response

The perception and identification of a certain stressor typically initiates a "predictable series of reactions" (Freberg, 2019, p. 514), including physical, cognitive, and behavioural responses. The physiological response involves the nervous system, hormones, and immune system, which induce increased heart rate, blood pressure and respiration. These changes support our cognitive system to become highly aroused and vigilant and prepare us for behaviours to cope with the stressor, including what is typically called "fight or flight" behaviour. We will have a look at the physical and cognitive changes first before we focus on various fight-or-flight behaviours in more detail.

When the sensory system detects a stressor, information is sent simultaneously to 1) the amygdala for rapid assessment of the stimulus as a potential threat (referred to as the direct pathway or "fast road") and 2) to higher cortical processing centres for a conscious appraisal of the situation (referred to as the indirect pathway or "high road").
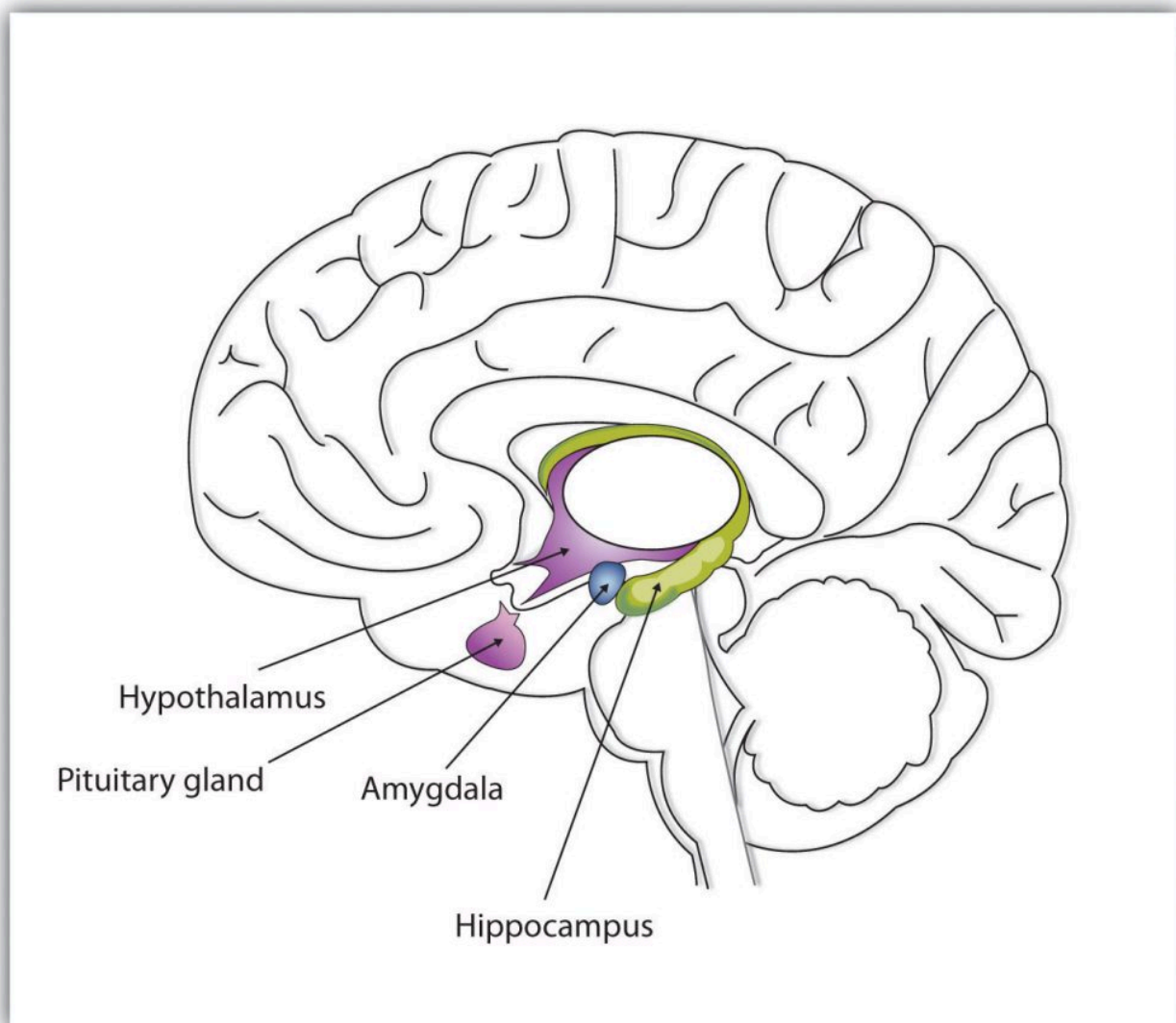
Figure 3.3.1. The limbic system and the amygdala is an important regulator of emotions by University of Minnesota, Principles of Social Psychology used under CC BY-NC-SA 4.0 licence

As shown in Figure 3.3.1, the amygdala can identify a stimulus as threatening before we have consciously appraised it. Patients who are blind because of damage to the occipital lobe – remember that this is the lobe that is responsible for visual processing – have been found to still show reactions in their amygdala when shown a potentially threatening stimulus even without being able to consciously, visually identify the stressor (Freberg, 2019). After the perception of a stressor, regardless of the road taken, two systems are typically activated to cope with the stressor.

The 1st system – this system is called the sympathetic adrenal-medulla, in short SAM, system – is very quick and involves the release of epinephrine (adrenaline) and norepinephrine (in under a minute) from the adrenal glands into the bloodstream. From there, the epinephrine and norepinephrine travel to the brain and other organs to produce immediate and short-term fight-or-flight responses (note that epinephrine released from the adrenal glands cannot cross the blood-brain barrier and thus produces effects on the brain indirectly) (Freberg, 2019). These responses include an increase of heart rate and breathing, constriction of blood vessels, alertness, and energy availability (adrenaline stimulates the release of stored glucose into the bloodstream) (Freberg, 2019). The norepinephrine released as part of this system also enhances memory formation (by being released into the amygdala and hippocampus) (Freberg, 2019). This first system starts going back to normal after about two to three minutes after detection of a stressor and recovery is typically completed within 20 minutes.

The 2nd system – this system is called the hypothalamic-pituitary-adrenal (HPA) axis – is slightly slower to be activated, but its effects last for longer. This system involves the release of cortisol. Cortisol is associated with increased blood pressure, heightened levels of alertness, as well as additional energy to enable dealing with a stressor. Cortisol rises during a stressor but may also already rise in anticipation of a stressor (e.g., before having to give an opening statement during a mediation). For a mild stressor, cortisol has been found to peak after about 20 minutes after a stressor is detected and remains in the blood for at least 2-3 hours after a stressor is gone (Freberg, 2019; Lempert & Phelps, 2016). This process may take much longer for emotionally traumatic events. The experience of ongoing stress without breaks for recovery bears the risk of chronically high levels of cortisol.

Table 3.3.1. Physiological changes in our body during stress response. Adapted from Gluck et al. (2020, p. 809)

Increases in...	Decreases in...
Blood pressure and heart rate	Digestion
Respiration	Immune system function
Blood glucose level	Sexual arousal
Pain suppression	Touch sensitivity
Perception and awareness	Peripheral vision
Blood flow to large muscles in legs and arms	Growth

While short-term stress can have beneficial effects (if experienced short-term and in manageable doses), including boosting our immune system or increasing our attention and alertness (e.g. during an exam or job interview), chronic stress, for example, as experienced during ongoing conflict, can weaken our immune system and thus have negative and long-lasting health consequences (Feldman Barrett, 2017a; Freberg, 2019; Kemeny & Shestyuk, 2008).

Cortisol impacts those brain areas that are responsible for our experience and perception of emotions like fear and anger. For example, cortisol appears to enhance the functioning of the amygdala, the hippocampus (involved in memory) and our frontal and pre-frontal cortex (involved in cognitive processes like reasoning and decision-making) (Lempert & Phelps, 2016). We will look at this impact in more detail in the next section. Cortisol has also been found to affect the mesolimbic dopamine system, thereby altering our processing of incentives and rewards (Lempert & Phelps, 2016; Tanz & Mcclintock, 2017). Since all these emotions and cognitive functions (fear, anger, memory, decision-making, etc.) are highly relevant for conflict management, and since the effects of cortisol can last for several hours, understanding the impact of cortisol is of particular interest for conflict practitioners when dealing with people in conflict.

Behavioural Component of Stress Response

Possible behaviours that people may display during the stress response include fight, flight, freeze, or tend and befriend, also referred to as fawn. Let's look at these behaviours in some more detail now. Most of the information below has been gathered from the web page Fight, flight and freeze responses of Trauma Recovery.

> *An interactive H5P element has been excluded from this version of the text. You can view it online here:*
> https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=157#h5p-4

The Stress Response and Behavioural Components in Action

Please watch the following videos [1:24 & 5:45] about Will Smith slapping Chris Rock during the Oscars 2022 and think about what the main stressor may have been for Will Smith, what sort of emotions may have been going on for both men in the situation (before and after the slap), which behaviours they were both displaying during the situation and afterwards and which factors may have impacted on their behaviours.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=157#oembed-3

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=157#oembed-4

The Physiological Side of Emotions More Generally

Before we conclude this session, we would like to highlight that physiological changes associated with emotions are not limited to the stress response. In fact, the stress response is associated predominantly with perceptions of danger and threat and the experience of fear. However, as we know the range of possible emotions is much wider than that.

Reflection Activity

One goal of this eBook is to develop your skills as a conflict practitioner and support you in understanding your own thoughts, feelings and behaviours associated with conflict better. Please spend about 10 minutes now considering which stimuli, including events, situations, objects, people, you have perceived/perceived as stressors eliciting your stress response. You might want to think about some specific conflict scenarios from your past.

3.4 EXPRESSION OF EMOTIONS

No matter if we want this or not, we are likely to communicate our emotions, including non-verbally and verbally. Emotions are conveyed in various ways, including through facial expression, body language, physiological changes in our body, tone of voice and word choice (Williams & Hinshaw 2018; Freberg, 2019; Holland & Taylor 2015). One topic of debate in the emotions literature focuses on the question of whether people tend to express their emotions in predictable ways, including across cultures, or whether variation is the norm.

The emotions listed below are frequently cited as the major "basic emotions, which are thought to be universal across cultures" (Ekman, 1980; 1992a; 1992b). The research by Ekman and colleagues found that the facial expressions associated with these basic emotions are perceived by people (across sex and culture) as having similar meanings:

Table 3.4.1. The basic emotions

Happy
Surprise
Disgust
Anger
Fear
Sadness
Contempt (sometimes included in Ekman's work, sometimes not)

Other scholars have also included the emotions of shame and embarrassment as being universally expressed and recognised.

As previously noted, neuroscience research and more contemporary theories of emotions have challenged the idea that emotions are universal and that they are expressed and can be recognised across cultures (Feldman Barrett, 2017b; Gendron et al., 2015). Contemporary approaches to explaining emotions frequently note that emotional expression and recognition may differ based on the context and culture in which an individual grows up. Focusing on facial expressions (which may be more accurately referred to as 'facial configurations'), research by Feldman Barrett (2020) found considerable variation in people's facial movements associated with their emotional states and that these movements frequently depended on the context. Factors that may affect variation in expression include, for example, biological and psychological conditions, personal preferences, situational factors, etc.

Reflection Activity

Please take a moment to think about how you believe you express the above listed emotions. You may find that you express some emotions differently, depending on the context and that there is also great variation in how you express an emotion as compared to your partner/ family members/ friends. You may even struggle to find words for how you believe you express the emotion. This exercise is meant to get you thinking about the variation in the expression of emotion, we are not seeking to develop a stereotypical expression of these emotions.

How do you express emotions?

	Facial Expression (e.g. smile)	Body Language (e.g. clenched fist)	Tone (e.g. voice gets high-pitched)	Words (e.g. insults)	Behaviours associated with the emotion (e.g. crying)	Other visible physiological changes in your body (e.g. flushing face)	Any felt but invisible changes in your body (e.g. knot in stomach)
Happy							
Surprise							
Disgust							
Anger							
Fear							
Sadness							
Contempt							
Embarrassment							
Shame							

You may wish to compare the descriptions of your own facial expressions (or others around you) with some stereotypical facial expressions displayed in these photos by actors. Do you believe your facial expression of these emotions matches these stereotypical expressions?
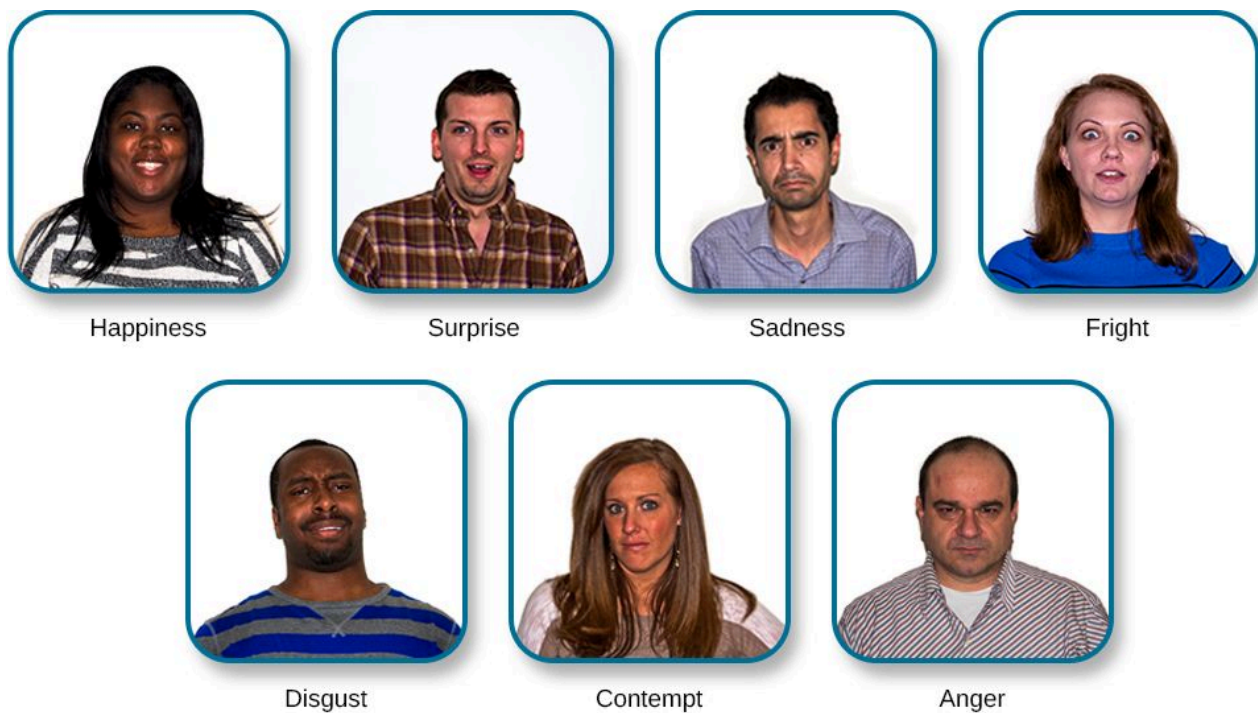
Figure 3.4.1. The seven universal facial expressions by Cory Zanker modified by Spielman, Jenkins & Lovett used under a CC BY 4.0 licence

If you haven't already watched the following video as part of topic 3.2, you may wish to watch the first 2 minutes of this video now for a critical look at the belief in the universality of facial expressions:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=160#oembed-2

For a summary of what you have just learned and for a more detailed discussion on the topic of the expression of emotions, including a critical review of the long-held beliefs in the universality of certain emotions, please watch Sam Hardy discuss the question of why and how we express emotions now (video created by Sam Hardy and used with her permission)[11:07]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=160#oembed-1

You may think about the question of how "accurately" we can possibly interpret others' emotions by

focusing on their facial expressions in a more critical way after completing this topic and chapter overall. After all, if variation is the norm, perhaps we cannot really learn to ever accurately "read/detect" emotions in other people's faces. You are likely to read about the topic of facial expressions in numerous readings that consider neuroscience and psychology research for conflict resolution (as well as in popular press), so it is always useful to have some background knowledge on these topics to read relevant publications with a critical eye.

As previously noted, emotions can be conveyed in other ways than facial expressions (Holland & Taylor, 2016), including verbal cues (e.g., tone of voice and word choice), overt behaviours (like crying), as well as visible or invisible physiological changes (e.g., sweating or flushing of the face, dry mouth).

Variations in the Experience and Expression of Emotions

Several factors may influence an individual's experience and/or "expression" of emotions, as well as a person's ability to accurately interpret others' emotions (Freberg, 2019). These factors include, but are not limited to:

- culture
- childhood experiences
- gender
- genetics
- health conditions like Schizophrenia, Autism spectrum disorder, and antisocial personality disorder (for example, bilateral amygdala damage reduces fear, anxiety, and aggression. People with ASD may have abnormal amygdala which compromises their ability to read fearful faces (and to make eye contact)
- individual choices and training (e.g., health professionals undergo training to suppress expressing disgust)
- personality
- situational factors like the presence of others, the individual's mood in the situation
- goals of the individual.

Reflection Activity

Can you think of any other factors that may influence an individual's expressions and experience of emotions, and their ability to notice emotional cues in others?

3.5 THE IMPACT OF EMOTIONS ON COGNITION

In this chapter, we want to explore how affect and more complex emotions may impact some of those cognitive processes that you considered in Chapter 2. Research supports that affect and emotions, especially those that involve high arousal as when a person feels threatened, influence a person's perception and cognitive functions such as problem-solving, decision-making, collaboration, motivation, and stress management (Lempert & Phelps, 2016; Rock, 2008).

Rock (2008) describes how under stress, "resources available for overall executive functions in the prefrontal cortex decrease – the higher the stress, the fewer resources are available for your PFC – which means fewer resources are available for brain functions involved in the working memory, which impacts linear, conscious processing', including decision-making" (p. 3). "Emotional flooding" is a term that is commonly used to describe the feeling of being overwhelmed with emotions and the perception of being unable to think "rationally" (Jones & Bodtker, 2001; Nair, 2008).

The idea that we can control our emotions with our "rational brain" is not supported by contemporary neuroscience research, as we noted in Chapter 2. In this chapter, we also want to be more specific in terms of cognitions, rather than cover all cognitive processes under the term "rational thinking". Therefore, we will not consider the impact of affect and emotions on specific cognitive processes. We will do this exploration with the help of Sam Hardy, who, as previously noted, has developed a comprehensive course on emotions and conflict, and who has made available some of her resources for this eBook.

Emotions, Attention and Perception

Emotions have a significant impact on our attention, and thereby also on our perception. Emotions appear to strongly influence which details of an event an individual notices and which ones are neglected (Kaplan et al., 2015). For an exploration of the impact of emotions on perception and attention (as previously noted, these are frequently grouped together since they are closely related), please watch the following video [15:48] by Sam Hardy (used with her permission):

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=164#oembed-1

In her video, Sam referred to another video that discusses the importance of audio effects on our attention and perception. If you want to watch that video, you can do that below [15:42]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=164#oembed-2

To learn more about the impact of emotions on attention, you may also wish to read Chapter 35 in the Handbook of emotions:

Reading

Hajcak, G., Jackson, F., Ferri, J., & Weinberg, A. (2016). Emotion and Attention. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (pp. 595-609). The Guilford Press.

Emotions and Memory

The effect of emotions on memory formation is complex. Research suggests that emotional arousal makes it more likely that an episodic memory is encoded for an event and that such memories are particularly vivid and detailed (Porter & Birt, 2001; Van Damme & Smets, 2014). Furthermore, the experience of emotions may increase the strength of memory encoding and the duration of memory storage (Kaplan et al., 2015; Ritchey et al., 2008). Worldwide, many people have harrowing and vivid memories of the terrorist attacks on September 11 and can remember where they were that day and how they felt.

Figure 3.5.1. UA flight 175 hits WTC south tower 9-1-1 by TheMachineStops (Robert J. Fisch) used under CC BY-SA 2.0 licence

During emotional arousal, the amygdala gets activated, which enhances memory consolidation (Ritchey et al., 2008; Roozendaal & McGaugh, 2011). Emotions are also accompanied by the release of stress hormones, including cortisol (Siever, 2008). Research has found a stabilising effect of cortisol on memory encoding, making specific memories particularly strong and long-lasting (Roozendaal & McGaugh, 2011; Sauerland et al., 2016).

Nevertheless, research has also shown that emotional content does not reliably predict the accuracy of memory (Houston et al., 2013; Laney & Loftus, 2008; Phelps & Sharot, 2008). On the contrary, it is well established that memories associated with emotional events are likely to be inaccurate or even entirely fabricated (Brainerd et al., 2008; Laney & Loftus, 2008). For example, research has found that the exposure of emotionally aroused individuals to misinformation can result in vivid and detailed memories of events that actually never occurred (Kaplan et al., 2015; Laney & Loftus, 2008).

Emotions appear to strongly influence which details of an event an individual notices and which ones

are neglected (Kaplan et al., 2015). Depending on their attention, people are likely to remember certain information very strongly but may fail to remember other aspects (Kaplan et al., 2015; Levine & Edelstein, 2009). Emotions have been found to strengthen especially memories for emotional aspects of an event, but not for "neutral details", referred to as the memory trade-off effect (Levine & Edelstein, 2009; Steinmetz & Kensinger, 2013).

Other research suggests that during emotional arousal, central information is remembered in detail at the expense of peripheral information, referred to as emotional memory narrowing or tunnel memory (Kaplan et al., 2012; Kaplan et al., 2015; Levine & Edelstein, 2009). However, which information is considered central and which is peripheral may depend on the individual and context. In one study, participants recalled in detail the looks of a perpetrator of a crime but not what the perpetrator did to the victim (Houston et al., 2013). In another study, participants paid particular attention to "features of a crime scene that threaten safety", such as the weapon used, but neglected the looks of the perpetrator (Kaplan et al., 2015).

The literature discusses several characteristics of emotions as important factors for memory formation, including the intensity of the emotional experience. Research has shown that intense emotions lead to heightened activation of the amygdala, thereby supporting certain particularly strong and durable memories (Canli et al., 2000). At the same time, the rising intensity of emotional arousal may also increasingly narrow an individual's attention (Kaplan et al., 2015). This extreme narrowing can result in particular poor memory for peripheral information, making individuals highly vulnerable to substantial memory errors when exposed to misinformation, which again may lead to the formation of false memory (Kaplan et al., 2015).

If you want to learn more about the impact of emotions on memory and what this might mean in the context of conflict resolution (optional), please watch the following video [14:35] by Sam Hardy (used with permission):

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=164#oembed-3

In her video, Sam referred to a YouTube video in which LeDoux explains the role of emotion in memory. You can watch this video below if you wish [2:02] (optional activity):

One or more interactive elements has been excluded from this version of the text. You can

view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=164#oembed-4

To learn more about the impact of emotions on memory, you may also wish to read Chapter 33 in the Handbook of emotions:

Reading

Kensinger, E. A. & Schacter, D. L. (2016). Memory and emotion. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (pp. 564-578). The Guilford Press.

An example of practical implication of emotions and memory research: Eyewitness statements in criminal justice

So, we have just learned that the human memory is susceptible to false memory (Gronlund & Benjamin, 2018). One area that is concerned with a better understanding of how false memory may be formed and what factors contribute to false memory is criminal justice. This is because false memories of witnesses can have significant implications for peace and justice in a society (Theunissen et al., 2017). Peace, Justice and Strong Institutions comprise one of the Sustainable Development Goals developed by the United Nations and are therefore considered as critically important for peace and prosperity for people across the world (United Nations, n.d.). Inaccurate eyewitness statements have contributed to wrongful convictions of a considerable number of suspects (Innocence Project, 2018; Jackson & Gross, 2014; Wise et al., 2014). For example, the Innocence Project reports that in the United States, nearly 70% of close to 400 wrongful convictions, which had later been overturned by post-conviction DNA evidence, were based on false eyewitness identifications (Innocence Project, 2018). To develop more just and peaceful societies, it is important to accurately assess the reliability of eyewitnesses and avoid fomenting false memories during criminal investigations. Both tasks require a better understanding of the memory processes behind false memory.

Further above we discussed that emotions may enhance or impair false memory, depending on several factors. Attention was highlighted as one important factor that may determine which elements of an emotional event are noticed and which ones are neglected. Besides, false memory may be impacted by the intensity and valence of emotions, as well as by the discrete moods of individuals and the number of witnessed events. High intensity and negative valence of material appear to have a particularly strong

effect on the formation of false memories. Therefore, witnesses who have experienced intense, stressful events, especially multiple events, may be particularly susceptible to false memory, including through misinformation. These findings may help to better determine eyewitness reliability and improve interview strategies to increase the accuracy of testimonies. Such improvements may prevent wrongful convictions of suspects.

Emotions and Language

Feldmann Barrett (2020) notes in her book "*Seven and a half lessons about the brain*" (see pp. 88-92) that:

- The power of words can affect the brain (this has been researched in the lab): when listening to words that describe movement, then there is increased activity in brain regions that are involved in movement. Many brain regions that process language also control the insides of the body, including major organs and systems that support the body budget.
- Words are tools for regulating human bodies
- Other people's words have a direct effect on an individual's brain activity and bodily system
- Words can create permanent stress

To learn more about the impact of emotions on language, please read Chapter 34 in the Handbook of emotions:

Readings

Lindquist, K. A., Gendron, M. & Satpute, A. (2016). Language and emotion. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (4th ed., pp. 579-594). The Guilford Press.

The following reading also discusses the meaning of words in the construction of emotions and development of emotion concepts (Chapter 32):

Wilson-Mendenhall, C. D. & Barsalou, L. W. (2016). A fundamental role for conceptual processing in emotion. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (4th ed., pp. 547-563). The Guilford Press.

Emotions and Problem-Solving

Research suggests that the perception of a threat decreases a person's ability to think creatively and to solve complex problems (Rock, 2008). In contrast, the perception of reward (instead of a threat) appears to increase creativity and the ability to tackle complex problems (remember Rock's SCARF model that we discussed in some detail in Chapter 1) (Rock, 2008). Furthermore, Rock (2008) notes that when a person feels threatened, e.g., by a supervisor or manager, then "increased overall activation in the brain during stress inhibits people from perceiving the more subtle signals required for solving non-linear problems." (p. 3).

To learn more about the impact of emotions on both problem-solving and decision-making, please now watch Sam Hardy's video [20:49] below (used with permission):

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=164#oembed-5

Emotions and Decision-Making

As you would have already learned in Sam Hardy's video above, affect and emotions can influence our decision-making in several ways (Lempert & Phelps, 2016). For example, if we are in a particular affective state, such as a certain mood or under stress at the time of choice, this affective state can influence how we process a decision, and can lead to differences in our decision-making (Lempert & Phelps, 2016). An example here is the study with judges in Israel, which found that judges were significantly more likely to deny parole to a prisoner if the hearing was just before lunchtime (Feldman Barrett, 2017b). It appears that the judges experienced their interoceptive sensations not as unpleasant hunger but as evidence for their decisions (Feldman Barrett, 2017b, p. 74-75).

Furthermore, the experience of stress leads to more automatic processing, e.g. it may lead people to switch from goal-directed action to habitual responding, meaning that a person's decision may no longer be based on the perceived value of the outcome of the decision (Lempert & Phelps, 2016). What does this mean? Those who display habitual behaviour will continue to try to pursue an outcome, even if the outcome is no longer valuable to them. This scenario happens quite frequently in mediation between two parties who don't seem able to let go of a specific outcome, even if the outcome does not seem to have any obvious value to them.

To learn more about the relationship between affect and economic decision-making, you may wish to read Chapter 5 in the Handbook of emotions:

Reading

Lempert, K. M., & Phelps, E. A. (2016). Affect in economic decision making. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (4th ed., pp. 98-112). The Guilford Press.

In this reading, the authors also discuss some strategies for changing emotions to change choices, which you may find of interest for your personal life.

In the following reading, you will learn more about the impact of affect and emotions on decision-making in the context of mediation. You may wish to undertake the reading now or wait until the end of the session (you will be prompted again then to engage with that reading):

Reading

Tanz, J. S., & Mcclintock, M. K. (2017). The physiologic stress response during mediation. *Ohio State Journal On Dispute Resolution 32*(1), 29-74.

Some of the points raised by the authors in the reading include:

- High levels of cortisol make it more likely that a stressed party overreacts to an offer made by another person, which will interfere with effective negotiations, e.g., during mediation.
- Highly stressed parties may be susceptible to "reactive devaluation", which means that the offer by someone who is perceived as a stressor is less valued than the same offer from a neutral.
- Selective attention: high cortisol may impair the ability to focus on a specific task (such as negotiating a certain issue). High cortisol may also affect an individual's ability to consider different viewpoints. High levels of cortisol may also make it harder to weigh alternatives and make decisions.

Extension:

If you haven't already done this, you could now deepen your understanding of this topic by watching Sam Hardy's video on how emotions impact reasoning, decision-making, and problem-solving (see video above). You may also wish to hear researcher Antonio Demasio talk about the role of emotions in decision-making [3:22]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=164#oembed-6

3.6 MASTERING EMOTIONS (EMOTION REGULATION)

Emotion Regulation

The term "emotion regulation" refers to a range of strategies that people may use to try to "master" their emotions both in the heat of the moment and more long-term. The expression "mastering emotions", as used by Feldman Barrett (2017a), appears to portray a more positive view than "emotion regulation", because the expression of "mastering" embraces the agency of those involved in emotional experiences. The idea of emotions needing to be regulated/controlled are based on the the triune brain model. This model proposes that emotions are localised to the limbic system, which is thought to be more ancient than our "highly developed" rational neo-cortex and which needs to be managed by the latter. As noted in Chapter 1.2, the localisation of emotions to one particular area, as well as the limbic system as such, have been proven wrong by neuroscience research. Nevertheless, emotion regulation is the main term used in relevant literature, so we will use this term throughout this topic.

Please watch the following video [6:09] by Sam Hardy (used with permission) to learn more about what emotion regulation means:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=319#oembed-1*

As noted in the video, emotion regulation can include:

- initiating an emotional experience (e.g., crying when feeling sad)
- inhibiting certain behaviours that may otherwise form part of an emotional experience (shouting at someone or punching someone)
- avoiding certain places and people where you are likely to experience emotions
- reducing duration of an emotional experience
- using selective attention to focus away from an emotional stimulus
- distraction: switching attention from a stimulus to internal thoughts
- cognitive reappraisal: changing the meaning of a stimulus (e.g., from negative to neutral, see e.g. research by Halperin et al. (2013)

- suppress the display of emotion to decrease the experience of an emotion
- response modulation – change how you respond/react/express emotion (Freberg, 2019; Nair, 2008)

How well an individual manages to regulate their emotions in a specific situation depends on several factors, including:

- how the individual construes the situation in which self-regulation is attempted (e.g., is it personally meaningful?)
- the expectations and beliefs that become activated (e.g., do they believe they can accurately predict and control events?)
- the feelings and emotions triggered and experienced (e.g., anxiety will undermine attempts at self-regulation).
- the goals and values engaged (e.g., how motivated are they to regulate?)
- the self-control skills of the person involved.

Another factor that has a major effect on our ability to regulate emotions, both in a situation and more broadly, is the state of our body. Feldman Barrett (2017a) explains that our emotions are based on how we predict the world around us. These predictions are again influenced by our "body budget". If our body budget is out of whack, for example, because of sleep deprivation, lack of exercise, an unhealthy diet, chronic stress or illness, then our predictions will take these body budget needs into account, which again may lead to prediction error in a given situation (Feldman Barrett, 2017b). For example, "overreacting" in a conflict situation by yelling at a person who may not have deserved this in hindsight, may have been caused by physical exhaustion, sleep deprivation or stress even before the person overreacting entered the conflict situation. Therefore, Feldman Barrett suggests keeping your body budget in balance (including eating healthily, getting enough sleep, exercising regularly, engaging in yoga and mindfulness practices) as one key strategy to master one's emotions.

Besides, Feldman Barrett has dedicated two chapters on what people can do to improve their "mastering emotions" skills. For example, she notes that "emotional granularity", a term that describes the ability to distinguish different emotions at a very nuanced level (e.g., rather than just saying that they are happy, people might be able to distinguish whether they feel blissful, ecstatic, content, blessed, etc. significantly contributes to emotion regulation. She further suggests that people can increase emotional granularity by:

- exposing yourself to different experiences (travelling, reading books, watching movies)
- unpacking and describing in detail the range of feelings associated with a stimulus
- inventing your own emotion concepts

Feldman Barrett also discusses how people can "change predictions to cultivate empathy", which is relevant to conflict management. She refers to the organisation Seeds of Peace, which engages young people from countries/cultures that are in serious conflict, like Palestinians and Israelis, and Indians and Pakistans, in

activities like sports and leadership training. Through these safe encounters with each other, these young people are able to form new experiences, which again may change their predictions in the future.

Emotion Regulation Strategies

Since we considered the physiological dimension of an emotional experience in some detail in topic 3.3, we now want to explore how we may be able to regulate our physiological responses when we identify and perceive an emotional stimulus. Please watch Sam Hardy's video [12:08] on "regulating the physiological side of emotions" (video used with permission):

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=319#oembed-2*

If you want to learn more about specific emotion regulation strategies beyond the physiological side, you may want to watch Sam Hardy's video [14:43] on emotion regulation strategies more generally (video used with permission):

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=319#oembed-3*

Mindfulness

Another strategy that is thought to help the mastering of our emotions and that has gained momentum in the last decade is mindfulness. Neuroscience research can help explore and investigate the neuronal effects of mindfulness to improve emotion-regulation, especially for individuals who tend to act aggressively and use violent behaviours. Several studies using positron-emission tomography (PET), (functional) magnetic resonance imaging (fMRI) and/or MRI of individuals who had participated in mindfulness-based practices identified increased functionality of structures involved in emotion regulation, including the ACC and PFC (Bremner et al., 2017; Gotink et al., 2016; Tang et al., 2010). Hölzel et al. (2007) found that particularly the rostral part of the ACC, and the medial PFC showed greater activation in individuals engaged in regular mindfulness activities like meditation. These two areas have been identified as particularly important for emotion regulation (Grecucci et al., 2015; Hölzel et al., 2011; Hölzel et al.,

2007). Some publications note that the level of experience in meditation influences which brain areas are engaged in emotion regulation (Grecucci et al., 2015; Hölzel et al., 2016).

Several studies also found increased connectivity between the PFC and the limbic system after mindfulness practice (Bremner et al., 2017; Gotink et al., 2016). An imbalance between these two systems has been found as a source of aggressive behaviour. A systematic review of studies using fMRI and MRI also found decreased functionality of the amygdala after individuals had engaged in mindfulness practices, which is thought to contribute to better emotion regulation (Gotink et al., 2016). These findings suggest that mindfulness practice may improve the functionality and connectivity of exactly those brain structures that tend to malfunction in aggressive and violent individuals, as has also been noted by Morley et al. (2019).

As a real-life example, research assessing aggression and violence levels in domestic violence perpetrators found a significant reduction in psychological and physical aggression after convicted perpetrators participated in a mindfulness-based program (Gillions et al., 2019; Nesset et al., 2020; Zarling et al., 2015).

To learn more about neuroscience, mindfulness, and emotions, please watch the following TedTalk [17:53]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=319#oembed-4

Supporting Others to Master their Emotions

Anyone involved in the management of conflict, e.g., a conflict practitioner or manager of a work team, should not only be interested in a better understanding of how to manage their own emotions but also of managing and/or supporting others to master their emotions. While there appears to be consensus amongst conflict practitioners and theorists that it is important to be aware of emotions in conflict resolution processes, there is less agreement on how exactly they should be "handled". Should they be openly acknowledged, embraced and 'tackled head-on' during the conflict resolution process (Williams & Hinshaw, 2018 citing Lieberman 2012)? Or should they be handled more subtly, e.g., by focusing on needs rather than emotions, since dealing with negative emotions directly may complicate the process and may make reaching agreements more difficult (see, for example, Fisher & Shapiro, 2005).

If and how we address emotions in a conflict resolution process may depend on the cultural context and cultural background of the parties involved. For example, Westerman and Wettinger (1997) note that Aboriginal peoples may not be used to verbally explore emotions. There are lots of other factors to consider, which we can unfortunately not address in this eBook. However, we will now look at how

knowledge about the "stress response" or "fight and flight response" as a specific psychological reaction associated with physical or psychological stress and/or danger may be applied to conflict resolution processes.

Supporting Parties to Master the Stress Response in Conflict/Conflict Resolution Processes

As noted earlier, stress may be experienced in response to obvious physical danger/threat, but may also follow the exposure to a psychological, emotional, or social experience. When two parties are in conflict and are interacting with each other, for example when participating in a mediation, a strong negative emotional reaction by one party might be perceived as a threat (or else) by the other party and might support the party to experience stress.

According to Tanz & McClintock (2017) "the two most potent psychological stressors are being negatively evaluated by others and not having a sense of control" (p. 29). The latter is of interest in the context of mediation and coaching, since the feeling of being in control can be supported through these processes. We have previously noted that perceptions are subjective and may be altered, which means that a person may be able to change the meaning of a stimulus from causing stress to being a neutral or even positive stimulus. This thought is important for conflict resolution processes, which may provide opportunities for parties to alter the meaning of stimuli (Tanz & Mcclintock, 2017).

To see how neuroscience and psychology knowledge and research can help us explore and rethink the mediation process and its impact on mediators and parties involved, please now read:

Reading

Tanz, J. S., & Mcclintock, M. K. (2017). The Physiologic Stress Response During Mediation. *Ohio State Journal On Dispute Resolution 32*(1), 29-74.

CHAPTER 4: PERSONALITY AND CONFLICT

This chapter will discuss people's personalities and consider the essence and focus of personality psychology. We will have a critical look at the tools that personality psychologists use to study and assess personalities and investigate various approaches that personality psychologists use to explain individual differences in personality, including grand theories as well as some more contemporary approaches. Each approach provides a different lens for looking at individual differences in personality and each of these lenses can help understand why people may experience conflict and how they may be supported to resolve/manage conflict. In topics 4 and 5 of this chapter, we will use selected approaches to consider in detail their value for conflict management. We will also apply some approaches to explain phenomena relating to conflict, such as stereotyping and discrimination.

Learning Outcomes

- describe the essence of personality psychology
- critically analyse the process and tools of personality assessment
- describe various approaches to personality
- consider selected approaches to personality for conflict management
- apply selected approaches to personality to analyse phenomena relevant to the experience of conflict.

Key Readings

Most of these readings are fairly short.

Nichols, A. (2020). Personality and conflict in: *Making conflict suck less: The basics.* Boise State University eCampus

To learn about the various approaches, please read:

Freud and the psychodynamic perspective in Mullin, G. (n.d.). *Introduction to psychology.* Bunker Hill College. https://library.achievingthedream.org/bhccintropsych/chapter/freud-and-the-psychodynamic-perspective/

Neo-Freudians: Adler, Erikson, Jung, and Horney in Mullin, G. (n.d.). *Introduction to psychology.* Bunker Hill College. https://library.achievingthedream.org/bhccintropsych/chapter/neo-freudians-adler-erikson-jung-and-horney/

Biological approaches in Mullin, G. (n.d.). *Introduction to psychology.* Bunker Hill College. https://library.achievingthedream.org/bhccintropsych/chapter/biological-approaches/

Learning approaches in Mullin, G. (n.d.). *Introduction to psychology.* Bunker Hill College. https://library.achievingthedream.org/bhccintropsych/chapter/learning-approaches/

Trait theorists in Mullin, G. (n.d.). *Introduction to psychology.* Bunker Hill College. https://library.achievingthedream.org/bhccintropsych/chapter/trait-theorists/

Cognitive approach: see Chapter 15 in Burger, G. (2019). *Personality.* Cengage

Humanistic approaches in Mullin, G. (n.d.). *Introduction to psychology.* Bunker Hill College. https://library.achievingthedream.org/bhccintropsych/chapter/humanistic-approaches/

Narrative Approach pp. 103-105 in Burger, G. (2019). *Personality.* Cengage

To learn about the application of the approaches to conflict management, please read:

Sandy, S., Boardman, S. K., & Deutsch, M. (2014). Personality and conflict. In P. T. Coleman, M. Deutsch, & E. C. Marcus (Eds.), *The handbook of conflict resolution: Theory and practice.* John Wiley & Sons, Incorporated.

4.1 INTRODUCING PERSONALITY PSYCHOLOGY

Imagine the following workplace conflict

Tracey and Sam are nurses in the emergency department of a large hospital. Their colleagues describe Tracey as bubbly, friendly, outgoing, and having lots of energy. She loves to spend her breaks with her colleagues in the staff room and socialises with many of them outside of work. She loves to have a banter with her colleagues and is known for standing her ground when work-related matters arise. Tracey prefers the day shifts when the ward is busy and buzzing. Sam, on the other hand, is described as quiet, calm, and reserved. In her breaks, she prefers to go outside and sit in the park reading a book. She is good friends with one of the nurses from the maternity ward but doesn't usually socialise with other colleagues. Sam prefers the night shift when it's quieter on the ward. Tracey and Sam do not get on particularly well when they are on duty together. They recently had a disagreement over the treatment of a patient. Tracey called Sam into the staff room to discuss the matter right away. Sam, however, grabbed her things and left work for the rest of the day. Tracey is upset because she believes that Sam does not want to deal with the matter. Sam, on the other hand, feels overwhelmed by the situation. She wants to resolve the matter but needs time to think about what happened first.

The scenario may sound familiar to you, perhaps not in the setting of an emergency department, but in any other work context. Reading the descriptions of Sam and Tracey, you may have noticed that both of them deal with work and conflict in very different ways. Personality psychology can help understand why people may behave differently, including in their daily lives and when it comes to handling conflict. Let's have a brief look at what personality psychology is about.

Personality psychology is the scientific study of the whole person (McAdams, 2009, p. 3). It "addresses the most general and the most fundamental questions in the field: What is human nature? What is a person? How do we understand persons?" (McAdams, 2009, p. 24). Distinguishing personality psychology from social psychology helps to further clarify the essence of personality psychology. While social psychology focuses on *human sociality* and may address a question like "Why are people more likely to engage in violent behaviour when in a group than when they are on their own?", personality psychology focuses

on *human individuality* and would rather address the question why group member A might act more violently than group member B in the same situation. Personality psychology would also address the question of why the two nurses Tracey and Sam differ in so many ways.

Or, another example, personality psychology explores a question like why Fernanda is more likely than Javier to eat a marshmallow. If you find this last question a little bit peculiar and trivial, please note that extensive research has been done on this question about marshmallow eating, producing far-reaching findings on personality. Please watch the following entertaining video [7:15] to learn more about this research:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=171#oembed-1*

There are many approaches or theories that explain individual differences among people. Some of these theories will tell us that people are different from each other because of influences that we are unconscious of while other theories will tell us that people are different from each other because of their environment. We will touch on some of these theories/approaches in this eBook and will consider how they relate to conflict. For example, we will explore the "trait approach" and how it relates to conflict behaviours. The trait approach views personality as a unique combination of traits that shape a person's thoughts, feelings, and behaviours (McAdams, 2009). People are rated along continuums that describe the degree to which an individual displays a specific trait (Burger, 2019). Have a look at the case scenario with Sam and Tracey above and try to place them on the continuum of extraversion-introversion (we will learn more about this trait later in this chapter).

Please watch the following video [15:16], and start thinking about how personality psychology may help understand conflict and how it may help you as a conflict practitioner to support parties in conflict.

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=171#oembed-2*

Then please read the following short reading on personality and conflict:

Reading

Nichols, A. (2020) Personality and conflict in *Making conflict suck less: The basics.* Boise State University eCampus

As you have just learned, personality psychology is distinct from other branches of psychology by focusing more on the person than on the situation. This is not to say though, that personality psychology neglects the situation. But rather than exploring how most people would act under certain circumstances, personality psychology tries to explain or predict how a specific type of person would most react in each situation.

Let's have a closer look at how people's personalities may be described and distinguished. Please watch the following video [11:08] to get some initial ideas:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=171#oembed-3*

Reading

You may also wish to read this short chapter about the history and essence of personality psychology.

In the above video, Hank Green introduced some of the major approaches that have been used to study personality. In this eBook, we will consider some more approaches (personality is complex and complicated and the more angles of personality we consider, the richer our understanding of personality can get). As an introduction to the approaches that we consider in this chapter, please watch the following summary provided by Dr Klaire Somoray, who teaches Personality Psychology and who has contributed to the development of this chapter. The video [19:10] was recorded during a workshop on Neuroscience, Psychology and Conflict Management and is shown here with Dr Somoray's permission.

An interactive H5P element has been excluded from this version of the text. You can view it online here:

https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=171#h5p-5

We will now look in more detail at the various approaches that Dr Somoray noted in the video, and that personality psychology uses to explain and predict personality. Six of them are introduced in the following reading:

Reading

Burger, J. M. (2019). *Personality* (10th ed.). Cengage Learning.

As an introduction, you may wish to read **pages 2–12** of Chapter 1 of the book.

Reflection Activity

To capture some key learnings after engaging with the above topic, you might now wish to engage in a 15-minute personal reflection on personality psychology and how it may relate to conflict management. You might want to consider the following prompt questions for your reflection:

- What has sparked your interest most after watching Brian Little's talk "Who are you really – The puzzle of personality"?
- After reading *Making conflict suck less: The basics,* what are your thoughts as to where Sam and Tracey from the above case scenario might rate in the various personality types noted in the reading?
- Can you personally relate more to how Sam or how Tracey behaves at work?
- Do you have colleagues who remind you of Sam or of Tracey and have you ever witnessed seemingly different personalities clash at work?

- What are some preliminary thoughts as to how knowledge from personality psychology may help the process of conflict management?

4.2 PERSONALITY TESTS

As you learned in the crash course video "Measuring Personality" in topic 4.1, the different approaches to personality use different measures to assess people's personalities. For an overview of the various types of tests that personality psychology typically uses, please read the following reading on personality assessment:

https://library.achievingthedream.org/bhccintropsych/chapter/personality-assessment/

Understanding their own behaviours, beliefs, values, attitudes, etc. is critically important for conflict practitioners. Therefore, this chapter provides some opportunities for you to learn both about a particular branch of psychology as well as about yourself. You will be introduced to some personality tests and may choose to complete some of them yourself. A collection of tests that personality psychologists typically use to assess people's personalities can be viewed online.

While the tests listed on the website linked above reflect typical assessments used in personality psychology studies, it is important to highlight that there are some issues associated with personality tests. These issues not only apply to the above-noted personality tests, but also relate to tests that are commonly used to assess people's conflict styles (avoiding, yielding, competing, collaborating and compromising), most notably the Thomas Kilmann Conflict Mode Questionnaire or revised versions of it. Seeing that self-report tests are also used in the field of conflict management (and you may have come across many more such assessments in your professional life, e.g. tests that assess different management styles) it is worth exploring some of the issues with these assessment methods here. We will focus on issues with personality tests, but they can be transferred to methods assessing concepts directly relevant to conflict management, such as the previously mentioned conflict styles.

Issues with Personality Tests

It is important that people conducting self-report tests understand that these tests do not actually measure the person's behaviour, but what people *think* how they typically behave. It is possible that people are biased when it comes to their own behaviour and that they view themselves in a better light than others would. Furthermore, test results may be skewed because of a phenomenon called the "social desirability bias", which refers to people presenting themselves in a favourable light, for example when undertaking a test in the presence of others, like during a workshop with other work colleagues.

Another major point of critique refers to the limitations of personality assessment when these are used to assess people from different cultures. These limitations may also apply to assessments relating to conflict or management style. Conflict situations frequently involve parties with different cultural backgrounds and

learning more about the applicability of tests to people from different cultures is important for anyone working with people in conflict. Firstly, it needs to be acknowledged that many conceptualisations of personality are based on Western ideologies and not all of them may apply to other cultures (De Raad et al., 2010; Gurven et al., 2013; Shweder & Bourne, 1984). Similarly, the conflict style model was developed in a Western context by American professors (who are both white and male) and may not be transferrable to other cultures.

Secondly, not only the theoretical concepts but also the assessment tools that are typically used to assess personality (and those that are typically used to assess conflict styles) around the world were developed in Western contexts. Those that are used to measure personality have been criticised for being limited in assessing personality in non-Western settings (Cheung & Fetvadjiev, 2016; Hill et al., 2010).

An Example: The Myers-Briggs Type Indicator

Perhaps you have previously heard about the Myers-Briggs Type Indicator (MBTI) test and have undertaken it in a workshop or just out of interest. According to Lisa Barrett Feldman (2020), the MBTI and various other personality tests "have no more scientific value than horoscopes" (p. 130).

You might want to watch this video [3:36] to learn about some issues specific to this popular personality assessment tool: *Why the Myers-Briggs test is totally meaningless*:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=173#oembed-1*

4.3 APPROACHES TO EXPLAINING PERSONALITY

In this chapter, we will have a closer look at eight distinct (but sometimes interrelated) approaches to personality. In the following sections, you will learn about each approach in a little more detail. While reading the overviews of each approach, you may feel that you can relate better to some of them than to others, depending on your professional background, previous education and personal experiences. We will deal with some of the approaches in more detail than with others, depending on their perceived relevance for conflict management. The approaches that we will consider in some more detail are the trait approach and the cognitive approach.

As you learn about the various approaches, you are encouraged to reflect on how each approach may be useful to help understand and support people in conflict (we will consider this question in more detail in the next topic (4.4), but you might have some original ideas yourself). You are encouraged to record your reflections at the end of this topic. We will start with an overview of the so-called "grand theories" of personality, which are included in the six approaches discussed by Burger (2019). Beyond those six approaches, we will also consider two more contemporary theories of personality: the narrative approach and positive psychology.

Psychoanalytic Approach

Within the psychoanalytic approach, there is an emphasis on the "unconscious" – it is proposed that a person's personality is shaped by hidden forces over which we have no control. This approach holds that we are motivated by our unconscious needs, wishes and fears. These unconscious factors, in turn, create internal conflict as they encounter social constraints causing us anxiety. These powerful forces exist within us and can be traced back to our primitive drives or instincts.

There are two schools of thought within the psychoanalytic approach – the Freudian theories (which focus more on these primitive drives and instincts) and the Neo-Freudian theories (which focus more on people's childhood experiences). We will briefly consider and distinguish both schools of thought here.

Reading

To start, please read the following brief overview of the Freudian psychoanalytic theories.

One key pillar of Freud's theories is the assumption that a person's "ego" is concerned with finding a balance between the aggressive and pleasure-seeking drives of the "id" and the moral control of the "superego".
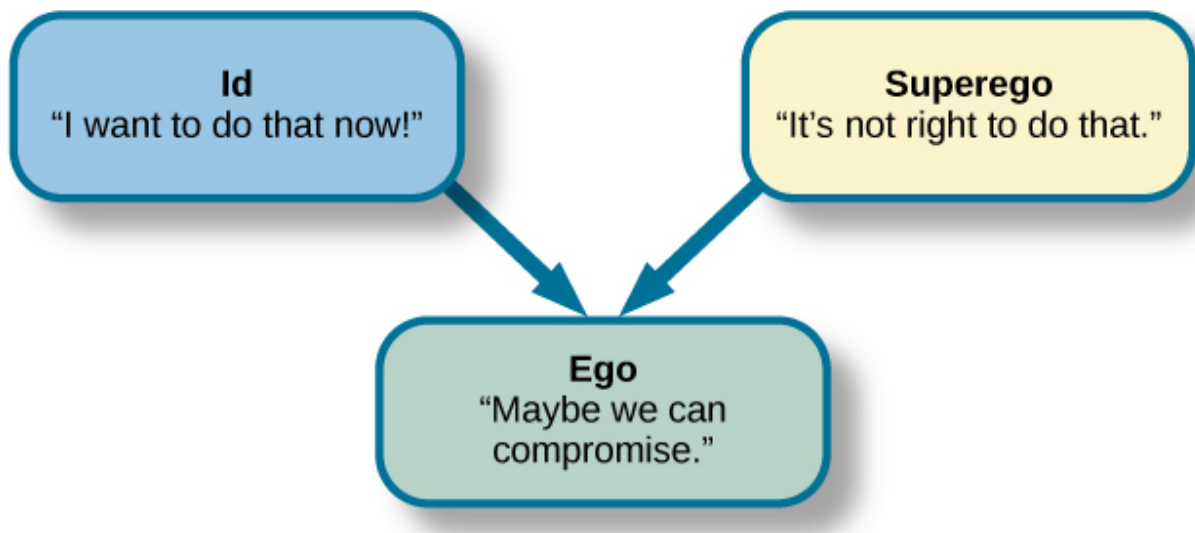
Figure 4.3.1. Freud's theory of personality by Greg Mullin used under CC BY 4.0 licence

Reading

Then please read: A brief overview of the neo-Freudian psychoanalytic theories.

Biological Approach

The biological approach draws upon theories and research suggesting inherited predispositions and physiological processes that can explain individual differences in personality. As you read through the biological approach, you may wish to go back to Chapter 1 (1.5) to refresh your memory about "Genetics".

Reading

Read the following brief overview of the biological approach.
You may also wish to broaden your understanding of the nature versus nature debate.

Behavioural/Social Learning Approach

In its extreme form, behaviourism limits personality to the study of observable behaviours. The behaviourism approach was the dominant school of thought during the 1930s and humans were seen as a "blank slate" and that all behaviours are learnt from the environment you live in. Social learning grew out of this purist approach and argued that personality is a product of a dynamic interaction between the environment and the person. That is, not only does the environment influence our behaviour, but also that behaviour then determines the kind of environment we find ourselves in, which can then influence behaviour, and so on.

This approach was majorly influenced by the work of Albert Bandura, who developed the so-called social-cognitive theory. As part of this theory, Bandura developed the "Reciprocal Determinism Model" (see diagram below) that illustrates the interrelationship between a person's behaviour, internal/ cognitive factors (such as thoughts, beliefs, values, expectations) and external/ situational factors (e.g., rewards and punishment).
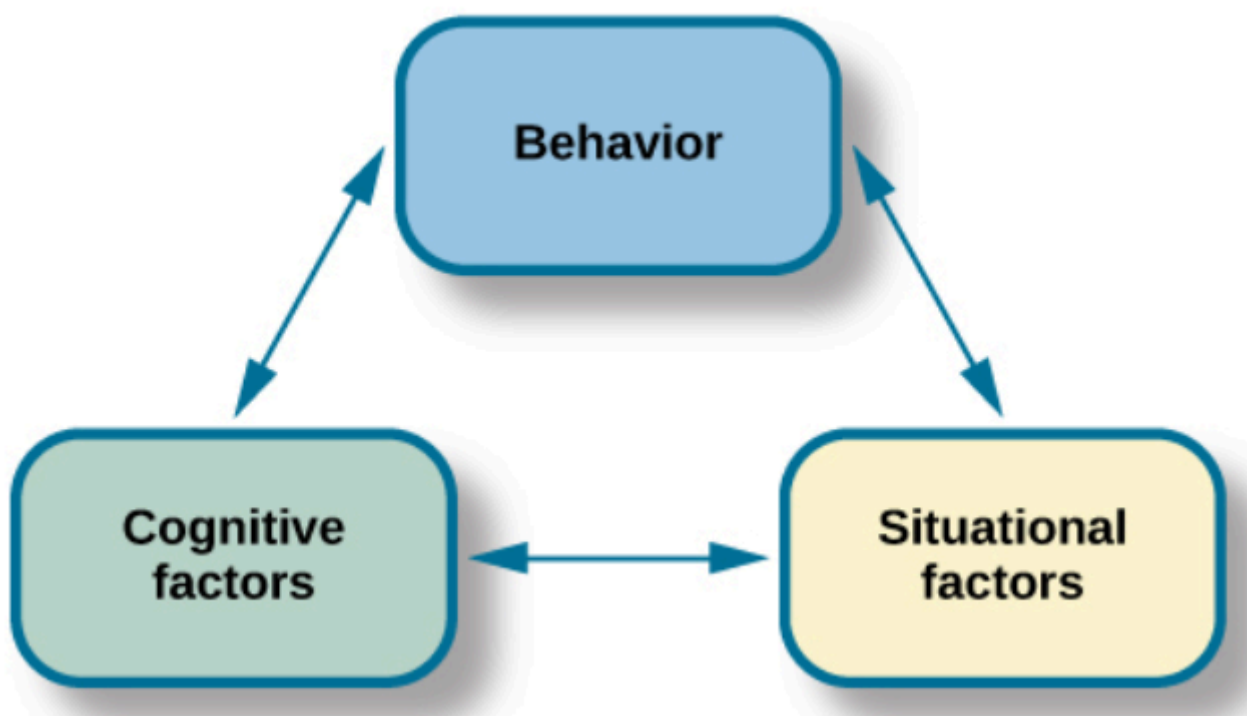
Figure 4.3.2. Freud's theory of personality by Greg Mullin used under CC BY 4.0 licence

Besides reciprocal determinism, one of Bandura's most important contributions to understanding human

behaviour and personality was the concept of observational learning. This concept proposes that we learn by observing, reading, or hearing about other people's actions. We will consider this concept in the next topic when we apply knowledge from personality psychology to conflict management.

Reading

Please read the overview of the behavioural/ social learning approach.

Trait Approach

The trait approach views personality as a unique combination of traits that shape a person's thoughts, feelings, and behaviours (McAdams, 2009). People are rated along continuums that describe the degree to which an individual displays a specific trait (Burger, 2019).

Reading

Read the overview of the trait approach.

To rate people on a trait continuum, trait researchers typically use self-report tests. As we look into some of the major traits that are being discussed as part of this approach to personality, you may wish to find out a little bit more about how you would fare on some of the tests that focus on personality traits.

Different trait theorists have developed different theories and measurements that they believe are most useful to describe people's overall personality (not looking at single traits but those traits that in combination make a person). Since we will consider the trait approach in some more detail in terms of its relevance for understanding people in conflict and conflict resolution, we will look at some of these theories and measures in some more detail now.

Cattell's 16PF Questionnaire

One well-known and popular assessment is the personality trait scale developed by Raymond Cattell (1905-1998) to which you were introduced in the above reading. This trait scale, referred to as the 16PF,

measures the 16 dimensions that Cattell proposed to be "core traits" of a person. Cattell assumed that each person contains all of these 16 traits to a certain degree. The 16 traits operate on a continuum with the scale determining where on the continuum the person falls. These traits include:

1. **Abstractedness:** Imaginative versus practical
2. **Apprehension:** Worried versus confident
3. **Dominance:** Forceful versus submissive
4. **Emotional stability:** Calm versus highly-strung
5. **Liveliness:** Spontaneous versus restrained
6. **Openness to change:** Flexible versus attached to the familiar
7. **Perfectionism:** Controlled versus undisciplined
8. **Privateness:** Discreet versus open
9. **Reasoning:** Abstract versus concrete
10. **Rule-consciousness:** Conforming versus non-conforming
11. **Self-reliance:** Self-sufficient versus dependent
12. **Sensitivity:** Tender-hearted versus tough-minded
13. **Social boldness:** Uninhibited versus shy
14. **Tension:** Inpatient versus relaxed
15. **Vigilance:** Suspicious versus trusting
16. **Warmth:** Outgoing versus reserved

You can view the 16PF here.

The Big 5 or Five Factor Model (FFM)

As you learned in the overview reading for this section, the most popular theory in personality psychology today is the Five Factor Model, which focuses on five key personality traits and is therefore also referred to as the Big 5 personality traits. These traits include:

1. Openness
2. Conscientiousness
3. Extroversion
4. Agreeableness
5. Neuroticism

The Big 5 traits are measured with the NEO Personality Inventory test or revised versions of it (Carlson et al., 2019; Costa & McCrae, 1985; 1992). You can view a version of the NEO PI test.

Figure 4.3.3. "Big 5 Factors of Personality" by MissLunaRose12 used under CC BY-SA 4.0 licence

The Dark Triad Traits

Some trait theorists have identified some dispositions that are thought to reflect the darker sides of the personality. The term "dark triad" is used to refer to a combination of these traits, including narcissism, Machiavellianism and psychopathy. Similar to the Big 5, these traits operate on a continuum whereby we are all thought to possess, to a certain degree, elements of these traits. The Dark Triad traits are commonly assessed with the Dirty Dozen Scale (Jonason & Webster, 2010). In 2011, Delroy Paulhus and Daniel Jones published the Short Dark Triad (SD3) as a single short test to measure all three traits at once. You can view the SD3 online.

Humanistic Approach

Humanistic psychology stems from European existential philosophy focusing on the meaning of human existence, the role of free will, and the uniqueness of each human being. According to humanistic theorists, humans are driven by an all-encompassing motivational force to actualise and fulfil one's full potential and sense of self. Humanistic theory provides an optimistic approach to understanding personality.

Human Needs Theories

One well-known humanistic theorist is Abraham Maslow who developed the hierarchy of needs theory. This theory proposes human beings share certain needs and that these needs must be met in a particular order. The highest need is the need for "self-actualization", a term that refers to the achievement of a person's fullest potential.

Maslow and his theory informed Burton's (1990) basic human needs theory, which is a theory frequently referred to in conflict management studies since this theory has been an important theory to help explain conflict.
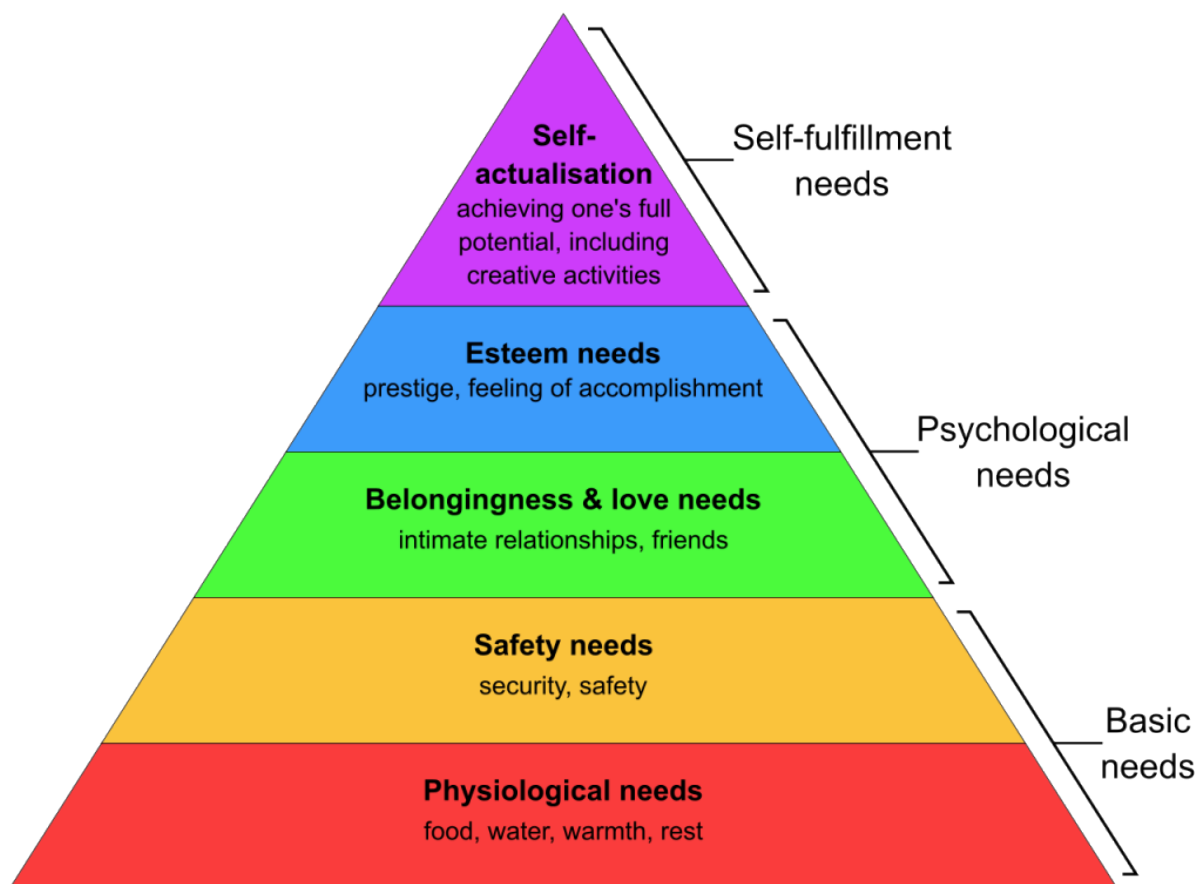
Figure 4.3.4. Maslow's Hierarchy of Needs by Androidmarsexpress is used under CC BY-SA 4.0 licence

Cognitive Approach

The cognitive approach focuses on the individual ways in which people process information, including how they notice factors in their environment and react to them (Burger, 2019). Thereby, the cognitive approach considers individual people in their social environments (McAdams, 2009).

Please read Chapter 15 in *Personality* (Burger, 2019). Already the first page of the chapter provides a practical example of the cognitive approach, which should give you a bit of an idea of what the cognitive approach focuses on.

You may also want to go back to Chapter 2, (the cognitive mind), to refresh your memory about the various cognitions that we discussed and that relate to how people notice and process information.

Personal Construct Theory

One theory used as part of this approach appears to have great relevance to conflict management, which is why we will briefly introduce it here. Kelly (1991; 2001) proposed that people use a unique set of personal constructs to interpret and predict their environment. An individual's construct system influences which characteristics of others a person notices when processing information about relevant events.

Kelly (1991; 2001) proposed that people's construct systems are dynamic and that people, based on ongoing experiences with their environment, continuously revise existing constructs, or form new constructs. However, some constructs are core or impermeable constructs and these are difficult to change (Kelly, 1991; 2001). We will consider this theory in some more detail as part of topics 4 and 5 when we look at how the various approaches may find application for explaining and managing/resolving conflict.

People's personal constructs can be investigated by using Kelly's (1991; 2001) Role Construct Repertory Test (Rep Test). This test is a common and accepted research tool to measure cognitive complexity and has been used to explore individual differences in phenomena like friendships (McAdams, 2009; Menasco & Curry, 1978). You can view more details about the rep test below:

https://science-education-research.com/research-methodology/research-techniques/construct-repertory-test/

https://science-education-research.com/research-methodology/research-techniques/the-repertory-grid-technique/

The Narrative Approach

While the narrative approach to conceptualising personality does not form part of the earlier mentioned

"grand theories" and is frequently not introduced as a distinct approach in personality psychology literature, we will consider it here as a more contemporary approach to personality. The narrative approach is of interest for conflict management because narratives are an important element when it comes to people's conflict experiences. Depending on how they are crafted, conflict narratives can either hinder or foster effective management of a conflict. Considering how narratives relate to personality can thus provide some interesting insights into the topic of conflict narratives.

Reading

As an introduction to personal narratives, please read pp. 103-105 in Burger (2019).

According to the narrative approach, individual differences in personality can be observed in the life stories people construct as they integrate the past, present, and future to provide their lives with a sense of unity, purpose, and meaning. According to the narrative approach, personality is expressed in the psychosocial patterns of a person's life story. The psychosocial patterns include the interaction of psychological factors (e.g., thoughts, feelings, moods, beliefs, values, traits) with social structures that are shaped by factors like ethnicity, sexual orientation, social roles and norms, etc.

We are complex human beings. The focus of the narrative approach is to provide a framework for our identities and to bring together the disparate aspects of the self to form a unified and coherent story. It is through our life stories that our narrative identities emerge and within this identity, we can find meaning, purpose, and direction in our lives.

To learn more about the narrative approach and how it views the "self as a story", you may wish to watch the following presentation by Dan Mc Adams [48:58], the "father of the narrative approach to personality":

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=175#oembed-1

To deepen your understanding of the narrative approach, you may also wish to read the following short reading:

Reading

McAdams, D. P. (2006). The role of narrative in personality psychology today. *Narrative Inquiry*, *16*(1), 11-18.

Positive Psychology

Positive psychology focuses on human potential and is sometimes viewed as a sub-branch of the humanistic approach. The founders of positive psychology, however, have distanced themselves from humanistic theorists, and we will consider positive psychology as a distinct contemporary approach to personality in this chapter.

The last 20 years of the positive psychology movement has seen a 'revolution of thought' in social science and the measurement of positive psychological assessment. Positive psychology is defined as a scientific approach and practical pursuit of understanding optimal human functioning (Lopez & Snyder, 2009). Positive psychological assessment is also referred to in the literature as psychometric measures. The field of positive psychology encompasses a range of subjective research including wellbeing, contentment, satisfaction, optimism, flow, happiness, and hope (Snyder, 2002). According to Seligman & Csikszentmihalyi (2000), through studying positive traits, individuals will learn to "...build the qualities that help individuals and communities, not just to endure and survive, but also to flourish." (p. 5).

So how does positive psychology explain differences in personality? Positive psychology assumes that positive psychological characteristics are linked to certain personality traits. As part of the trait approach, you were introduced to various approaches that conceptualise personality dimensions (traits), including the "Big 5". For example, Bhullar et al., (2020) refer to research that "has found that individuals with more outgoing and positive personalities generally experience and report greater positive psychological characteristics compared with individuals endorsing more negative personality dimensions." (p. 423). Such positive psychological characteristics include, for example, well-being, gratitude, self-compassion, grit, mindfulness, character strengths and social influence.

Bhullar et al., (2020) explain that the connections between a person's positive functioning and personality traits lie in "the Big Five trait pattern of high extraversion, high agreeableness, high conscientiousness, high openness, and low neuroticism" (p. 426). This constellation of the Big 5 and positive psychology characteristics, the authors conclude, may form the basis for a person's adaptive and growth functioning.

To learn more about the specific links between the Big 5 and positive psychology characteristics, you may wish to read:

Reading

Bhullar, N., Schutte, N.S. and Wall, H.J. (2020). Personality and positive psychology. In B. J. Carducci, C.S. Nave, J.S. Mio & R.E. Riggio (Eds), *The Wiley encyclopedia of personality and individual differences.* https://doi.org/10.1002/9781119547181.ch335

If you are interested in learning more now about positive psychology and its take on personality watch this Ted talk by Seligman himself [23:43]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=175#oembed-2

You may also wish to read the following related article in The Conversation.

Reflection Activity

Based on the information that you have obtained about the eight approaches so far, to which one can you relate best? If you don't really have an initial preference, you could think about which one you consider to be most helpful or useful to explain people's behaviours in conflict. Perhaps you can see any overlapping concepts between the approaches to personality and what you have learned about conflict management in this course so far.

4.4 APPLYING PERSONALITY PSYCHOLOGY TO CONFLICT ANALYSIS AND RESOLUTION

Conflict management practitioners and theorists have noted the effects that individual differences in personality may have on the formation and escalation of conflict, as well as on conflict resolution processes and their outcomes (Sandy et al., 2014). However, Sandy et al. (2014) note that research on personality and conflict "has been piecemeal, and few guidelines exist for practical application" (p. 400). The authors highlight the value of synthesising cross-disciplinary research and information, which also lies at the heart of this eBook overall. The authors note that for example in the context of negotiations, an increased understanding of "how personal characteristics predispose an individual to respond within the negotiation setting" would be useful for both the other negotiation parties and third parties assisting such negotiations. More specifically, understanding the personal characteristics of conflict parties could help:

1. "uncover and understand the psychological as well as substantive interests underlying conflict – particularly those interests that would normally remain unrecognized or unarticulated if personality is not considered;

2. respond so as to facilitate a constructive resolution process avoiding escalation and deadlock; and

3. generate a satisfying solution to meet the priority needs of both parties." (p. 400)

In the next sections, we will look at the work of other scholars who have examined various approaches to personality for conflict management. As mentioned above, one reading that we will consider in some detail is the chapter by Sandy et al. (2014) in *The handbook of conflict resolution: Theory and practice,* because the chapter discusses the implications of four approaches to personality for conflict practitioners:

Reading

Sandy, S., Boardman, S. K., & Deutsch, M. (2014). Personality and conflict. In P. T. Coleman, M. Deutsch, & E. C. Marcus (Eds.), *The handbook of conflict resolution: Theory and practice.* John Wiley & Sons.

The authors note that their review of the selected approaches (or theories) is limited to several ideas from each theory that the authors considered useful to understand personal reactions and behaviours in conflict situations. Below, you will be directed to specific pages of the chapter as we look at the various approaches in more detail.

The Psychoanalytical Approach and Conflict

As you learned in the previous topic, the psychoanalytic approach focuses on unconscious drives that impact our behaviour and places high importance on early childhood development. In their chapter, Sandy et al. (2014) discuss several important ideas based on psychodynamic theories that they thought to be particularly relevant to conflict management. The authors note, for example, the value of the psychoanalytic approaches to both understanding internal and interpersonal conflict, as well as the interplay between those two. The authors point out that the experience of interpersonal conflict can lead to intrapsychic conflict and anxiety. This again may trigger a person's self-defence mechanisms, which you were introduced to at the beginning of this chapter (and which you can read about again in the reading by Sandy et al. (2014). The authors describe how these defence mechanisms may play out in a conflict situation (see pp. 405-406), thereby contributing to the persistence or even escalation of the conflict. The psychoanalytic approach can help better understand anxiety and defensive behaviour (e.g. by considering past relationships, such as with primary attachment figures). This understanding may help address the underlying anxiety and threat experiences, which may again support a person to engage more effectively in conflict.

Sandy et al. (2014) also discuss various reasons why "otherwise intelligent and sane individuals may persist in behaviours that perpetuate a destructive conflict harmful to their rational interests" (p. 407) and ground these reasons in the psychoanalytic theory. They note, for example, that parties may perpetuate conflict to be able to:

- blame one's own inadequacies, difficulties, and problems on the other so that one can avoid confronting the necessity of changing oneself
- maintain and enjoy skills, attitudes, roles, resources, and investments that one has developed and built up during the course of one's history
- have a sense of excitement, purpose, coherence, and unity that is otherwise lacking in one's life
- obtain support and approval from interested third parties.

One way to improve parties' engagement in conflict may lie in helping them to address intrapersonal issues that may stem from each party's past experiences, and help them:

> achieve the self-esteem and self-image that would make them no longer need the destructive conflict process as a defence against their sense of personal inadequacy, their fear of taking on new and unfamiliar roles, their feeling of purposelessness and boredom, and their fears of rejection and attack if they act independently of others. (p. 408)

The authors note that beyond these ideas, "many more ideas could be expressed in a detailed and comprehensive exposition of psychodynamic viewpoints than we attempt to present in this chapter" (p. 408).

One question that you might want to consider at this point is whether you have any additional ideas as to how principles of the psychoanalytic approach may help understand people in conflict and support them in conflict resolution processes. We will look at some other approaches now before you are encouraged to record some specific ideas relating to the psychoanalytic approach in a reflective activity.

Reading

To learn more about how the psychoanalytic approach can inform conflict practitioners, please read pages 403-409 of Sandy et al. (2014).

The Humanistic Approach and Conflict

As a focal point of the humanistic approach, Sandy et al. (2014) discuss the value of needs theories for conflict management. They note that some of the theories, including Murray's need theory of personality, can help conflict practitioners better understand the diversity and expression of needs of parties in conflict, as well as the factors and circumstances that may give rise to these needs.

Sandy et al. (2014) also discuss how human needs theories, like Maslow's Hierarchy of needs and Burton's basic human needs theory, may inform conflict resolution processes. To learn more about the application of the needs theories to conflict management, please now read pp. 409-412.

Social Learning Approach and Conflict

As you learned in the last topic, Bandura's social-cognitive theory made some major contributions to the understanding of human behaviour and personality, including the concept of observational learning. According to this concept, people not only learn by way of classical or operational conditioning, but also by observing, reading, or hearing about other people's actions. For example, Bandura proposed that aggressive behaviour is not innate and encouraged by rewards, but learned through observation. Please watch the following video [5:18] to learn more about Bandura's research on aggression and observational learning:

> 🖥️ *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=177#oembed-1*

The concept of observational learning, as illustrated in the video with the example of aggressive behaviour, has great relevance to conflict management. This relevance is also discussed by Sandy, Boardman and Deutsch (2014). The authors note:

> Given that most people acquire their knowledge, attitudes, and skills in managing conflict through observational learning, some people have inadequate knowledge, inappropriate attitudes, and poor skills for resolving their conflicts constructively while others are better prepared to do so. It is very much a function of the models they have been exposed to in their families, school, communities, and the media. (p. 413)

The importance of observational learning is also discussed by Weitz (2011) citing research by Cummings, who studied the impact of everyday parental conflict on children. According to Weitz (2011), Cummings found that watching marital conflict did not have a negative impact on children's behaviour if they could witness the resolution of an argument and that it was even a good learning experience when children witnessed constructive conflict that was resolved with affection. The research by Cummings allegedly found, however, that marital conflict could have a negative impact on children's behaviour when arguments were stopped before the parents reached a resolution.

Seeing that so many people feel that they are not well equipped to handle conflict well (and this is what conflict practitioners would frequently observe when supporting parties to manage conflict), it appears that there is a need for more role models to model good and constructive conflict behaviour. Mediators, facilitators as well as managers and other professional leaders with good conflict management skills may take on that role in the workspace. The marital conflict example mentioned earlier also suggests that parents play a significant role in shaping their children's conflict behaviours. You may want to reflect on further opportunities where people may be able to positively (or negatively) influence others' conflict behaviour.

Trait Approach and Conflict

As you learned in the previous topic, the trait approach views personality as a unique combination of traits that shape a person's thoughts, feelings, and behaviours (McAdams, 2009). Out of the various approaches to personality, the trait approach appears to be the one that has been given the most attention in terms of its relevance for conflict management. several studies have been conducted over the last two decades to analyse the relationship between specific personality traits and conflict styles (Tehrani & Yamini, 2020).

Sandy et al. (2014) distinguish between single and multi-trait approaches. The single-trait approach to studying conflict process and outcome seeks to understand social behaviour in terms of relatively stable traits or dispositions residing within the individual; it is now considered to have limited usefulness. The trait approach typically focuses on one or more enduring predispositions of specific types: motivational tendencies (aggression, power, pride, fear), character traits (authoritarianism, Machiavellianism, locus of control, dogmatism), cognitive tendencies (cognitive simplicity versus complexity, open versus closed mind), values and ideologies, self-conceptions and bases of self-esteem, and learned habits and skills of coping (Sandy et al., 2014).

The authors discuss, for example, the relevance of the Big 5 (FFM) for parties' behaviour in interpersonal conflict. From conflict analysis, you may remember that people are likely to display some patterns in the ways that they behave in conflict, which has been referred to as conflict styles (Wilmot and Hocker, 2011; Pruitt & Carnevale, 1993). These styles include avoiding, accommodating/yielding, contending/dominating, compromising and collaborating. Before we consider potential relationships between personality traits and conflict styles, let's recap what we may have previously learned about them.

The 5 Conflict Styles:

The avoider is sometimes known as the **turtle** because it pulls its head in and hides in its shell when conflict arises

The accommodator is sometimes known as the **teddy bear**, who will do anything to be loved!

The **shark** represents the competitor, who wants to win, is aggressive and 'bites' people

The compromiser is like the **fox**, which gives in a little, but also stands its ground

The **owl** is the collaborator, who is wise and deals with conflict without avoiding the issues.

Conflict scholars propose various conditions that give rise to a preference for a particular strategy and support an analysis of an individual style in managing conflict:

1. Concern for self and/or other (Dual Concern Model by Rubin, Pruitt and Kim, 1994)
2. Culture
3. Perceived Feasibility
4. Blame Direction

Research undertaken by Sandy and Boardman (2006) indicates that participants who used cooperation/ compromise in personal conflict situations scored high on the Big 5 trait of agreeableness (particularly facets such as trust, altruism, and compliance). Conversely, they tended to score low on neuroticism (involving such facets as angry hostility, depression, self-consciousness, and vulnerability). These findings were also found in other research discussed in Sandy et al. (2014). As noted in the last topic, the Big 5 include neuroticism, extraversion, openness, conscientiousness and agreeableness.

To learn more about the relationship between personality traits and conflict styles/ approaches to conflict, you may wish you view some of the following articles:

Readings

Tehrani, H. D., & Yamini, S. (2020). Personality traits and conflict resolution styles: A meta-analysis. *Personality and Individual Differences*, *157*, 109794. https://doi.org/10.1016/j.paid.2019.109794

Bono, J. E., Boles, T. L., Judge, T. A. &Lauver, K. J. (2002). The role of personality in task and relationship conflict. *Journal of Personality*, *70*, 311–344. https://doi.org/10.1111/1467-6494.05007

Antonioni, D. (1998). Relationship between the Big-Five Personality Factors and conflict management. *International Journal of Conflict Management*, *9*(4), 336–355. https://psycnet.apa.org/doi/10.1108/eb022814

Moberg, P. J. (2001). Linking conflict strategy to the Five-Factor Model: Theoretical and empirical foundations. *International Journal of Conflict Management, 12*(1), 47–68. https://doi.org/10.1108/eb022849

Park, H., & Antonioni, D. (2007). Personality, reciprocity, and strength of conflict resolution strategy. *Journal of Research in Personality*, 2007, *41*, 110–125. https://psycnet.apa.org/doi/10.1016/j.jrp.2006.03.003

Ahmed, I., Nawaz, M. M., Shaukat, M. Z. & Usman, A. (2010). Personality does affect conflict handling style: Study of future managers. *International Journal of Trade, Economics and Finance, 1*(3) October, 2010-023X. http://www.ijtef.com/papers/48-F474.pdf

Extraversion and Introversion

Besides the above-noted publications and studies, which all look at correlations between conflict style and certain personality traits, we can also use the trait approach to analyse the origins or factors that contribute to conflict. Remember the conflict scenario with the nurses Sam and Trace described at the beginning of chapter 5.1? You may remember that both of them may have rated on opposite ends on the continuum of extraversion. To learn about some challenges that introverted people may face when dealing with fairly extroverted people, please watch the following Ted Talk by Susan Cain [19:04], the author of the book "Quiet".

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=177#oembed-2*

Apart from looking at extraversion and introversion, you may also want to consider how conflict may be generated or exacerbated by individual differences in:

- arousal level (see Burger, 2019, pp. 235-239 on this topic)
- optimism versus pessimism (see Burger, 2019, pp. 193-196 on this topic)

and how these traits may play out during stressful events like conflict. We will also consider the trait approach further below when we explore in more detail how two of the approaches to personality may help explain social phenomena typically associated with conflict, in this case: prejudice.

Cognitive Approach and Conflict

As you learned in the previous topic, the cognitive approach focuses on the individual ways in which people process information. You were introduced to Kelly's (2001; 1991) personal construct theory, which proposes that people use a unique set of personal constructs to interpret and predict their environment. An individual's construct system influences which characteristics of others a person notices when processing information about relevant events. Some people may rely predominantly on constructs that typically use bipolar characteristics (e.g. black and white) and that allow for little variation (McAdams, 2009). Research indicates that this reliance is true for people who frequently utilise constructs that focus on morals, values, and beliefs and that have a narrow "range of convenience". Reliance on these constructs may help explain several social cognition phenomena that typically contribute to conflict, including biases, cognitive heuristics and attribution errors.

Kelly (2001; 1991) also identified "constellatory constructs", which refer to the process of ascribing several characteristics to a person based on one variable. People who frequently rely on constellatory constructs would be susceptible to forming stereotypes, which also frequently characterise conflict situations. The cognitive approach also considers phenomena like cognitive complexity, integrative complexity, and the need for cognitive closure (NCC) (Bianco et al., 2021; Scott, 1962). NCC refers to a person's aversion towards uncertainty, confusion, and ambiguity and a desire to receive definite answers to questions (Kruglanski & Fishman, 2009; Kruglanski & Webster, 1996). We will have a more detailed discussion about how the cognitive approach and the above-mentioned cognitive phenomena can help explain social phenomena relating to conflict further below as part of topic 5.

Narrative Approach and Conflict

For a discussion of the relevance of the narrative approach for conflict management, please watch the following conversation between Judith Rafferty and personality psychologist Klaire Somoray [22:26].

You may also wish to listen to the following Podcast [26:32], in which Sarah Cobb explains the meaning of conflict narratives.

4.5 PERSONALITY PSYCHOLOGY IN ACTION

Applying Personality Psychology to Explain Prejudice

We will now look in some more detail at how personality can help explain and predict how people think, feel and behave in conflict situations. As an example, we will consider how two of the major approaches to personality would explain a phenomenon that frequently contributes to and/or is further fuelled by conflict situations: prejudice. Prejudice can be defined as "negative affective feelings towards certain people based on them being members of a certain group" (Kassin et al., 2020, p. 142). Prejudice is closely linked to stereotypes and discrimination, which also frequently contribute to conflict and conflict escalation.

Figure 4.5.1. "Us and Them" by Keira McPhee used under CC BY 2.0 licence

in the next chapter (5.5) you will learn more about why people in general may develop prejudice. In this

chapter, we will look at why certain kinds of people may be more likely to hold prejudice and stereotypes than others by using two approaches to personality to explain the origins of prejudice. This exercise is meant to give you an idea of how you may use findings from personality psychology research to investigate individual differences in other phenomena (including behaviours, feelings and thoughts) that relate to conflict.

As you may have guessed, personality psychologists assume that prejudice originates from people's personalities, rather than from situations, and focus on investigating individual differences in prejudice (Ekehammar & Akrami, 2007; Pruysers, 2020; Sibley & Duckitt, 2008). Different approaches to personality psychology provide different explanations for how personality may cause prejudice. We will start with the trait approach.

The Trait Approach and Prejudice

As you have previously learned, the trait approach views personality as a unique combination of traits that shape a person's thoughts, feelings, and behaviours (McAdams, 2009). Trait theorists assume that certain traits make general prejudicial attitudes more likely, which again may promote prejudice against specific groups of people (Carlson et al., 2019). Trait researchers presume that specific traits can predict prejudice, which is widely accepted and supported by research (Carlson et al., 2019; Ekehammar & Akrami, 2003, 2007; Sibley & Duckitt, 2008). Research has also shown that prejudice against one group of people makes it more likely that a person is also prejudiced against other groups of people, supporting the idea that prejudice originates to some extent from personality (Ekehammar & Akrami, 2007). For example, numerous studies have found that high levels of right-wing authoritarianism (RWO) and social-dominance orientation (SDO), which trait researchers regard as traits, predict general prejudice as well as specific prejudice against groups like refugees (Allport, 1954; Anderson & Ferguson, 2018; Cowling et al., 2019; Ekehammar & Akrami, 2007; Haslam & Holland, 2012; Sibley & Duckitt, 2008).

Research on the Big 5 indicates that lower levels of Agreeableness and Openness to Experience, and higher levels of Extroversion and Conscientiousness are associated with greater prejudicial attitudes (Carlson et al., 2019; Ekehammar & Akrami, 2003; Hodson & Dhont, 2015). Research has also found a positive correlation between the Dark Triad traits, including narcissism, psychopathy, Machiavellianism, and prejudice (Żemojtel-Piotrowska et al., 2020). While this research supports the idea that certain characteristics influence prejudice, some researchers have concluded that prejudice is a distinct personality trait in its own right (Allport, 1954; Ekehammar & Akrami, 2003).

We are concerned not only with the analysis of why conflict occurs and escalates but also how we can manage it. Let's see what we can learn from the above analysis of prejudice based on people's personality traits. As we noted earlier, studies support that personality generally influences prejudice. However, the trait approach neglects subjective experiences of people and situations as determinants of prejudice. Furthermore, the trait approach fails to inform interventions to reduce prejudicial attitudes and behaviours. If prejudice is viewed as determined by people's traits, which are thought to be innate and

relatively stable across situations and time, it appears unlikely that people's prejudicial attitudes can be changed.

This is a somewhat gloomy assumption, which would leave little hope that those conflicts that are fuelled by parties' prejudice can be managed by working with people's attitudes. Other approaches to personality place greater importance on people's agency and ability to change. So let's now consider the cognitive approach and see how it would explain prejudice.

The Cognitive Approach and Prejudice

As previously noted, the cognitive approach focuses on the individual ways in which people process information, including how they notice factors in their environment and react to them (Burger, 2019). The cognitive approach can help explain how individual differences in information processing can influence prejudicial attitudes.

As you have already learned above, Kelly (1991; 2001) proposed that people use a unique set of personal constructs to interpret and predict their environment. An individual's construct system influences which characteristics of refugees a person notices when processing information about relevant events. Research suggests that prejudice against refugees is strongly influenced by perceptions of threats, including perceived group differences in morals, values, and beliefs (Bianco et al., 2021; Cowling et al., 2019; Murašovs et al., 2016; Schweitzer et al., 2005). People who utilise constructs that focus on morals, values, and beliefs and that have a narrow "range of convenience" – as you learned above, such constructs typically use bipolar characteristics and allow for little variation (McAdams, 2009) – may be likely to evaluate international refugees as fundamentally different and threatening, which may increase prejudicial attitudes. If these constructs represent core or impermeable constructs, which are difficult to change, individual prejudice is likely to persist (Kelly, 1991; 2001).

Research has found that negative attitudes towards refugees are frequently shaped by polarising information distributed by mass media and populist politicians, and much less by personal encounters with refugees (Cowling et al., 2019; Murašovs et al., 2016). Processing such polarising and populist information is likely to further foster prejudice by increasing a person's focus on those constructs that evaluate refugees as different and threatening.

Research has identified negative stereotypes of outgroup members as a specific type of threat affecting prejudice (Schweitzer et al., 2005). Kelly's (1991; 2001) theory can help explain individual differences in stereotypical views. He identified "constellatory constructs", which refer to the process of ascribing several characteristics to a person based on one variable. People who frequently rely on constellatory constructs are susceptible to forming stereotypes.

As you have learned above, the cognitive approach also considers phenomena like cognitive complexity, integrative complexity, and the need for cognitive closure (NCC), and how these may influence

stereotypical views (Bianco et al., 2021; Scott, 1962). Just to refresh your memory, NCC refers to a person's aversion towards uncertainty, confusion, and ambiguity and a desire to receive definite answers to questions (Kruglanski & Fishman, 2009; Kruglanski & Webster, 1996). Research indicates that people with high NCC tend to rely on stereotypical views and schemas, which may again increase prejudicial attitudes (Bianco et al., 2021). Similarly, people with low cognitive and/or low integrative complexity are thought to hold a simpler, more undifferentiated view of their world, and may thus be likely to form stereotypical and prejudicial attitudes (Koenig & King, 1964).

Contrary to the trait approach, the cognitive approach allows for interventions that may reduce prejudicial attitudes that individuals may hold against certain groups of people. As we noted earlier, Kelly (1991; 2001) proposed that people's construct systems are dynamic, and that people, based on ongoing experiences with their environment, continuously revise existing constructs, or form new constructs. As previously noted, many people form negative attitudes against certain groups based on information provided by mass media and politicians (Cowling et al., 2019; Murašovs et al., 2016). New experiences, like direct positive encounters between a prejudiced individual (or group) with people from the other group, might enable the formation of new constructs that reflect decreased prejudicial attitudes. This assumption is supported by the contact hypothesis". For a practical example of how direct contact may change the cognition and feelings of conflict parties, please watch the following video [4:50] about the initiative "Seeds of Peace".

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CHAPTER 5: SOCIAL PERCEPTION AND SOCIAL INFLUENCE

In this chapter, we will focus on the "social self", how we can define and understand it and how it relates to the field of conflict analysis, resolution and management. We will also look in some detail at the question of how we perceive others around us, including their thoughts, feelings and behaviours (and the errors that we make during these perceptions).

You will then be introduced to the topics of attitudes and conformity, compliance and obedience and learn about some of the major social psychology studies that have deepened our understanding in these areas. Finally, you will learn about social groups, how they are formed and maintained, the purpose they serve, and why group membership may contribute to conflict. In this context, we will briefly consider the topics of stereotyping, prejudice, and discrimination. To conclude the chapter, we will apply the social identity theory to help explain a contemporary social conflict and how it may be addressed.

Learning Outcomes

- describe the essence of social psychology
- describe and explain phenomena and theories that try to explain why people think, feel and behave the way they do in social settings
- consider selected phenomena and theories for conflict management
- apply the social identity theory to explain a social conflict situation.

Key Readings

Chapters 2, 3, Chapter 4 pp. 141-150, Chapter 5 pp. 313-335 in:

Kassin, S., Fein, S., Markus, H. R., McBain, K. A., & Williams, L. (2020). *Social psychology* (2nd Australian and New Zealand edition. ed.). Cengage Learning.

5.1 INTRODUCING SOCIAL PSYCHOLOGY

Have you ever wondered why people act differently in a group compared to when they are on their own? Or why you would behave differently among your co-workers compared to when you are with some of your closest friends? Or why you may hold prejudice and stereotypes against certain groups and how these may affect your behaviour?

We will consider some of these questions and theories that try to explain these phenomena in this last chapter by turning our attention to social psychology. We will start the chapter by defining social psychology. Definitions and perceptions as to what social psychology encompasses vary substantially. For this chapter, we will work with the definition provided by Kassin et al. (2020):

> *Social psychology is the scientific study of how individuals think, feel, and behave in a social context.* (p. 4)

All three areas, *thinking, feeling* and *behaving* are critical to the emergence, escalation and management, and resolution of conflicts. For example, if you have undertaken studies in conflict management, you may have heard about the "ABC triangle", which is a model that was initially developed by Johan Galtung (1969) to help explain different sources of conflict. *A* stands for *attitudes*, which are defined as "positive or negative reactions to people, objects and ideas". Formation, persistence and changes in attitudes involve both emotions (feeling) and cognition (e.g., thinking). *B* stands for *behaviours* and *C* for *contradiction*, which can involve perceived and real contradictions. As the triangle suggests, understanding people's thinking, feelings and behaviour in conflict is central to the analysis and resolution of conflict, making social psychology extremely relevant to this eBook.

Social psychology has shown that there is a dynamic relationship between individuals and the people around them. Our social situations create a "social influence", which then impacts the way we behave. For example, social identity theory proposes that in many social situations, people's behaviours are motivated by their sense of group membership – their "social identities" – rather than by individual reasons (Ellmers & Haslam, 2012; Tajfel & Turner, 1979). This theory helps to analyse, for example, why people may comply with public health measures during the COVID-19 pandemic. We will revisit this example later in this chapter.

Please watch the following video now and think about how social psychology relates to understanding people in conflict (including what you have already learned in your degree so far and beyond what we mentioned above):

VIDEO: *What is Social Psychology? An Introduction* [12:41]:

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As a more detailed introduction to the topic, please watch the video below featuring social psychologist Dr Madelyn Pardon summarising the essence of social psychology

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https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=184#h5p-6

For some further insights into social psychology, please read:

Reading

Defining social psychology: History and principles in Stangor, C., Jhangiani R. & Tarty, H. (2022). *Principles of Social Psychology – 1st International H5p Edition.* https://opentextbc.ca/socialpsychology/chapter/defining-social-psychology-history-and-principles/

Reflection Activity

To capture some key learnings after engaging with the above topic, you may now wish to engage in a 15-minute personal reflection on social psychology and how it may relate to conflict management. You might want to consider the following prompt questions for your reflection:

- After reading "Defining Social Psychology: History and Principles", which social psychology topic interests you most?
- After watching the video "What is Social Psychology? An Introduction", think about which of

  - the theories mentioned in the video appear particularly relevant to the emergence and resolution of conflict and why.
  - the experiments discussed do you find most relevant to the study of conflict management and why?

- Consider a recent situation from your work or private life in which you focused on the characteristics of an individual as the cause for their behaviour. Could you reinterpret their behaviour using a situational explanation? How does the focus on individual versus situational characteristics relate to conflict/conflict resolution?

5.2 THE SOCIAL SELF

If you were asked to describe the essence of yourself in a few sentences, what would you say? You may agree that this question isn't easily answered because articulating one's sense of self is a complex endeavour. After completing this topic, you will hopefully feel a bit better equipped to articulate how you view the essence of yourself. Learning more about yourself is thought to help you understand your own thoughts, feelings and behaviours in conflict better. Furthermore, understanding how "the self" can be conceptualised more generally is thought to help you understand and support others in conflict. Finally, the process of understanding our "social self" is in many ways based on or linked to self-reflection activities. Self-reflection forms part of any conflict resolution training, and paying attention to concepts relating to self-reflection may support your own practice of self-reflection.

Please watch the following video to find out more about how we might approach answering the question 'Who am I'? [7:46]:

> 📼 *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=188#oembed-7*

As noted in this video, and as we established at the very beginning of this chapter, the question of "who am I" or "what is the self" is not easily answered. In this topic, we will address this question by focusing on the social construction of "self" as discussed in social psychology. Kassin et al. (2020) note that the social self can be viewed as an interplay of three interrelated components:

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> https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=188#h5p-7

The first one is the **self-concept**, which reflects the cognitive component of self, and tries to explain how people make sense of who they are and how they behave and feel. The second one is **self-esteem**, which reflects the affective component and looks at how people evaluate themselves and handle any threat to self. The third one is **self-presentation**, which reflects a person's behaviours in terms of how they present themselves to others. We will consider all three components in this topic.

The Cognitive Component: Self-Concept

To start this section, please complete the following activity:

<div>

Reflection Activity

For this activity:

- write down 20 statements that start with 'I am …' (please complete this task before you read on!).
- now count the number of statements that refer to traits and those that refer to social roles or group membership. In which of these categories do most of your statements fall?

The above activity is based on the Twenty Statements Test (TST), which was designed to measure a person's attitudes to self, the most accessible parts of a person's self-concept (Kuhn & McPartland, 1954).

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Research has found that there are certain characteristics that will be common when we use the TST or variations of it, including statements about:

- physical characteristics (e.g., I am blond, short, brown-eyed)
- personality traits (e.g., I am bubbly/shy)
- social roles and group membership (e.g., I am a mother, a student, Muslim) – these relate to social identity, which we will look at in more detail in Topic 5.5.
- existential statements (I am a human being).

While statements tend to fall into these categories, research has also found differences in statements based on culture, gender and situations. When filling out a personality or conflict style self-assessment as part of Chapter 4, you may have found that it was frequently difficult to answer the survey questions, because "it depends…". As a brief reminder, during personality or other self-assessment tests, test-takers are asked to respond to a suite of questions by rating themselves along a Likert scale or with true/false answers. When undertaking the conflict-style self-assessment test, you may have noted that you deal differently with conflict when you are at home compared to when you are at work. Similarly, you may have thought about specific situations when describing yourself in the TST above, highlighting the impact of the situation on our sense of self.

Please watch the following Ted Talk [14:10] to learn about how our own sense of self and what is really

important to us may change throughout our lifetime. While watching this video, you may want to think about what the key message of this talk may mean for the way that people approach conflict resolution.

📠 *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=188#oembed-1*

The diversity of factors that can impact our sense of self highlights the difficulties associated with trying to measure a concept like "the self". While the endeavour is complicated and complex, the question of "what is the self?" has received significant research attention in the history of social psychology.

Self-Concept and Related Phenomena

You may remember the idea of "concepts" from cognitive psychology discussed in Chapter 2. These were defined as categories of information, images, ideas, or memories, such as life experiences. The concept of self, the so-called "self-concept", is also viewed as a cognitive structure (Campbell, 1990), referring to "the sum of the cognitive beliefs that people have about themselves" (Kassin et al., 2020, p. 42). Because our self-concept is abstract and complex (as noted, it is the SUM of our beliefs), we use self-schemas to organise our sense of self. A self-schema may be defined as a specific belief that a person holds about themselves and that guides the processing of self-relevant information (Kassin et al., 2020, p. 42).

The self-concept is built on the ability to recognise oneself as an individual, e.g., when looking in the mirror, called "self-recognition". The "rouge test" has been widely used to study people's self-recognition and has found that the ability to recognise oneself in the mirror starts at the age of around 18-24 months (Lewis & Brooks-Gunn, 1979, cited in Kassin et al., 2020). To see how the test in action, please watch the following video [1:41]:

📠 *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=188#oembed-2*

Some people are clearer about who they are in their social setting on a day-to-day basis than others. This sense of knowing oneself is referred to as "self-concept clarity", which is defined as "the extent to which the contents or self-beliefs are clearly and confidently defined" (Campbell et al., 1990, p. 539).

Take a brief moment to reflect on your own level of self-concept clarity. How clearly can you define your self-beliefs?

Sources of Self-Concept

Social psychology research has helped explore how people make sense of themselves in their social settings and identified several sources that shape an individual's self-concept. Later in this chapter, we will look at the importance and impact of group membership on a person's identity, but here we will first consider some other sources, including introspection, self-perception, influences of other people and culture, which are all discussed as important sources of self-concept by Kassin et al. (2020).

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https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=188#h5p-8

Above, you were introduced to some of the main concepts and theories that social psychology uses to make sense of and explain people's self-concepts. You can read more about these concepts and theories in the following open access resource: The Cognitive Self: The Self-Concept. For even more detail, read: *Kassin et al., 2020, pp. 42-59*

The Affective Component: Self-Esteem

Have you ever paid attention to how you feel about yourself? That is, are you satisfied with how you act and look, and what you have achieved in your life, including your career, your personal relationships, etc.? Furthermore, have you ever thought about which of your characteristics give you the highest sense of meaning and which characteristics are less important to you personally? These feelings about yourself are captured in the concept of "self-esteem", which comprises the affective component of self and which we will briefly look at now. Kassin et al. (2020) define self-esteem as a "person's positive and negative

evaluations of self" (Kassin et al. 2020, p. 60). As a start to the topic, please watch the following video to learn a bit more about self-esteem [5:36]:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=188#oembed-3*

As you learned in the video, people tend to differ in their level of self-esteem, which may depend on the situation, culture, and personality. The psychologist E. Tory Higgins (1989) developed the so-called "self-discrepancy theory", which holds that our self-esteem is defined (and threatened) by the match (and mismatch) between our self-concept (what we think who and what we are) and our "ideal self" (what we think about how we would like to be).

Reflection Activity

Complete the following activity to explore your own level of match and mismatch (activity adapted from Kassin et al. 2020, p. 63):

1. Write down 10 characteristics of yourself that you believe describe best who you are
2. List another 10 characteristics that you believe describe the person that you ought to be – these can be thought of as characteristics that would allow you to fulfil your perceived duties, responsibilities and roles.
3. List another 10 characteristics that describe best the person you would like to be – you could imagine having a magic wand that allows you to internalise all those characteristics that you would love to have.

The three lists would reflect 1) your actual self (your self-concept), 2) your "ought" self and 3) your ideal self. Please now reflect on how similar or different these lists are and how some potential discrepancies may lead to conflict within yourself and perhaps with others around you.

Higgins (1989) proposes that a person's self-esteem depends on various factors, including:

- The level of discrepancy between the actual and ideal self
- The importance that the individual assigns to this discrepancy

- The level of attention that we pay to the discrepancy

The consideration of the level of attention that we pay to any discrepancies between actual and ideal self leads us to another topic of interest in the context of the affective component of self: self-awareness.

Self-Awareness

Self-awareness refers to a person's ability to see themselves clearly and objectively through reflection and introspection. As a start to this topic, you may want to watch the following video to learn about why care about self-awareness [18:09].

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=188#oembed-4

The concept of self-awareness is of particular interest to conflict management. For example, Fisher (2014) discusses self-awareness as an important characteristic of a conflict practitioner. He notes:

> A high level of self-awareness is essential in terms of how one is affected by the behaviors of others, such as criticism or attack, and how one's own behavior is usually perceived by and affects others. One needs the capacity to tolerate considerable ambiguity and respond constructively to defensiveness or resistance to one's efforts. Sensitivity to gender, cultural, and other differences needs to be coupled with a respect for and capacity to work well with the wide variety of individuals and people who may be encountered. (p. 247)

Research suggests that people generally don't engage extensively in self-reflection and self-awareness throughout their day-to-day lives (Csikszentmihalyi & Figurski, 1982). However, according to the self-awareness theory, under certain conditions, such as when we look in the mirror or when we perform in front of others, people focus their attention on themselves, enabling "self-evaluation" (Silvia & Duval, 2001). As part of this process, people may notice self-discrepancies, which again may lead them to either try to change their characteristics, behaviours and attitudes or avoid the process of self-evaluation and self-awareness (Silvia & Duval, 2001). These two ways of coping with awareness of self-discrepancies are important because research has found that increased focus on oneself can bring on a negative mood.

As previously noted, self-reflection and self-awareness are important aspects of a conflict practitioner, and

we may need to spend some time thinking about how we can safely engage in these activities without "overdoing" self-evaluation and the risks that may come with it.

Reading

To learn more about self-awareness and self-discrepancies, read *Kassin et al., 2020, pp. 62-65.*

Self-Consciousness

While the self-awareness theory noted that certain conditions encourage people to increase self-awareness, research has also found individual differences in a person's level of self-focus, also referred to as self-consciousness. Self-consciousness is closely linked to the process of self-reflection, which is essential for the work of an accomplished conflict practitioner. As an introduction to self-consciousness, please watch the following video [5:13]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=188#oembed-5

Social psychology distinguishes between private self-consciousness and public self-consciousness. Private self-consciousness can be defined as the tendency to introspect about our inner thoughts and feelings (Kassin et al. 2020, p. 65). Public self-consciousness relates to the tendency to focus on our outer public image (Kassin et al. 2020, p. 65).

If you want to learn about your own level of self-consciousness, you might want to complete the self-consciousness scale.

Self-Regulation and Self-Enhancement

We previously noted that people try to reduce self-discrepancies by either avoiding self-awareness or trying to change their behaviours, attitudes and characteristics. Social psychology considers various processes and phenomena that help people deal with self-discrepancies, including self-regulation, self-enhancement and

positive illusion. As part of this chapter, we don't have time to delve deeper into these topics, but if you are interested in learning more, you may wish to read: Kassin et al. 2020, pp. 67-75.

To conclude this section on self-esteem, we briefly want to mention the link between self-esteem and "social identity", which you will be introduced to in topic 5.5. What may be useful to know as early as now is that according to the social identity theory, people try to boost their self-esteem by associating with a group (which then becomes the "ingroup") and by boosting the value of that group through comparisons with other groups who are viewed and depicted in a less favourable light (the so-called "outgroups").

The Behavioural Component: Self-Presentation

Self-presentation may be defined as the process and the range of strategies by which we try to shape what others think of us and even what we think of ourselves (Kassin et al., 2020, p. 77). Self-presentation may be "conscious or unconscious, accurate or misleading, or intended for an external audience or for ourselves" (Kassin et al., 2020, p. 77).

People may engage in self-presentation for two distinct motives:

1. strategic self-presentation (self-presentation intended for external audiences) and
2. self-verification (self-presentation intended for ourselves).

We will look at both types in more detail now before we consider how self-presentation may contribute to or create conflict.

Strategic Self-Presentation and Self-Verification

Strategic self-presentation includes all those efforts that people may undertake deliberately "to shape others' impressions in specific ways to gain influence, power, sympathy or approval" (Kassin et al., 2020, p. 77).

As we can all imagine, new technologies and social media have opened new opportunities, but also new challenges for people to engage in self-presentation (Rui & Stefanone, 2013). Research has shown that our culture impacts our choice of strategy when it comes to self-presentation on social media. A cross-cultural study by Rui and Stefanone (2013) showed that Singaporean users shared significantly more photos than American users, who instead preferred to update their profiles with text-based wall posts.

Strategic self-presentation serves several goals, including to please and get along with others (referred to as "ingratiation") and to promote oneself. Research has found that these two goals underpin the self-presentation efforts of job applicants (Higgins & Judge, 2004). Here again, our culture is likely to impact how job applicants may prioritise ingratiation and self-promotion and which strategies they may choose to

achieve these goals (Sandal et al., 2014). While strategic self-presentation is aimed at shaping others' view of ourselves, including through deception and other ways that may show us in a better light than reality, self-verification relates to the desire to be viewed exactly as we are. Research found that people who engage in self-presentation for the purpose of self-verification do not wish to be seen in a more positive light and will adapt their behaviours accordingly (Swann & Hill, 1982).

Reflection Activity

You may wish to take a moment to reflect on the topic of self-presentation and self-monitoring in the context of conflict resolution. Do you think that conflict practitioners and parties participating in a conflict resolution process would engage in strategic self-presentation? If yes, why would they do so and what are some possible implications for conflict-resolution practitioners?

Self-Monitoring

We have previously discussed how several factors, including our goals, the situation and our culture may impact on self-presentation. Besides these factors, people may also show individual differences regarding how much attention they pay to how they are being perceived by others. This personal characteristic is termed self-monitoring and refers to the processes in which we try to "meaningfully channel and influence our world views, our behaviour in social situations, and the unfolding dynamics or our interactions with other individuals" (Snyder, 1979, p. 86).

We will now have a look at how high and low self-monitors compare (table based on Kassin et al., 2020, p. 79).

High level of self-monitoring	Low level of self-monitoring
Can choose from a range of "selves" depending on the situation and people they interact with	Exhibit what they view as their true and honest self
Engage frequently in strategic self-presentation	More concerned with self-verification than strategic self-presentation
Likely to adjust their behaviours when they move between different settings and interact with different people	Express themselves in a consistent manner, regardless of the situation and people they are dealing with

Where do you think you would score on the self-monitoring scale? To view the revised self-monitoring scale developed by Lennox and Wolfe (1984) please click here.

We engage in self-monitoring to meet the self-presentation requirements that we identify for each social situation. As with other personality traits, self-monitoring tendencies can be measured with self-monitoring scale measures. While there appears to be disagreement as to how self-monitoring may best be measured (Gangestad & Snyder, 2000; Lennox & Wolfe, 1984), research suggests that levels of self-monitoring may predict social behaviours (Gangestad & Snyder, 2000).

To learn about how and why self-presentation and self-monitoring may lead to conflict, please now read the following reading by Leone and Corte (1994):

Reading

Leone, C., & Corte, V. (1994). Concern for self-presentation and self-congruence: Self-monitoring, Machiavellianism, and social conflicts. *Social Behavior and Personality: An International Journal, 22*, 305-312. https://doi.org/10.2224/sbp.1994.22.3.305

As a final exercise in this topic, you may want to watch the following short movie to help you reflect on the topic of self-presentation and the potential for intra-personal conflict when it comes to self-presentation [5:19]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=188#oembed-6

5.3 PERCEIVING OTHERS

In the previous topic, we focused on how individuals think and feel about themselves, and how they present themselves to self and others. In this topic, we will focus our attention on how people perceive others around them, as well as how they perceive situations. Kassin et al. (2020) use the term "social perception" to refer to "the processes by which people come to understand one another" (p. 93). The way we perceive others and make sense of one another frequently gives rise to conflict. You may recall that definitions of conflict frequently refer to "perceived" clashes of goals or values, so perception of others, what they want and what is important to them (as well as our perception of what is important to us) is fundamental to understanding and managing conflict.

As part of this topic, we will focus on understanding what types of information we seek about others, the observations and attributions we make when meeting others, and the perception errors we may make that may lead us to judge others and situations incorrectly. Understanding these aspects will help you understand your own ways of information seeking, observations, attributions and perception errors better. This understanding will also add to your conflict management "toolbox" to help you analyse conflict and support people in managing their conflict.

Observations

When trying to make sense of the world around us through observation, we tend to focus on three sources: situations, people and behaviour. We will now look at these sources in more detail.

Our perceptions of others are impacted by the beliefs that we hold about certain types of situations. These beliefs are influenced by both our personal experience with similar situations, as well as by our culture.

Research suggests that we also frequently form judgments of others based on their physical appearance. For example, a study found that features like round faces, large eyes and full lips lead people to judge the other as kind-hearted (Hassin & Trope, 2000). Other research has found that we form snap judgments based on another person's physical appearance in the blink of an eye (Stewart et al., 2012).

When forming impressions of other, we not only pay attention to appearance, but also to others' behaviours. Our interpretation of others' feelings is heavily influenced by non-verbal behaviour, including facial expressions, body posture, tone of voice, etc. As you may remember from Chapter 3, much of the emotion research has focused on the human face and facial expressions to convey and anticipate others' emotions, even though it is frequently impossible to correctly interpret others' feelings by focusing on their face and facial expressions.

Besides facial expressions, other cues help us communicate and perceive others, including gaze and touch. When it comes to gaze, however, it is important to consider a person's cultural background when trying to interpret other's non-verbal cues. For example, gaze or eye contact is of particular importance in the Aboriginal culture (Adams et al., 2014; Westerman, 2021), and an acceptable amount of eye contact depends on factors like gender, age, and relationships between two persons (Sheldon, 2001; Trueman, 2013).

We have just learned that we base our impressions of others based on their physical appearance, their situation and people's behaviours. But what if the others' appearance and behaviours are not genuine and are meant to deceive us?

Extension:

Watch the following Ted Talk to learn about if and how you may be able to spot a liar [18:51]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=190#oembed-1

As the video suggested, it can be incredibly difficult to separate truth from a lie. In a study by Ekman and O'Sullivan (1991), even US Secret agents, who would have received specific training to detect liars, managed to judge others' false statements only at a rate of 64%.

Extension:

To find out more about how we may spot a liar by focusing on language, please watch the following video [5:42]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=190#oembed-2

To learn more about how we perceive others through observation and the phenomenon of deception, please now read:

Reading

Kassin et al., 2020, pp. 93-103.

Attribution

For effective interaction with others, we need to be able to judge other's intentions and feelings. The term "attribution" relates to how we infer a person's personality traits, attitudes and abilities from the person's statements and actions. Attributions also relate to the process of inferring the origins and/or reasons for people's behaviours. Several theories help explain how we typically make these inferences, called attribution theories. Knowing about how attributions are made is of great importance to the work of conflict management specialists because they frequently need to understand what attributions people have made to be able to make sense of a conflict situation. They may also be able to help people understand and rethink their attributions to manage/resolve conflict. We will have a look at some attribution theories below.

Personal and Situational Attributions

Attribution theory holds that we tend to explain the behaviours of others by attributing the cause of the behaviour to either external factors, that is, the situation (situational attribution), or internal characteristics of a person (personal attribution). This theory is particularly important for conflict management since the way we attribute negative behaviour and events impacts who or what we blame to be the cause of a conflict.

Correspondent Inference Theory

Correspondence inference theory proposes that "people infer from an action whether the act corresponds to an enduring personal trait of the actor" (Kassin et al., p. 104). For example, we may infer from a mother yelling at her child in the playground that she is a generally aggressive individual.
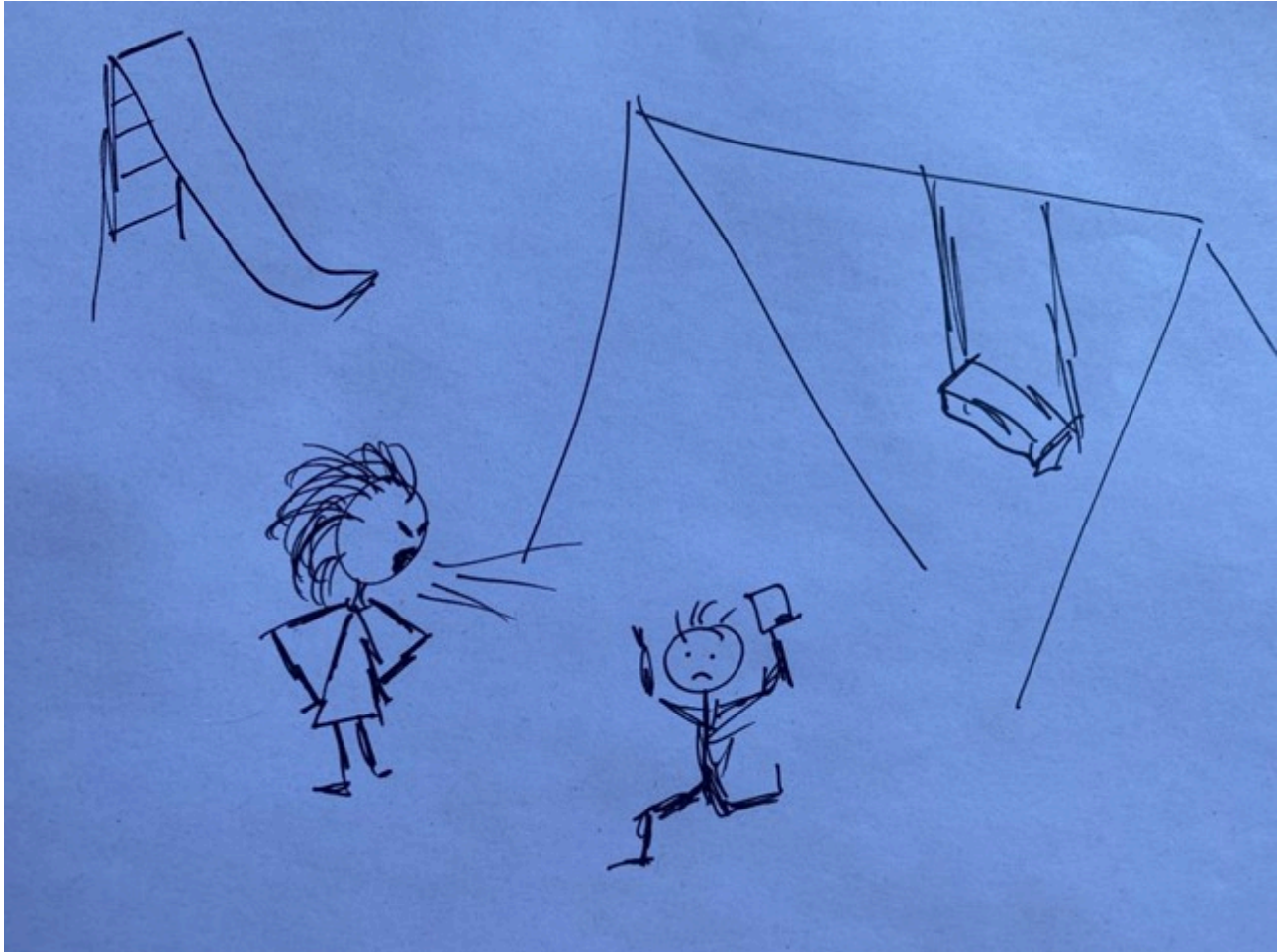
Figure 5.3.1. "Yelling mother" by J. Rafferty, used under a CC BY NC-ND licence

Research has shown that people make these inferences about a person's character based on the person's behaviours, even when situational factors have a high impact on the person's behaviour, a phenomenon referred to as the correspondence bias (Gawronski, 2004; Gilbert & Jones, 1986). Perhaps the mother mentioned above is not a generally aggressive individual, and she may have yelled at her son, because he has taken his sister's shovel and rake for the third time, or she was yelling because a noisy helicopter was just flying across them. According to the correspondence bias, we would still infer that this mother is an aggressive individual, even if we noticed the crying sister in the sand pit or the noisy helicopter in the sky.

Figure 5.3.2. Considering some situational factors for the yelling mother example. "Yelling mother II" by J. Rafferty, used under a CC BY NC-ND licence

Three factors are thought to help people make these inferences, including whether

- the other had a choice when acting
- the action was expected
- there are specific or multiple possible effects when performing the act.

Knowing about these factors is of interest to conflict management. For example, practitioners may support a conflict party to explore these factors when analysing the inferences that the party has made about other conflict parties. This approach may help to broaden the conflict context and help shift the focus from personal attribution to situational attribution (see fundamental attribution error further below).

Covariation principle

According to Kelley's (1967, cited in Kassin et al., 2020) covariation principle, people attribute behaviour to factors that are present when the behaviour occurs and are absent when the behaviour does not occur.

Attribution Biases and Heuristics

As we have learned in Chapter 2, our cognitions help us process information around us, including through our perception, attention, memory, language, problem-solving and decision-making. In the context of decision-making, we learned about several heuristics that we use to make decisions, such as the availability heuristic, and that are frequently prone to error. Similarly, we use error-prone heuristics when assessing the behaviours of others. Besides the cognitive heuristics and judgment errors to which you were introduced in Chapter 2 (and you might wish to revisit these now), the following effects have been found to impact our ability to correctly judge others' behaviours:

> *An interactive H5P element has been excluded from this version of the text. You can view it online here:*
> https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=190#h5p-9

The Fundamental Attribution Error and Conflict

The fundamental attribution error is central to understanding and supporting people in conflict since it is closely linked to how we lay blame and trust/ distrust others (Furlong, 2020). Above you were introduced to the situational and personal attributions. When we make a personal attribution in conflict, we lay full blame for negative events and behaviour on the other. In Furlong's (2020) "Model #4: Dynamics of Trust", Furlong considers three attributions instead of two, by further distinguishing personal attribution as either intentional or intrinsic.

Intentional attributions assume that a person intentionally acted in a particular way. For example, we may believe that our work colleague was deliberately late to a meeting with the intention to sabotage the discussion/ to punish us for having been late last time.

Intrinsic attribution attributes a person's behaviour to their intrinsic nature and characteristics, such as age, cultural background, gender, level of education, etc. Considering again our work colleague, we may explain their lateness to the meeting by focusing on their culture ("they are from Fiji and people in Fiji just don't care about time because they live on island time"). Other examples of intrinsic attributions are:

> "Helmut always gives really harsh feedback to his students because he is German and Germans are blunt and not very sensitive people".

"Lou always listens to loud music, because she is a teenager, and that's just what teenagers do".

As you may have guessed from reading about these examples, intrinsic attributions are frequently based on stereotypes. This type of attribution enables blame to be laid on both the person and the situation. After all, a person can't be blamed for being a teenager or being from a particular cultural background. In combination with the fact that we use situational factors to explain our own behaviour, intrinsic, and especially intentional attributions for the behaviours of others have a detrimental impact on the level of trust that we may feel towards another person (Furlong, 2020). Lack of trust again is likely to further contribute to the formation and escalation of conflict, while making conflict management and resolution a much more difficult endeavour.

For other examples of the fundamental attribution (and the self-serving bias) and how this may impact conflict please watch the following short video [6:36]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=190#oembed-3

As another example of the link between the fundamental attribution error and conflict, Lindner (2014) notes about inter-group conflict:

During a contentious conflict, the *fundamental attribution error*, for example, may lead each side to overestimate the other's hostility as well as one's own benign attitude. We tend to attribute others' hostile remarks to their personality dispositions ("they simply hate us" or "they are unworthy, lazy, and primitive people") rather than to transient circumstances ("we belittled them first"), while making opposite attributions for ourselves. (p. 292)

Because the fundamental attribution error is so common to people's conflict experiences, you may wish to reflect on a situation in which you may have made the fundamental attribution error.

Reflection Activity

Identify a situation that involved a negative event where you explained a person's behaviours with either intentionality of the other or their intrinsic nature. Who or what did you blame for the behaviours/events that followed?

Now please think about how the situation/external factors may have contributed to the person's behaviour and the negative event overall. Does this change your outlook on the person and how you lay blame?

Culture and Attribution

You may remember the Ted Talk by Lera Boroditsky, in which she discusses the impact of language on the way we assign blame for certain negative events (e.g., "he broke the vase" as opposed to "the vase was broken" – we watched this video in Chapter 2. If you haven't watched the video yet you may want to do that now and skip straight to the section in which Boroditsky discusses how languages across the globe might differ in terms of how people describe negative events and their impact on laying blame (this starts at 9:00):

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=190#oembed-4*

A study that investigated differences in attribution error between societies with collectivist and individualistic orientations found that with increasing age, American participants (predominantly an individualistic society) made more personal attributions, while Indian participants (considered a collectivist society) made more situational attributions (Miller, 1984). These findings suggest that the fundamental attribution error is more common in individualistic societies.

To learn more about attribution theories and biases, please now read:

Motivational Biases

Besides attribution biases, our perceptions and judgments of others are also influenced by our personal needs, wishes and preferences. These can be summarised under the term "motivational biases". These biases include, for example:

Wishful Seeing

This bias relates to our tendency to see what we want to see (Dunning & Balcetis, 2013). We briefly touched on this topic in Chapter 2.

Have a look at the below image. Do you see the letter B or the number 13?

Figure 5.3.3.13 or B? by K. Perry used under CC BY 4.0 licence

The image is adapted from research undertaken by Balcetis and Dunning (2006), who found that people noted seeing a B or 13 based on the perceived reward of seeing either the letter or the number. These

findings support the idea that people may sometimes see what they want to see (you may remember learning in Chapter 2 that sometimes, "believing is seeing").

Need for Self-Esteem

To boost their self-esteem, people tend to "take more credit for success than blame for failure" (Kassin, et. al, 2020, p. 114).

Belief in a Just World and Blaming the Victim

People tend to think that individuals get what they deserve, which helps people explain their own success. For example, they worked so hard for their well-deserved achievements, and others' misfortune, after all. Laziness is punished with failure in society, right? The belief in a just world and the tendency also facilitates the process of blaming victims for their misfortune.

To learn more about the belief in a just world, you might want to watch this video [6:32]:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=190#oembed-5*

To learn more about motivational biases, please now read:

Reading
Kassin et al., 2020, pp. 113-116.

Integration: From Dispositions to Impressions

Below, we will consider in some more detail how we integrate pieces of information about the person that lead us to make inferences about the person overall. This process is referred to as "impression formation" (Kassin et al., 2020, p. 116).

To learn more about how this process works, please watch the following short video [2:13]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=190#oembed-6

Information integration theory proposes that we form impressions based on

- a person's personal dispositions and the current state of the perceiver
- a weighted average of the target person's characteristics (Kassin et al., 2020, p. 116)

As with other elements of social perception, the process of impression formation is not straightforward but may be influenced by various elements and processes, including:

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=190#h5p-10

To learn more about these and other effects and characteristics that may influence the impressions that we form of others, please now read:

> ### Reading
>
> Kassin et al., 2020, pp. 116-122.

Confirmation Biases

Once we have formed an impression of someone or something we are unlikely to change these impressions. This is the case even when our impressions are based on incomplete information and new evidence is presented to us. You were introduced to the "confirmation bias" one reason for this phenomenon in Chapter 2. This bias refers to the tendency of people to look for information that confirms their prior hypothesis (including, but not limited to their opinions and attitudes), and ignore information that might refute it. Confirmation bias can have significant consequences, including in the context of medicine,

crime investigation and criminal justice (e.g., for investigators, judges and juries in criminal justice). For example, one study found that early assumptions about a suspect in a criminal investigation impacted how participants went on to collect evidence (O'Brien, 2009). One confirmation bias is particularly important to how conflict escalates and persists over time: the self-fulfilling prophecy (Pruitt & Kim, 2004).

A self-fulfilling prophecy occurs when a person's beliefs and attitudes about someone lead that person to behave in ways that confirm those expectations. This phenomenon works between two parties as follows:

- Party A holds certain beliefs and attitudes about Party B, even if these are not true
- Party A behaves towards Party B consistent with their original beliefs and attitudes
- This behaviour in turn prompts or reinforces Party B to behave in a way that is consistent with Party A's expectations

For example, if a parent believes that their child is lazy and consistently comments on this laziness, then the child may eventually behave accordingly. The self-fulfilling prophecy can also have positive impacts, such as that positive expectations about another person might encourage that person to improve performance, as demonstrated in research by Rosenthal and Jacobson (1968). Nevertheless, in conflict situations, self-fulfilling prophecies tend to reinforce negative conflict behaviours that contribute to the escalation of conflict.

To learn more about the self-fulfilling prophecy and other confirmation biases, please now read:

Reading

Kassin et al., 2020, pp. 122-128.

5.4 SOCIAL INFLUENCE PART 1: ATTITUDES, CONFORMITY, COMPLIANCE AND OBEDIENCE

We will now have a very brief look at several topics that are typically covered under the term "social influence". These topics include attitudes, as well as conformity, compliance and obedience.

Attitudes

To start with, you should watch the Crash Course video [10:48] on "social thinking", which discusses phenomena/theories including:

- attribution theory and fundamental attribution error
- persuasion – dual process theory
- foot in the door
- Stanford Prison to highlight situational influence versus personal attributes
- cognitive dissonance.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=192#oembed-3

We will now hear from a social psychologist about some aspects of attitudes in more detail. Please watch the following recording [36:45], in which the psychologist Dr Madelyn Pardon discusses some fundamentals of how attitudes are formed and which factors are important throughout this process. The video will also provide an introduction to the next section, in which we will look at conformity, compliance and obedience in a little more detail.

An interactive H5P element has been excluded from this version of the text. You can view it

online here:

https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=192#h5p-11

Reflection Activity

After watching the above video with Dr Pardon, please think about the following questions:

Consider one specific attitude that you held in a recent conflict or other situation and think about how your behaviours are/ were aligned with that attitude.

Perhaps somebody tried to change your attitude by attempting to persuade you. Try to describe the route of persuasion used and which one works usually better for you (central or peripheral route), the source (the person who tried to persuade you) and their characteristics, as well as the message and you as the receiver. Alternatively, you could consider yourself as the source who is trying to convince somebody else. How do the principles of source (e.g., credibility), the message (eg., length and order) and audience (level of need for cognition, resistance, etc.) that Madelyn discussed in the above video apply?

What can you learn from this topic and the above activity for your practice as a conflict practitioner?

To learn more about the topic of attitudes, you may choose to read:

Reading

Chapter 6 in Kassin et al., 2020, pp. 223-263.

Conformity, Compliance and Obedience

We will now consider conformity, compliance and obedience in some more detail. We will explore these topics predominantly by way of viewing videos that describe and discuss the most important research that social psychologists have undertaken in the last 100 years in this space, including Asch's conformity study and the Milgram experiment. Before we look at any of these experiments in more detail, however, you can get an overview of the topic of social influence more broadly by watching the following Crash Course video. Please watch up to minute 5:59. After that, Hank Green will discuss group processes, which we will look at in the next topic (5.5) and you will be prompted again to watch the rest of the video then.

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=192#oembed-1*

In the part of the video that you just watched, Hank Green describes Asch's Conformity Study and the Milgram experiment, noting that they have had ground-breaking impact from the time when they were conducted until today. So, let's have a look at those original experiments and some more recent versions of conformity and compliance experiments.

We will start with Asch's experiment, described in the following video [1:58]:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=192#oembed-4*

A more recent example of conformity can be viewed here [3:40]:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=192#oembed-2*

We will now have a look at the famous Milgram Experiment [14:16] – in fact, the experiment is referred to

as "one of the most famous experiments ever conducted" (Kassin et al., 2020, p. 293), and how Milgram came about to conducting the study.

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=192#oembed-5*

As was explained in the video, 65% of the research participants delivered the ultimate punishment to the confederate in the other room. This ultimate punishment amounted to 450 volts, which would have killed the other person. For a reenactment of the study in more recent times, please watch the following video [10:48].

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=192#oembed-6*

After watching the above videos about experiments on conformity and obedience, you may want to think about what the findings of these studies may mean for conflict and conflict resolution. To get some ideas, you may want to go back to the video in which Dr Madelyn Pardon and the author of this eBook briefly consider this question (at the end of the video).

To learn more about the topic of conformity, compliance and obedience, you may choose to read:

Reading

Chapter 7 in Kassin et al., 2020, pp. 273-311.

5.5 SOCIAL INFLUENCE PART 2: GROUPS

In this topic, we will look at social groups and explore questions such as:

- what they are
- why we want to be part of them
- how they are formed
- what keeps them together
- what makes them work well and not so well
- some benefits and risks of group process dynamics.

But before we look at these questions in more detail, let's start this part of the chapter with a short exercise.

Reflection Activity

Please take a moment to think about how you would define a group. How many people does it need to have a group and in what ways do these people need to be connected for you to call them a group?

Now please go back to the second topic of this chapter (the social self) where you were asked to complete the Twenty Statements Test. Have a look at how often you completed the statement "I am ...." with listing a group membership.

Now please take a moment to think about which other groups you feel part of (besides the ones that you may have listed in the Twenty Statements Test (TST) that you completed earlier in this Chapter). Try to come up with at least five and try to describe how far these groups differ and how far they may be similar in terms of their purpose, what keeps them together, and why you joined them in the first place.

What Makes a Group?

Now that you have done your own reflections on groups, we will have a look at what social psychology has to say about groups. We will start by considering the question: What makes a group?

According to Kassin et al. (2020), a group is defined as:

> a set of individuals who have direct interactions with each other over a period of time and share a common fate, identity, or set of goals. (p. 313)

For example, you form part of a group of students enrolled in a subject at a university. You may soon graduate with other students who are studying for the same degree as you are and join the graduation ceremony, where all students wear the same outfit. In this way, you may explicitly identify with the group of students. Once graduated, it is likely that you will no longer identify as a student of your university, but as alumni. Groups may also be based on relatively "fixed" characteristics such as sex, country of origin, religion, citizenship, educational level, etc. (some of these can be changed with more or less effort, others cannot be changed, such as the country that you were born in). All these groups vary in terms of how distinct they are from other groups.

Figure5.5.1. A group of James Cook University students, image from J. Rafferty, used under a CC BY NC-ND licence

The Need for Group Membership

We will now have a closer look at the question of why people need/ want to join groups in the first place.

Different disciplines take a different look at the need for and purpose of group membership. For example, from an evolutionary perspective, group membership served the purpose of protection and survival.

Figure 5.5.2. "Dinosaurs and Cavemen" by Orin Zebest is used under CC BY 2.0

Social psychology highlights the need for personal and social identity as an important driver for group membership. According to the social identity approach, people categorise themselves according to personal identities and social identities (Haslam, 2014; Jetten et al., 2020; Tajfel & Turner, 1979). Personal identity refers to a person's sense of self, while social identity relates to a person's sense of who they are as a member of a group (Jetten et al., 2020; Kassin et al., 2020). Both these identities affect people's cognition and behaviour (Haslam, 2014; Jetten et al., 2020; Tajfel & Turner, 1979). Since we covered people's sense of self (and how it may impact their behaviour) in topic 5.2, we will now just focus on exploring people's social identities and consider several theories and approaches that help explain them. As an introduction to these theories, please watch the following short video [2:56]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=195#oembed-1

As noted in the video, in the most basic sense, people distinguish between groups that they form part of and groups they do not form part of, referred to as ingroup and outgroup. These two sets of groups may be defined as follows:

Ingroups	Outgroups
Groups with which an individual feels a sense of membership, belonging and identity" (Kassin et al., 2020, p. 144)	Groups with which an individual does not feel a sense of membership, belonging or identity (Kassin et al., 2020, p. 144)

The video also noted that the formation and evaluation of social identity and group membership involves three components: social categorisation, social identification and social comparison. Please click on the buttons below to find out more about these three components.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=195#h5p-12

Social Identity Theory and Self-Categorisation Theory

The social identity theory and self-categorisation theory, in combination, can help explain why people identify with groups and why this identification impacts a person's cognition and behaviour (Haslam, 2014; Rudert et al., 2021). The social identity theory proposes that in many social situations, people prefer to identify and act as a group member rather than as an individual (Ellmers & Haslam, 2012). The association with groups serves to enhance a person's self-esteem, a process that is further supported by favouring ingroups over outgroups (Kassin et al., 2020).

Figure 5.5.3. "K Pop band" by Kiyoung Kim is used under a CC BY 2.0 licence

What is important to highlight here again is that according to the social identity theory, the enhancement of self-esteem is regarded as a main driver for people's desire to belong to groups. Another important point to make is that identification with a group encourages behaviours that are consistent with those supported by the group (and these may differ from behaviours that an individual may choose if acting on their own – we will look at this in more detail further below).

The self-categorisation theory is an extension of social identity theory, holding that people categorise themselves either as a group member or as an individual, depending on each situation, and that this categorisation influences their behaviour (Turner & Reynolds, 2012).

People tend to associate with multiple groups, depending on the context and have therefore multiple social identities, each with their own set of norms (Drury et al., 2019). People's identification with a group and adherence to its norms depends on how salient the social identity is in each situation (Tajfel & Turner, 1979; Venu et al., 2021). We will look at social identity, social categorisation and how it may all affect people's behaviour in real life in more detail in the final topic of this eBook.

The Influence of Groups on Individual Behaviour

We will now briefly consider how group membership may influence the behaviour of individual group members. For this purpose, please watch the following Crash Course video from minute 5:59 (you were prompted to watch the first half of this video for the previous topic):

One or more interactive elements has been excluded from this version of the text. You can

view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=195#oembed-4

In this second part of the video, Green Hank discussed phenomena like:

- social facilitation
- social loafing
- deindividuation
- group polarization
- groupthink.

To learn more about these phenomena and other problems (and solutions) associated with group performance, you may wish to read:

Reading

Kassin et al., 2020, pp. 318-332.

Stereotypes, Prejudice and Discrimination

As mentioned above, classifying ourselves and others into groups comes with some risks, since we classify according to attributes that we perceive as being important characteristics of the other and a whole group. As we have learned in the previous topics, our perceptions are not always accurate but prone to error. Similarly, the categories that we use may also be subjective and thus inaccurate. In fact, we frequently overgeneralise our beliefs about a particular group of people. These beliefs are known as stereotypes. Unfortunately, these beliefs also influence our attitudes towards a whole group, which may make us feel prejudiced against certain groups. Both our stereotypical beliefs and negative attitudes towards a group can then affect our behaviours in the sense that we may discriminate against people based on their group membership (which we may have assigned to them). To learn more about the topic of stereotypes, prejudice and discrimination, please watch the following Crash Course video, which explains all three components in more detail [9:54]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=195#oembed-2

To further deepen your understanding of the processes and risks of stereotypes, prejudice and discrimination, you may also wish to read:

Reading

Chapter 4 in Kassin et al., 2020, pp. 140-182.

The optional reading listed above also discusses various strategies or approaches to reduce prejudice and discrimination, including intergroup contact, changing cognitions and changing cultures. To learn about a project that aimed to raise awareness of the issue of discrimination in the US (and the experience of being discriminated against), please watch the following video [53:00]:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://oercollective.caul.edu.au/neuroscience-psychology-conflict/?p=195#oembed-3

5.6 SOCIAL PSYCHOLOGY THEORIES IN ACTION

In this final topic, we want to put some of the social psychology theories into action to help explain (and address) social conflict. We will do this by way of using the social identity theory and social categorisation theory to try explain social conflict during the COVID-19 pandemic.

Especially during the years 2020 and 2021, COVID-19 divided societies around the world. Governments worldwide were engaged in mobilising their populations to collectively comply with public health and social measures to contain the spread of SARS-CoV-2. While many people followed COVID-19 directives and recommendations across the world, a considerable number of people opposed at least some measures (Daoust et al., 2021; Edwards et al., 2021; Powdthavee et al., 2021; Roccato & Russo, 2021).

Figure 5.6.1. Covid Protests in Glasgow city centre by Daniel used under CC BY 2.0 licence

Some countries appeared to struggle more with social division over health measures than others, and

some countries recovered more quickly from this social division than others. For example, in late 2021/early 2022, while in many countries, truck drivers were still blocking roads and people were marching the streets in protest of public health measures (Spence, 2022), the Danes celebrated the end of all COVID-19 restrictions in Denmark (Nuki et al., 2022).

At that time, Denmark was widely praised as the COVID-19 poster child, including for its economic performance, vaccination rate, and social cohesion of its people during the pandemic.

How Social Identities can Help Explain People's Behaviours

Why may Denmark have been better than others at managing COVID-19 and keeping its people united?

The social identity theory and self-categorisation theory can help explain Denmark's success and other countries' struggles during the pandemic. As you learned in the previous topic, these theories propose that in many social situations, people's behaviours are motivated by their sense of group membership – their "social identities" – rather than by individual reasons (Ellmers & Haslam, 2012; Tajfel & Turner, 1979), which is supported by numerous studies (Haslam, 2014).
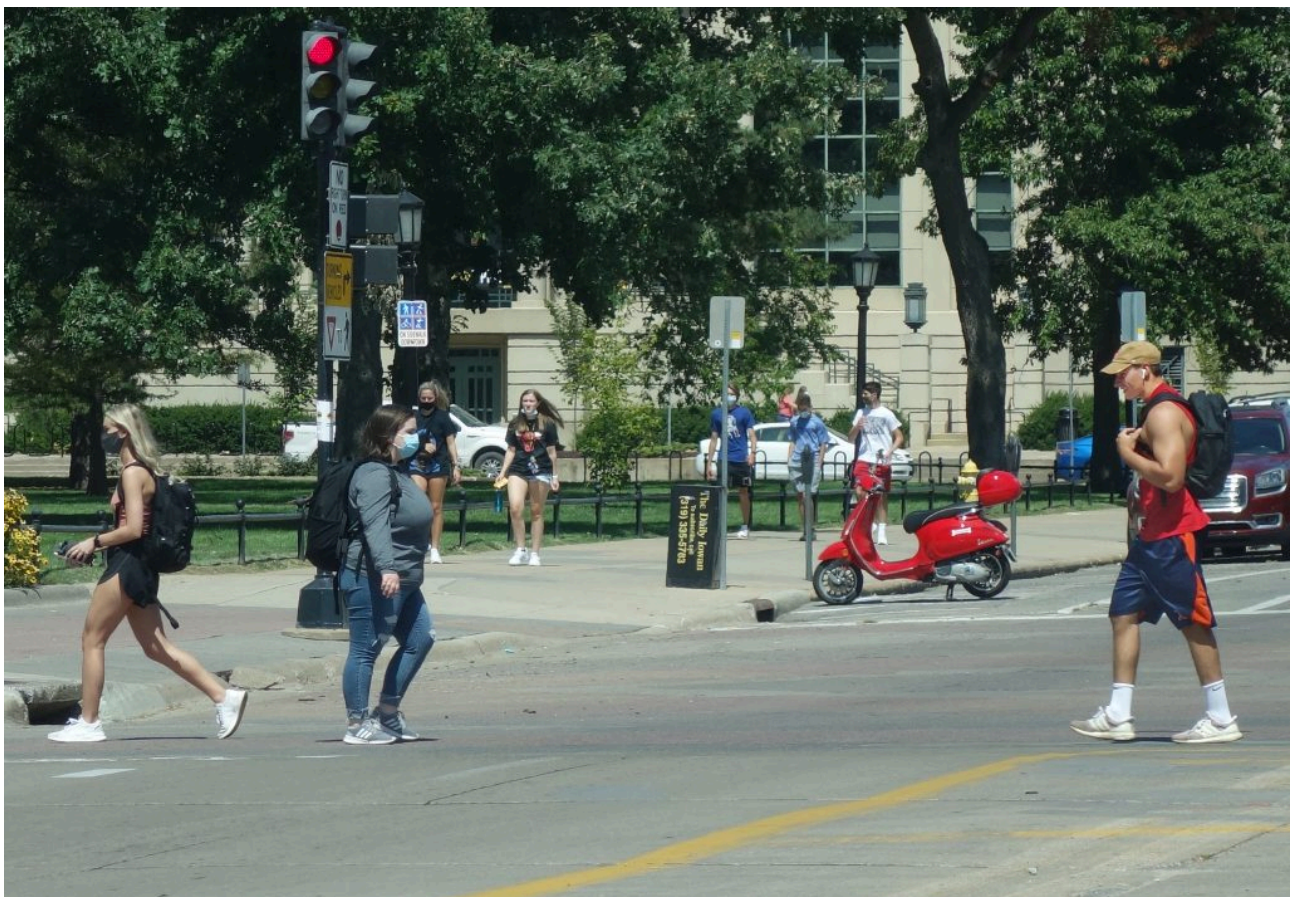

Figure 5.6.2. College students in Iowa City, USA during COVID-19 Pandemic by Alan Light used under CC BY 2.0 licence

In the case of the COVID-19 pandemic, for example, it is less likely that COVID-19 low-risk groups, like teenagers with no underlying health conditions, would have gotten vaccinated, worn masks, and refrained from meeting their friends to contain the spread of the coronavirus if they had acted on personal motivation. It is more likely that these young people complied with COVID-19 measures because they viewed themselves as community members whose duty was to protect weaker members of the same community, like the elderly and people with health risks.

How National Identities May Have Influenced People's Behaviours During the Pandemic

The social identity theory suggests that people who identify with a group are motivated to act in ways that protect other ingroup members (Kalin & Sambanis, 2018; Kramer & Brewer, 1984). Therefore, if people identify with their national collective, which includes all citizens as ingroup members, they may choose to comply with COVID-19 measures to protect every person in their society.

Indeed, the positive effect of national identity in managing COVID-19 has been shown in recent research undertaken across 67 countries (Van Bavel et al., 2022). The research found that people who identified strongly with their national collective reported increased support for and compliance with COVID-19 measures (Van Bavel et al., 2022). Furthermore, people with stronger national identification reduced their mobility during the pandemic more than others (Van Bavel et al., 2022).

The research also identified Denmark as the country with both the strongest national identity and the highest level of support and compliance with COVID-19 measures (Van Bavel et al., 2022).
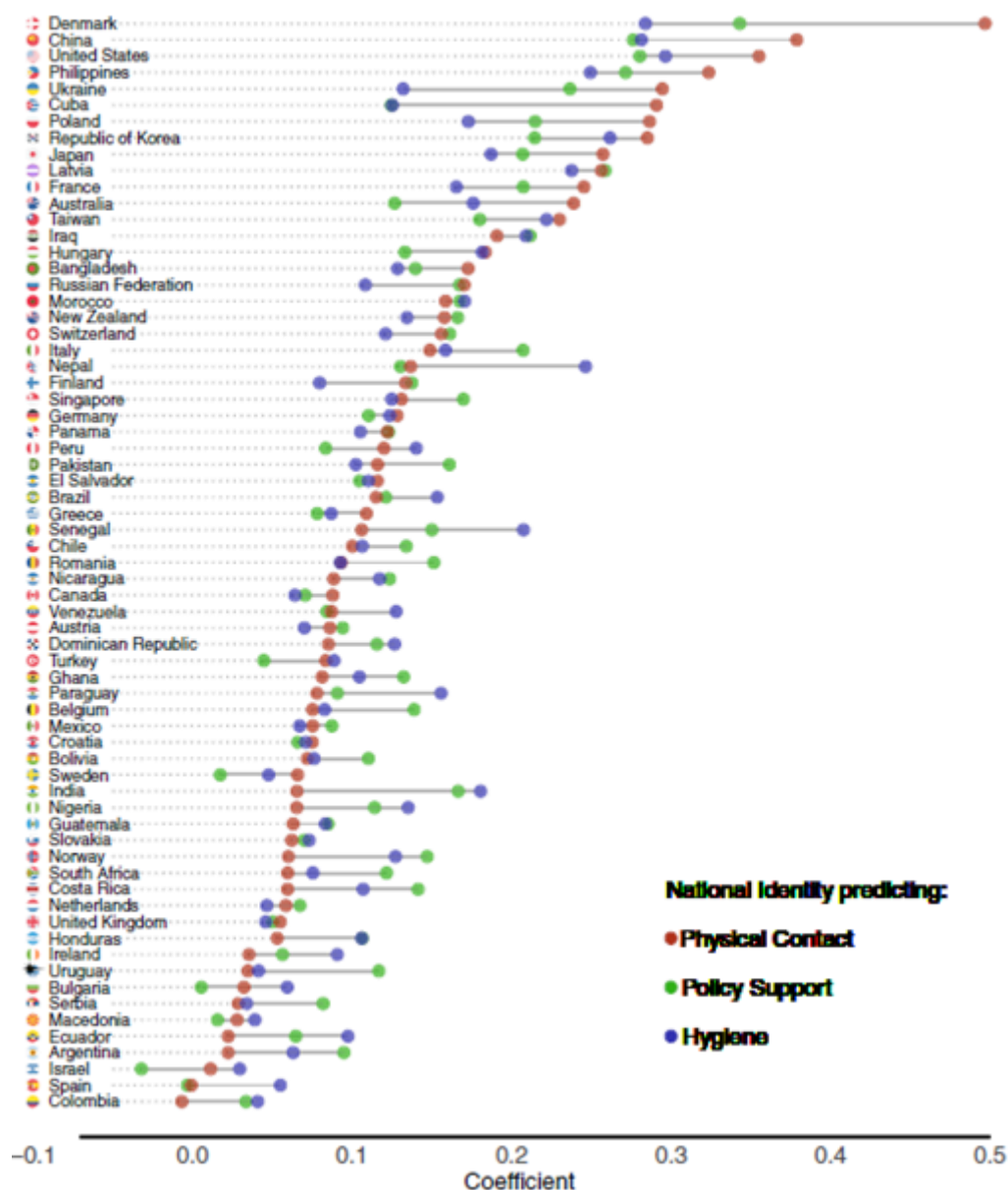
Figure 5.6.3. Relation between collective concerns and public health measures in 67 countries. Sourced from Van Bavel et al. (2022, p. 5) and used under a CC BY 4.0 licence. Click on the image to see the full-sized version of the graph

Challenges with Social Identities During Times of Crisis

At the onset of a crisis, like the COVID-19 pandemic, a society may initially feel connected based on the perception of a common fate (Abrams et al., 2021; Drury et al., 2016; Drury et al., 2019; Rudert et al., 2021). The perceived threat to self can increase a person's need for group membership since social identity can help relieve stress and provide people with a sense of security when their self-certainty is challenged (Abrams et al., 2021; Rudert et al., 2021). For example, the experience of mutual threat has been found to strengthen a superordinate social identity such as national identity (Rudert et al., 2021).

However, Abrams et al., (2021) note that over the course of a crisis, superordinate identities are likely to fade, since they may not be effective in permanently satisfying people's social identity needs for favourable social comparison of the ingroup with an outgroup. This effect is further explained by the optimal distinctiveness theory, which holds that people are averse to being defined "by overly inclusive superordinate categories" (Abrams et al., 2021, p. 202). To fill the social identity gap, people tend to seek membership in more salient subgroups (Abrams et al., 2021).

The fragmentation into subgroups is fostered by the quest for self-esteem enhancement and is likely to be accompanied by various group dynamics that further increase social division (Abrams et al., 2021). During the COVID-19 pandemic, these dynamics comprised polarisation, stereotyping and stigmatising of perceived outgroup members, including "vaxxers" versus "anti-vaxxers", "mask-wearers" versus "non-mask wearers", and "distancers" versus "non-distancers" (Abrams et al., 2021; Powdthavee et al., 2021; Prosser et al., 2020; Rosenbaum, 2020; Rozbroj et al., 2019; Wiley et al., 2021). These dynamics have the potential to further alienate and radicalise those groups whose norms differ from those of the greater collective (Abrams et al., 2021; Moghaddam, 2020). To prevent this fragmentation, it is important to create and maintain a strong and salient superordinate identity.

The Role of Leaders in Managing Crisis

National leaders have played a critical role in influencing social cohesion and compliance with COVID-19 measures (Hornsey et al., 2020). Based on the social identity theory and self-categorisation theory, successful leadership during a crisis like the COVID-19 pandemic requires leaders to be able to:

1. Foster a strong and inclusive national identity.
2. Be perceived as a member of the collective ("we are in this together").
3. Identify and encourage behaviours that are meaningfully related to the national identity (e.g., "as a nation, we can manage the crisis through collective action") (Abrams et al., 2021; Van Bavel et al., 2020).

During times of crisis, social identities also benefit from leaders who appear strong, decisive and willing to act (Abrams et al., 2021). Mette Frederiksen, who acted as Denmark's Prime Minister at the time of the COVID-19 pandemic was reportedly quick to "establish a pattern of moving hard and fast – in either direction" (Nuki et al., 2022, February 1). This type of leadership may have strengthened social cohesion in Denmark and people's compliance with COVID-19 measures.

REFERENCES

Abrams, D., Lalot, F., & Hogg, M. A. (2021). Intergroup and intragroup dimensions of covid-19: A social identity perspective on social fragmentation and unity. *Group Processes & Intergroup Relations*, *24*(2), 201-209. https://doi.org/10.1177/1368430220983440

Adams, Y., Drew, N. M., & Walker, R. (2014). Principles of practice in mental health assessment with Aboriginal Australians. In P. Dudgeon, H. Milroy, & R. Walker (Eds.), *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice* (2nd ed.). Department of the Prime Minister and Cabinet. https://www.telethonkids.org.au/globalassets/media/documents/aboriginal-health/working-together-second-edition/working-together-aboriginal-and-wellbeing-2014.pdf

Adler, P. (2006). Protean negotiation. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 17-27). American Bar Association.

Alexander, N., Howieson, J., & Fox, K. (2015). *Negotiation: Strategy style skills* (3 ed.). LexisNexis.

Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.

Anderson, J., & Ferguson, R. (2018). Demographic and ideological correlates of negative attitudes towards asylum seekers: A meta-analytic review. *Australian Journal of Psychology*, *70*(1), 18-29. https://doi.org/10.1111/ajpy.12162

Australian Psychological Society. (2023). *Social cohesion*. https://psychology.org.au/community/advocacy-social-issues/social-cohesion

Avruch, K. (2006). The poverty of buyer and seller. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook*: *The desk reference for the experienced negotiator* (pp. 81-86). American Bar Association.

Balcetis, E., & Dunning, D. (2006). See what you want to see: Motivational influences on visual perception. *Journal of Personality and Social Psychology, 91*(4), 612–625. https://doi.org/10.1037/0022-3514.91.4.612

Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology, 71*(2), 230-244. https://doi.org/10.1037/0022-3514.71.2.230

Bell, C., & Song, F. (2005). Emotions in the conflict process: An application of the cognitive appraisal

model of emotions to conflict management. *The International Journal of Conflict Management*, *16*(1), 30-54. https://doi.org/10.1108/eb022922

Bhullar, N., Schutte, N.S. & Wall, H.J. (2020). Personality and positive psychology. In B.J. Carducci, C.S. Nave, J.S. Mio & R.E. Riggio (Eds), *The Wiley Encyclopedia of Personality and Individual Differences*. Wiley. https://doi.org/10.1002/9781119547181.ch335

Bianco, F., Kosic, A., & Pierro, A. (2021). The mediating role of national identification, binding foundations and perceived threat on the relationship between need for cognitive closure and prejudice against migrants in Malta. *Journal of Community & Applied Social Psychology*. https://doi.org/10.1002/casp.2559

Bookbinder, S. H., & Brainerd, C. J. (2016). Emotion and false memory: The context-content paradox. *Psychological Bulletin*, *142*(12), 1315-1351. https://doi.org/10.1037/bul0000077

Brainerd, C. J., Stein, L. M., Silveira, R. A., Rohenkohl, G., & Reyna, V. F. (2008). How does negative emotion cause false memories? *Psychological Science*, *19*(9), 919-925. https://doi.org/10.1111/j.1467-9280.2008.02177.x

Bremner, J. D., Mishra, S., Campanella, C., Shah, M., Kasher, N., Evans, S., Fani, N., Shah, A. J., Reiff, C., Davis, L. L., Vaccarino, V., & Carmody, J. (2017). A pilot study of the effects of mindfulness-based stress reduction on post-traumatic stress disorder symptoms and brain response to traumatic reminders of combat in operation enduring freedom/operation Iraqi freedom combat veterans with post-traumatic stress disorder. *Frontiers in Psychiatry*, *8*(157). https://doi.org/10.3389/fpsyt.2017.00157

Brown, J. G. (2006). Creativity and problem-solving. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 407-413). American Bar Association.

Bruneau, E. (2015). Putting neuroscience to work for peace. In E. Halperin & K. Sharvit (Eds.), *The social psychology of intractable conflict: Celebrating the legacy of Daniel Bar-Tal,* (Vol. 1, pp. 143–155). Springer International Publishing. https://doi.org/10.1007/978-3-319-17861-5_11

Burger, J. M. (2019). *Personality* (10th ed.). Cengage Learning.

Burgess, G. (2022, February 3, 2022). Reflections on neuroscience, conflict, and peacebuilding. *Beyond Intractability*. https://www.beyondintractability.org/cci-mbi-cv19-blog/gburgess-neuroscience

Burton, J. (Ed). (1990). *Conflict: Human needs theory*. Macmillan.

Campbell, C. M., & Docherty, S. J. (2006). What's in a frame? In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 37-46). American Bar Association.

Campbell, J. D. (1990). Self-esteem and clarity of the self-concept. *Journal of Personality and Social Psychology*, *59*(3), 538-549. https://doi.org/10.1037/0022-3514.59.3.538

Canli, T., Zhao, Z., Brewer, J., Gabrieli, J. D. E., & Cahill, L. (2000). Event-related activation in the human amygdala associates with later memory for individual emotional experience. *The Journal of Neuroscience*, *20*(19), 1-5. https://doi.org/10.1523/JNEUROSCI.20-19-j0004.2000

Carlson, M. M., McElroy, S. E., Aten, J. D., Davis, E. B., Van Tongeren, D., Hook, J. N., & Davis, D. E. (2019). We welcome refugees? Understanding the relationship between religious orientation, religious commitment, personality, and prejudicial attitudes toward Syrian refugees. *The International Journal for the Psychology of Religion*, *29*(2), 94-107. https://doi.org/10.1080/10508619.2019.1586067

Chatterji, M., & Luterbacher, U. (2016). *Emotions, decision-making, conflict and cooperation*. Emerald Publishing.

Chen, M. J., & Ayoko, O. B. (2012). Conflict and trust: The mediating effects of emotional arousal and self-conscious emotions. *International Journal of Conflict Management*, *23*(1), 19-56. https://doi.org/10.1108/10444061211199313

Cheung, F. M., & Fetvadjiev, V. H. (2016). Indigenous approaches to testing and assessment. In F. T. L. Leong, D. Bartram, F. Cheung, K. F. Geisinger, & D. Iliescu (Eds.), *The international handbook of testing and assessment*. Oxford University Press. https://doi.org/10.1093/med:psych/9780199356942.001.0001

Clore, G. L., & Ortony, A. (2008). Appraisal theories: How cognition shapes affect into emotions. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions*. The Guilford Press.

Condliffe, P. (2016). *Conflict management: A practical guide* (5th ed.). LexisNexis Butterworths.

Costa, P. T., & McCrae, R. R. (1985). *The neo personality inventory. Psychological assessment resources.*

Costa, P. T., & McCrae, R. R. (1992). *NEO PI-R: Neo personality inventory-revised*.

Cowling, M. M., Anderson, J. R., & Ferguson, R. (2019). Prejudice-relevant correlates of attitudes towards refugees: A meta-analysis. *Journal of Refugee Studies*, *32*(3), 502-524. https://doi.org/10.1093/jrs/fey062

Csikszentmihalyi, M., & Figurski, T. J. (1982). Self-awareness and aversive experience in everyday life. *Journal of Personality*, *50*(1), 15-19. https://doi.org/10.1111/j.1467-6494.1982.tb00742.x

Daoust, J.-F., Bélanger, É., Dassonneville, R., Lachapelle, E., Nadeau, R., Becher, M., Brouard, S., Foucault, M., Hönnige, C., & Stegmueller, D. (2021). A guilt-free strategy increases self-reported non-compliance with COVID-19 preventive measures: Experimental evidence from 12 countries. *PloS One*, *16*(4), e0249914-e0249914. https://doi.org/10.1371/journal.pone.0249914

Davidson, J. (Director). (2010). *The emotional brain: An introduction to affective neuroscience* [Documentary film]. Davidson Films.

De Dreu, C. K. W., & Gelfand, M. J. (2008). Conflict in the workplace: Sources, functions, and dynamics across multiple levels of analysis. In C. K. W. De Dreu & M. J. Gelfand (Eds.), *The psychology of conflict and conflict management in organizations* (pp. 3-54). Lawrence Erlbaum Associates.

De Dreu, C. K. W., Greer, L. L., Handgraaf, M. J. J., Shalvi, S., & Van Kleef, G. A. (2012). Oxytocin modulates selection of allies in intergroup conflict. *Proceedings: Biological Sciences*, *279*(1731), 1150-1154. https://doi.org/10.1098%2Frspb.2011.1444

De Raad, B., Barelds, D. P. H., Levert, E., Ostendorf, F., Mlačić, B., Blas, L. D., Hřebíčková, M., Szirmák, Z., Szarota, P., Perugini, M., Church, A. T., & Katigbak, M. S. (2010). Only three factors of personality description are fully replicable across languages: A comparison of 14 trait taxonomies. *Journal of Personality and Social Psychology*, *98*(1), 160-173. https://doi.org/10.1037/a0017184

Drury, J., Brown, R., González, R., & Miranda, D. (2016). Emergent social identity and observing social support predict social support provided by survivors in a disaster: Solidarity in the 2010 Chile earthquake. *European Journal of Social Psychology*, *46*(2), 209-223. https://doi.org/10.1002/ejsp.2146

Drury, J., Carter, H., Cocking, C., Ntontis, E., Tekin Guven, S., & Amlôt, R. (2019). Facilitating collective psychosocial resilience in the public in emergencies: Twelve recommendations based on the social identity approach. *Frontiers in Public Health*, *7*, 141-141. https://doi.org/10.3389/fpubh.2019.00141

Dunning, D., & Balcetis, E. (2013). Wishful seeing: How preferences shape visual perception. *Current Directions in Psychological Science*, *22*(1), 33-37. https://doi.org/10.1177/0963721412463693

Dutton, D. G., & Aron, A. P. (1974). Some evidence for heightened sexual attraction under conditions of high anxiety. *Journal of Personality and Social Psychology, 30*(4), 510–517. https://doi.org/10.1037/h0037031

Edwards, B., Biddle, N., Gray, M., & Sollis, K. (2021). Covid-19 vaccine hesitancy and resistance: Correlates in a nationally representative longitudinal survey of the Australian population. *PloS One*, *16*(3), e0248892-e0248892. https://doi.org/10.1371/journal.pone.0248892

Ekehammar, B., & Akrami, N. (2003). The relation between personality and prejudice: A variable- and a person-centred approach. *European Journal of Personality*, *17*(6), 449-464. https://doi.org/10.1002/per.494

Ekehammar, B., & Akrami, N. (2007). Personality and prejudice: From big five personality factors to facets. *Journal of Personality*, *75*(5), 899-926. https://doi.org/10.1111/j.1467-6494.2007.00460.x

Ekman, P. (1980). *The face of man: Expressions of universal emotions in a New Guinea village*. Garland STPM Press.

Ekman, P. (1992a). Are there basic emotions? *Psychological Review*, *99*(3), 550-553. https://doi.org/10.1037/0033-295X.99.3.550

Ekman, P. (1992b). An argument for basic emotions. *Cognition and Emotion*, *6*(3-4), 169-200. https://doi.org/10.1080/02699939208411068

Ekman, P., & O'Sullivan, M. (1991). Who can catch a liar? *American Psychologist*, *46*(9), 913-920. https://doi.org/10.1037/0003-066X.46.9.913

Ellmers, N., & Haslam, A. S. (2012). Social identity theory. In P. A. M. van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 379-398). SAGE.

Feldman Barrett, L. (2017a). *How emotions are made: The secret life of the brain*. Pan Macmillan.

Feldman Barrett, L. (2017b). The theory of constructed emotion: An active inference account of interoception and categorization. *Social Cognitive and Affective Neuroscience,* 1-23. https://doi.org/10.1093/scan/nsw154

Feldman Barrett, L. (2020). *Seven and a half lessons about the brain.* Pan Macmillan.

Fells, R. (2016). *Effective negotiation* (3rd ed.). Cambridge University Press.

Fetterman, A. K., Ode, S. & Robinson, M. D. (2013). For which side the bell tolls: The laterality of approach-avoidance associative networks. *Motivation and Emotion 37*(1):33-38. https://dx.doi.org/10.1007/s11031-012-9306-5

Fisher, R. J. (2014). Intergroup conflict. In P. T. Coleman, M. Deutsch, & E. C. Marcus (Eds.), *The handbook of conflict resolution: Theory and practice* (pp. 230–252). Jossey-Bass/Wiley.

Fisher, R., & Shapiro, D. (2005). *Beyond reason: Using emotions as you negotiate*. Viking.

Fisher, R., & Ury, W. (2012). *Getting to yes*. Random House Business Books

Fitzduff, M. (2021). *Our brains at war: The neuroscience of conflict and peacebuilding*. Oxford University Press. https://doi.org/10.1093/oso/9780197512654.001.0001

Freberg, L. (2019). *Discovering behavioral neuroscience: An introduction to biological psychology*. Cengage.

Furlong, G. T. (2020). *The conflict resolution toolbox: Models and maps for analyzing, diagnosing, and resolving conflict* (2nd ed.). John Wiley & Sons.

Galtung, J. (1969). Violence, peace, and peace research. *Journal of Peace Research, 6*(3), 167-191. http://www.jstor.org/stable/422690

Gangestad, S. W., & Snyder, M. (2000). Self-monitoring: Appraisal and reappraisal. *Psychological Bulletin*, *126*(4), 530-555. https://doi.org/10.1037/0033-2909.126.4.530

Gawronski, B. (2004). Theory-based bias correction in dispositional inference: The fundamental attribution error is dead, long live the correspondence bias. *European Review of Social Psychology*, *15*(1), 183-217. https://doi.org/10.1080/10463280440000026

Gendron, M. M., Roberson, D. D., & Barrett, L. F. L. F. (2015). Cultural variation in emotion perception is real: A response to Sauter et al. *Psychological Science*, *26*(3), 357-359. https://doi.org/10.1177/0956797614566659

Gilbert, D. T., & Jones, E. E. (1986). Perceiver-induced constraint: Interpretations of self-generated reality. *Journal of Personality and Social Psychology*, *50*(2), 269-280. https://doi.org/10.1037/0022-3514.50.2.269

Gillions, A., Cheang, R., & Duarte, R. (2019). The effect of mindfulness practice on aggression and violence levels in adults: A systematic review. *Aggression and Violent Behavior 48*, 104-115. https://doi.org/10.1016/j.avb.2019.08.012

Gluck, M. A., Mercado, E., & Myers, C. E. (2020). *Learning and memory: From brain to behaviour* (4 ed.). Macmillan International.

Goldstein, E. B. (2019). *Cognitive psychology*. Cengage.

Gotink, R. A., Meijboom, R., Vernooij, M. W., Smits, M., & Hunink, M. G. M. (2016). 8-week mindfulness based stress reduction induces brain changes similar to traditional long-term meditation practice – a systematic review. *Brain and Cognition*, *108*, 32-41. https://doi.org/10.1016/j.bandc.2016.07.001

Grecucci, A., Pappaianni, E., Siugzdaite, R., Theuninck, A., & Job, R. (2015). Mindful emotion regulation: Exploring the neurocognitive mechanisms behind mindfulness. *BioMed Research International*, *2015*, 670724. https://doi.org/10.1155/2015/670724

Gregory. R. L. (1970). *The intelligent eye*. Weidenfeld & Nicolson.

Gronlund, S. D., & Benjamin, A. S. (2018). The new science of eyewitness memory. In K. D. Federmeier (Ed.), *Psychology of Learning and Motivation* (Vol. 69, pp. 241-284). Academic Press. https://doi.org/https://doi.org/10.1016/bs.plm.2018.09.006

Gurven, M., von Rueden, C., Massenkoff, M., Kaplan, H., & Lero Vie, M. (2013). How universal is the big five? Testing the five-factor model of personality variation among forager–farmers in the Bolivian Amazon. *Journal of Personality and Social Psychology*, *104*(2), 354-370. https://doi.org/10.1037/a0030841

Hajcak, G., Jackson, F., Ferri, J., & Weinberg, A. (2016). Emotion and attention. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (pp. 595-609). The Guilford Press.

Halperin, E., Porat, R., Tamir, M., & Gross, J. J. (2013). Can emotion regulation change political attitudes in intractable conflicts? From the laboratory to the field. *Psychological Science, 24*(1), 106–111. https://doi.org/10.1177/0956797612452572

Haslam, A. S. (2014). Making good theory practical: Five lessons for an applied social identity approach to challenges of organizational, health, and clinical psychology. *British Journal of Social Psychology*, *53*(1), 1-20. https://doi.org/10.1111/bjso.12061

Haslam, N., & Holland, E. (2012). Attitudes towards asylum seekers: The Australian experience. In D. Bretherton & N. Balvin (Eds.), *Peace psychology in Australia.* (pp. 107-120). Springer US.

Hassin, R., & Trope, Y. (2000). Facing faces: Studies on the cognitive aspects of physiognomy. *Journal of Personality and Social Psychology*, *78*(5), 837-852. https://doi.org/10.1037/0022-3514.78.5.837

Hatemi, P. K., & McDermott, R. (2012). The genetics of politics: Discovery, challenges, and progress. *Trends in Genetics*, *28*(10), 525–533. https://doi.org/10.1016/j.tig.2012.07.004

He, J., Van De Vijver, F. J., Fetvadjiev, V. H., De Carmen Dominguez Espinosa, A., Adams, B. G., Alonso-Arbiol, I., Aydinli-Karakulak, A., Buzea, C., Dimitrova, R., Fortin, A., Hapunda, G., Ma, S., Sargautyte, R., Sim, S., Schachner, M. K., Suryani, A., Zeinoun, P., Zhang, R., & Mõttus, R. (2017). On enhancing the cross-cultural comparability of Likert-scale personality and value measures: A comparison of common procedures. *European Journal of Personality*, *31*(6), 642-657. https://doi.org/10.1002/per.2132

Heen, S., & Stone, D. (2006). Perceptions and stories. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 343-350). American Bar Association.

Higgins, C. A., & Judge, T. A. (2004). The effect of applicant influence tactics on recruiter perceptions of fit and hiring recommendations: A field study. *Journal of Applied Psychology*, *89*(4), 622-632. https://doi.org/10.1037/0021-9010.89.4.622

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*(3), 319–340. https://doi.org/10.1037/0033-295X.94.3.319

Higgins, E. T. (1989). Self-discrepancy theory: What patterns of self-beliefs cause people to suffer? In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 22, pp. 93-136). Academic Press.

Hill, J. S., Pace, T. M., & Robbins, R. R. (2010). Decolonizing personality assessment and honoring indigenous voices: A critical examination of the MMPI-2. *Cultural Diversity and Ethnic Minority Psychology*, *16*(1), 16-25. https://doi.org/10.1037/a0016110

Hodson, G., & Dhont, K. (2015). The person-based nature of prejudice: Individual difference predictors of intergroup negativity. *European Review of Social Psychology*, *26*(1), 1-42. https://doi.org/10.1080/10463283.2015.1070018

Holland, C., & Taylor, D. (2016). Was that said with a smile?: Factors influencing effective online negotiations. *Australasian Dispute Resolution Journal*, *27*, 103-110.

Hölzel, B. K., Brunsch, V., Gard, T., Greve, D. N., Koch, K., Sorg, C., Lazar, S. W., & Milad, M. R. (2016). Mindfulness-based stress reduction, fear conditioning, and the uncinate fasciculus: A pilot study. *Frontiers in Behavioral Neuroscience*, *10*(124). https://doi.org/10.3389/fnbeh.2016.00124

Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science*, *6*(6), 537-559. https://doi.org/10.1177/1745691611419671

Hölzel, B. K., Ott, U., Hempel, H., Hackl, A., Wolf, K., Stark, R., & Vaitl, D. (2007). Differential engagement of anterior cingulate and adjacent medial frontal cortex in adept meditators and non-meditators. *Neuroscience Letters*, *421*(1), 16-21. https://doi.org/10.1016/j.neulet.2007.04.074

Hornsey, M. J., Finlayson, M., Chatwood, G., & Begeny, C. T. (2020). Donald Trump and vaccination: The effect of political identity, conspiracist ideation and presidential tweets on vaccine hesitancy. *Journal of Experimental Social Psychology*, *88*, 103947. https://doi.org/10.1016/j.jesp.2019.103947

Houston, K. A., Clifford, B. R., Phillips, L. H., & Memon, A. (2013). The emotional eyewitness: The effects of emotion on specific aspects of eyewitness recall and recognition performance. *Emotion*, *13*(1), 118-128. https://doi.org/10.1037/a0029220

Howe, M. L., Candel, I., Otgaar, H., Malone, C., & Wimmer, M. C. (2010). Valence and the development of immediate and long-term false memory illusions. *Memory*, *18*(1), 58-75. https://doi.org/10.1080/09658210903476514

Influs, M., Pratt, M., Masalha, S., Zagoory-Sharon, O., & Feldman, R. (2019). A social neuroscience approach to conflict resolution: Dialogue intervention to Israeli and Palestinian youth impacts oxytocin and empathy. *Social Neuroscience*, *14*(4), 378-389. https://doi.org/10.1080/17470919.2018.1479983

Innocence Project. (2018). *Eyewitness Identification Reform*. https://innocenceproject.org/

Ito, T. A. & Kubota, J. T. (2022). Social neuroscience. In R. Biswas-Diener & E. Diener (Eds), *Noba textbook series: Psychology.* DEF Publishers. http://noba.to/qyekc5gf

Izard, C. E. (2009). Emotion theory and research: Highlights, unanswered questions, and emerging issue. *Annual Reviews Psychology*, *60*, 1-25. https://doi.org/10.1146/annurev.psych.60.110707.163539

Jackson, K., & Gross, S. (2014). *National academy releases report on eyewitness identification*. https://www.law.umich.edu

Jetten, J., Reicher, S. D., Haslam, A. S., & Cruwys, T. (2020). A social identity analysis of COVID-19. In J. Jetten, S. D. Reicher, A. S. Haslam, & T. Cruwys (Eds.), *Together apart: The psychology of covid-19* (pp. 13-22). SAGE.

Jonason, P. K., & Webster, G. D. (2010). The dirty dozen: A concise measure of the dark triad. *Psychological Assessment*, *22*(2), 420–432. https://doi.org/10.1037/a0019265

Jones, T. S., & Bodtker, A. (2001). Mediating with heart in mind: Addressing emotion in mediation practice. *Negotiation Journal*, *17*(3), 217-244. https://doi.org/10.1111/j.1571-9979.2001.tb00238.x

Jordan, P. J., & Troth, A. C. (2004). Managing emotions during team problem solving: Emotional intelligence and conflict resolution. *Human Performance*, *17*(2), 195-218. https://doi.org/10.1207/s15327043hup1702_4

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*, 263-291. https://doi.org/10.2307/1914185

Kalin, M., & Sambanis, N. (2018). How to think about social identity. *Annual Review of Political Science*, *21*(1), 239–257. https://doi.org/10.1146/annurev-polisci-042016-024408

Kaplan, R., Van Damme, I., & Levine, L. (2012). Motivation matters: Differing effects of pre-goal and post-goal emotions on attention and memory [Review]. *Frontiers in Psychology*, *3*(404). https://doi.org/10.3389/fpsyg.2012.00404

Kaplan, R. L., Van Damme, I., Levine, L. J., & Loftus, E. F. (2015). Emotion and false memory. *Emotion Review*, *8*(1), 8-13. https://doi.org/10.1177/1754073915601228

Kassin, S., Fein, S., Markus, H. R., McBain, K. A., & Williams, L. (2020). *Social psychology* (2nd Australian and New Zealand edition). Cengage Learning.

Kaushal, R., & Kwantes, C. T. (2006). The role of culture and personality in choice of conflict management strategy. *International Journal of Intercultural Relations*, *30*(5), 579-603. https://doi.org/10.1016/j.ijintrel.2006.01.001

Kelly, G. A. (1991). *The psychology of personal constructs: Clinical diagnosis and psychotherapy*. Routledge. https://doi.org/10.4324/9780203405987

Kelly, G. (2001). *The psychology of personal constructs: A theory of personality*. Routledge. https://doi.org/10.4324/9780203405970

Kemeny, M. E., & Shestyuk, A. (2008). Emotions, the neuroendocrine and immune systems, and health.

In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (pp. 661-675). The Guilford Press.

Koenig, F. W., & King, M. B. (1964). Cognitive simplicity and out-group stereotyping. *Social Forces*, *42*(3), 324-327. https://doi.org/10.1093/sf/42.3.324

Kolb, B., & Fantie, B. (1989). Development of the child's brain and behavior. In C. R. Reynolds & E. Fletcher-Janzen (Eds.), *Handbook of clinical child neuropsychology* (pp. 17–39). Plenum Press. https://doi.org/10.1007/978-1-4899-6807-4_2

Korobkin, R., & Guthrie, C. (2006). Heuristics and biases at the bargaining table. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 351-360). American Bar Association.

Kosfeld, M., Heinrichs, M., Zak, P. J., Fischbacher, U., & Fehr, E. (2005). Oxytocin increases trust in humans. *Nature*, *435(*7042).

Kramer, R. M., & Brewer, M. B. (1984). Effects of group identity on resource use in a simulated commons dilemma. *Journal of Personality and Social Psychology, 46*(5), 1044–1057. https://doi.org/10.1037/0022-3514.46.5.1044

Kruglanski, A. W., & Fishman, S. I. E. (2009). The need for cognitive closure. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 343-353). The Guilford Press.

Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: "Seizing" and "freezing". *Psychological Review*, *103*(2), 263-283. https://doi.org/10.1037/0033-295X.103.2.263

Kuhn, M. H., & McPartland, T. S. (1954). An empirical investigation of self-attributes. *American Sociological Review*, *19*, 68-76.

Laney, C., & Loftus, E. F. (2008). Emotional content of true and false memories. *Memory*, *16*(5), 500-516. https://doi.org/10.1080/09658210802065939

LeDoux, J. (1996). *The emotional brain*: *The mysterious underpinnings of emotional life.* Simon & Schuster.

LeDoux, J. E., & Brown, R. (2017). A higher-order theory of emotional consciousness. *Proceedings of the National Academy of Sciences*, *114*(10), E2016-E2025. https://doi.org/10.1073/pnas.1619316114

LeDoux, J. E., & Phelps, E. A. (2008). Emotional networks in the brain. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 159-179). The Guilford Press.

Lee, J. W., Jones, P. S., Mineyama, Y., & Zhang, X. E. (2002). Cultural differences in responses to a Likert scale. *Research in Nursing & Health*, *25*(4), 295-306. https://doi.org/10.1002/nur.10041

Lempert, K. M., & Phelps, E. A. (2016). Affect in economic decision making. In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (4th ed., pp. 98-112). The Guilford Press.

Lennox, R. D., & Wolfe, R. N. (1984). Revision of the self-monitoring scale. *Journal of Personality and Social Psychology*, *46*(6), 1349-1364. https://doi.org/10.1037/0022-3514.46.6.1349

Leone, C., & Corte, V. (1994). Concern for self-presentation and self-congruence: Self-monitoring, Machiavellianism, and social conflicts. *Social Behavior and Personality: An International Journal*, *22*, 305-312. https://doi.org/10.2224/sbp.1994.22.3.305

Lesch, H. (2021). *Gendern – Wahn oder Wissenschaft?* Leschs Kosmos. ZDF.

Levine, L. J., & Edelstein, R. S. (2009). Emotion and memory narrowing: A review and goal-relevance approach. *Cognition and Emotion*, *23*(5), 833-875. https://doi.org/10.1080/02699930902738863

Lindner, E. G. (2014). Emotion and conflict In P. T. Coleman, M. Deutsch, M., & E. C. Marcus (Eds.), *The handbook of conflict resolution: Theory and practice*. John Wiley & Sons.

Lopez, S. J. & Snyder, C. R. (2009). *Positive psychology assessment: A handbook of models and measures.* American Psychological Association.

Luterbach, U. (2016). *Emotions, decision-making, conflict and cooperation*. Emerald Group Publishing.

Maclean, P. D. (1952). Some psychiatric implications of physiological studies on frontotemporal portion of limbic system (visceral brain). *Electroencephalography & Clinical Neurophysiology, 4,* 407–418. https://doi.org/10.1016/0013-4694(52)90073-4

McAdams, D. P. (2009). *The person: An introduction to the science of personality psychology* (5th ed.). Wiley.

McCarthy, J. F., Scheraga, C. A., & Gibson, D. E. (2008). Culture, cognition and conflict: How neuroscience can help to explain cultural differences in negotiation and conflict management [Paper presentation]. *The 21st Annual Conference of the IACM 2008*, Chicago, Illinois, USA.

Menasco, M. B., & Curry, D. J. (1978). An assessment of the role construct repertory test. *Applied Psychological Measurement*, *2*(3), 361-369. https://doi.org/10.1177/014662167800200309

Miller, J. G. (1984). Culture and the development of everyday social explanation. *Journal of Personality and Social Psychology, 46*(5), 961–978. https://doi.org/10.1037/0022-3514.46.5.961

Moghaddam, F. M. (2020). Mutual radicalization and the coronavirus pandemic. *Peace and Conflict*, *26*(4), 349-350. https://doi.org/10.1037/pac0000529

Moore, C. W. (2014). *The mediation process: Practical strategies for resolving conflict*. John Wiley & Sons.

Morley, R. H., Jantz, P. B., & Fulton, C. (2019). The intersection of violence, brain networks, and

mindfulness practices. *Aggression and Violent Behavior*, *46*, 165-173. https://doi.org/10.1016/j.avb.2019.02.007

Mullin, G. (n.d). *Introduction to Psychology*. Achieving the Dream. https://library.achievingthedream.org/bhccintropsych/

Murašovs, V., Ruža, A., Raščevskis, V., & Dombrovskis, V. (2016). Expecting refugees in Latvia: Negative stereotyping. *Economics and Business*, *29*(1), 56-64. https://doi.org/doi:10.1515/eb-2016-0022

Nair, N. (2008). Towards understanding the role of emotions in conflict: A review and future directions. *International Journal of Conflict Management*, *19*(4), 359-381. https://doi.org/10.1108/10444060810909301

Nesset, M. B., Lara-Cabrera, M. L., Bjarngaard, J. H., Whittington, R., & Palmstierna, T. (2020). Cognitive behavioural group therapy versus mindfulness-based stress reduction group therapy for intimate partner violence: A randomized controlled trial. *BMC Psychiatry*, *20*, Article 178. https://bmcpsychiatry.biomedcentral.com/articles/10.1186/s12888-020-02582-4

Neu, J., & Kriesberg, L. (2019). Conflict analysis and resolution: Development of the field. In *Oxford Research Encyclopedia of International Studies.* Oxford University Press. https://doi.org/10.1093/acrefore/9780190846626.013.521

Nielsen, J. A., Zielinski, B. A., Ferguson, M. A., Lainhart, J. E., & Anderson, J. S. (2013). An evaluation of the left-brain vs. right-brain hypothesis with resting state functional connectivity magnetic resonance imaging. *PloS One*, *8*(8), e71275. https://doi.org/10.1371/journal.pone.0071275

Nuki, P., Orange, R., & Newey, S. (2022, February 1). *The land where COVID is now no worse than a cold.* The Telegraph. https://www.telegraph.co.uk/global-health/science-and-disease/land-covid-now-no-worse-cold/

O'Brien, B. (2009). Prime suspect: An examination of factors that aggravate and counteract confirmation bias in criminal investigations. *Psychology, Public Policy, and Law*, *15*(4), 315-334. https://doi.org/10.1037/a0017881

O'Dea, C. J., Bueno, A. M. C., & Saucier, D. A. (2017). Fight or flight: Perceptions of men who confront versus ignore threats to themselves and others. *Personality and Individual Differences*, *104*, 345-351. https://doi.org/10.1016/j.paid.2016.08.040

Panksepp, J. (2008). The affective brain and core consciousness: How does neural activity generate emotional feelings? In M. Lewis, J. M. Haviland-Jones, & L. Feldman Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 47-67). The Guilford Press.

Papez, J. W. (1937). A proposed mechanism of emotion. *Archives of Neurology & Psychiatry, 38,* 725–743. https://doi.org/10.1001/archneurpsyc.1937.02260220069003

Paulmann, S., Ott, D. V., & Kotz, S. A. (2011). Emotional speech perception unfolding in time: The role of the basal ganglia. *PLoS One*, *6*(3), e17694. https://doi.org/10.1371/journal.pone.0017694

Pessoa, L. (2017). A network model of the emotional brain. *Trends in cognitive sciences*, *21*(5), 357-371. https://doi.org/10.1016/j.tics.2017.03.002

Phelps, E. A., & Sharot, T. (2008). How (and why) emotion enhances the subjective sense of recollection. *Current Directions in Psychological Science*, *17*(2), 147-152. https://doi.org/10.1111%2Fj.1467-8721.2008.00565.x

Pierce, J. E., & Péron, J. (2020). The basal ganglia and the cerebellum in human emotion. *Social Cognitive and Affective Neuroscience, 15*(5), 599–613. https://doi.org/10.1093/scan/nsaa076

Porter, S., & Birt, A. (2001). Is traumatic memory special? A comparison of traumatic memory characteristics with memory for other emotional life experiences. *Applied Cognitive Psychology*, *15*, 101-117. https://doi.org/10.1002/acp.766

Posner, J., Russell, J. A., & Peterson, B. S. (2005). The circumplex model of affect: An integrative approach to affective neuroscience, cognitive development, and psychopathology. *Development and Psychopathology*, *17*(3), 715-734. https://doi.org/10.1017%2FS0954579405050340

Powdthavee, N., Riyanto, Y. E., Wong, E. C. L., Yeo, J. X. W., & Chan, Q. Y. (2021). When face masks signal social identity: Explaining the deep face-mask divide during the COVID-19 pandemic. *PloS One*, *16*(6), e0253195-e0253195. https://doi.org/10.1371/journal.pone.0253195

Prosser, A. M. B., Judge, M., Bolderdijk, J. W., Blackwood, L., & Kurz, T. (2020). 'Distancers' and 'non-distancers'? The potential social psychological impact of moralizing COVID-19 mitigating practices on sustained behaviour change. *British Journal of Social Psychology*, *59*(3), 653-662. https://doi.org/10.1111/bjso.12399

Pruitt, D. G., & Carnevale, P. J. (1993). *Negotiation in social conflict.* Thomson Brooks/Cole Publishing Co.

Pruitt, D. G., & Kim, S. H. (2004). *Social conflict: Escalation, stalemate, and settlement* (3rd ed.). McGraw-Hill Higher Education.

Pruysers, S. (2020). Personality and attitudes towards refugees: Evidence from Canada. *Journal of Elections, Public Opinion and Parties*, 1-21. https://doi.org/10.1080/17457289.2020.1824187

Rees, L., Friedman, R., Olekalns, M., & Lachowicz, M. (2020). Limiting fear and anger responses to anger expressions. *International Journal of Conflict Management*, *31*(4), 581-605. https://doi.org/10.1108/IJCMA-01-2019-0016

Ritchey, M., Dolcos, F., & Cabeza, R. (2008). Role of amygdala connectivity in the persistence of

emotional memories over time: An event-related fMRI investigation. *Cerebral Cortex*, *18*(11), 2494-2504. https://doi.org/10.1093/cercor/bhm262

Roccato, M., & Russo, S. (2021). A new look on politicized reticence to vaccination: Populism and COVID-19 vaccine refusal. *Psychological Medicine*, 1-2. https://doi.org/10.1017/S0033291721004736

Rock, D. (2008). Scarf: A brain-based model for collaborating with and influencing others. *NeuroLeadership Journal*(1), 1-9.

Roozendaal, B., & McGaugh, J. L. (2011). Memory modulation. *Behavioral Neuroscience*, *125*(6), 797-824. https://doi.org/10.1037%2Fa0026187

Rosenbaum, L. (2020). Tribal truce — how can we bridge the partisan divide and conquer COVID? *The New England Journal of Medicine*, *383*(17), 1682-1685. https://doi.org/10.1056/NEJMms2027985

Rosenthal, R., & Jacobson, L. (1968). *Pygmalion in the classroom: Teacher expectation and pupils' intellectual development.* Holt, Rinehart & Winston.

Rozbroj, T., Lyons, A., & Lucke, J. (2019). The mad leading the blind: Perceptions of the vaccine-refusal movement among Australians who support vaccination. *Vaccine*, *37*(40), 5986-5993. https://doi.org/10.1016/j.vaccine.2019.08.023

Rubin, J. Z., Pruitt, D. G., & Kim, S. H. (1994). *Social conflict: Escalation, stalemate, and settlement* (2nd ed.). McGraw-Hill Book Company.

Rudert, S. C., Gleibs, I. H., Gollwitzer, M., Häfner, M., Hajek, K. V., Harth, N. S., Häusser, J. A., Imhoff, R., & Schneider, D. (2021). Us and the virus: Understanding the COVID-19 pandemic through a social psychological lens. *European Psychologist*, *26*(4), 259-271. https://doi.org/10.1027/1016-9040/a000457

Rui, J., & Stefanone, M. A. (2013). Strategic self-presentation online: A cross-cultural study. *Computers in Human Behavior*, *29*(1), 110-118. https://doi.org/10.1016/j.chb.2012.07.022

Sally, D. S., & Todd Jones, G. (2006). Game theory behaves. In A. Kupfer Schneider & C. Honeyman (Eds.), *The negotiator's fieldbook: The desk reference for the experienced negotiator* (pp. 87-94). American Bar Association.

Sandal, G. M., van de Vijver, F., Bye, H. H., Sam, D. L., Amponsah, B., Cakar, N., Franke, G. H., Ismail, R., Kjellsen, K., Kosic, A., Leontieva, A., Mortazavi, S., & Tien-Lun Sun, C. (2014). Intended self-presentation tactics in job interviews: A 10-country study. *Journal of Cross-Cultural Psychology*, *45*(6), 939-958. https://doi.org/10.1177/0022022114532353

Sandy, S., Boardman, S. K., & Deutsch, M. (2006). Personality and conflict. In M. Deutsch P. T. Coleman, & E. C. Marcus (eds.), *The handbook of conflict resolution: Theory and practice* (2nd ed.). Wiley.

Sandy, S., Boardman, S. K., & Deutsch, M. (2014). Personality and conflict. In P. T. Coleman, M. Deutsch, & E. C. Marcus (eds.), *The handbook of conflict resolution: Theory and practice* (3rd ed.). Jossey-Bass.

Sauerland, M., Raymaekers, L. H. C., Otgaar, H., Memon, A., Waltjen, T. T., Nivo, M., Slegers, C., Broers, N. J., & Smeets, T. (2016). Stress, stress-induced cortisol responses, and eyewitness identification performance. *Behavioral Sciences & the Law*, *34*(4), 580-594. https://doi.org/10.1002%2Fbsl.2249

Schmidt, M. (2019). *Tests for the 'big five' personality traits don't hold up in much of the world*. Discover. https://www.discovermagazine.com/mind/tests-for-the-big-five-personality-traits-dont-hold-up-in-much-of-the-world

Schweitzer, R., Perkoulidis, S., Krome, S., Ludlow, C., & Ryan, M. (2005). Attitudes towards refugees: The dark side of prejudice in Australia. *Australian Journal of Psychology*, *57*(3), 170-179. https://doi.org/10.1080/00049530500125199

Scott, W. A. (1962). Cognitive complexity and cognitive flexibility. *Sociometry*, *25*(4), 405-414. https://doi.org/10.2307/2785779

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*(1), 5–14. https://doi.org/10.1037/0003-066X.55.1.5

Senland, A. (2015). The neuroscience of human relationships: Attachment and the developing social brain. *Journal of Moral Education*, 44:1, 116-119, http://doi.org/10.1080/03057240.2014.971483

Sheldon, M. (2001). Psychiatric assessment in remote aboriginal communities. *Australian and New Zealand Journal of Psychiatry*, *35*(4), 435-442. https://doi.org/10.1046/j.1440-1614.2001.00920.x

Shweder, R. A., & Bourne, E. (1984). Does the concept of the person vary cross-culturally? In R. A. Shweder & R. LeVine (Eds.), *Cultural Theory* (pp. 158-199). Cambridge University Press.

Sibley, C. G., & Duckitt, J. (2008). Personality and prejudice: A meta-analysis and theoretical review. *Personality and Social Psychology Review*, *12*(3), 248-279. https://doi.org/10.1177/1088868308319226

Siever, L. J. (2008). Neurobiology of aggression and violence. *The American Journal of Psychiatry*, *165*(4), 429-442. https://doi.org/10.1176/appi.ajp.2008.07111774

Silvia, P. J., & Duval, T. S. (2001). Objective self-awareness theory: Recent progress and enduring problems. *Personality and Social Psychology Review, 5*(3), 230–241. https://doi.org/10.1207/S15327957PSPR0503_4

Simons, D. J., & Chabris, C. F. (1999). Gorillas in our midst: Sustained inattentional blindness for dynamic events. *Perception*, *28*(9), 1059-1074. https://doi.org/10.1068/p281059

Smith, C. (2015). Applying findings from neuroscience to inform and enhance mediator skills. *Australian Dispute Resolution Journal*, *26*, 249-258.

Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry, 13*(4), 249–275. https://doi.org/10.1207/S15327965PLI1304_01

Snyder, M. (1979). Self-monitoring processes. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 12, pp. 85-128). Academic Press. https://doi.org/10.1016/S0065-2601(08)60260-9

Speilman, R. M., Jenkins, W.J., & Lovett, M. D. (2020). *Psychology 2e*. Rice University. https://openstax.org/details/books/psychology-2e

Spence, S. (2022, February 4). *Canada's trucker protest: An epic security failure or a triumph of democratic freedom?* https://theconversation.com/canadas-trucker-protest-an-epic-security-failure-or-a-triumph-of-democratic-freedom-176146

Steinmetz, K. R. M., & Kensinger, E. A. (2013). The emotion-induced memory trade-off: More than an effect of overt attention? *Memory & Cognition*, *41*(1), 69-81. https://doi.org/10.3758/s13421-012-0247-8

Stevens, L. & Stamp, J. (2020). *Introduction to Psychology & Neuroscience* (2nd ed.). Dalhousie University. https://caul-cbua.pressbooks.pub/intropsychneuro/

Stewart, L. H., Ajina, S., Getov, S., Bahrami, B., Todorov, A., & Rees, G. (2012). Unconscious evaluation of faces on social dimensions. *Journal of Experimental Psychology: General*, *141*(4), 715-727. https://doi.org/10.1037/a0027950

Storbeck, J., & Clore, G. L. (2005). With sadness comes accuracy; with happiness, false memory: Mood and the false memory effect. *Psychological Science*, *16*(10), 785-791. https://doi.org/10.1111/j.1467-9280.2005.01615.x

Swann, W. B., & Hill, C. A. (1982). When our identities are mistaken: Reaffirming self-conceptions through social interaction. *Journal of Personality and Social Psychology*, *43*(1), 59-66. https://doi.org/10.1037/0022-3514.43.1.59

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worehel (Eds.), *The social psychology of intergroup relations* (pp. 33–47).

Tang, Y.-Y., Lu, Q., Geng, X., Stein, E. A., Yang, Y., & Posner, M. I. (2010). Short-term meditation induces white matter changes in the anterior cingulate. *Proceedings of the National Academy of Sciences*, *107*(35), 15649-15652. https://doi.org/10.1073/pnas.1011043107

Tanz, J. S., & Mcclintock, M. K. (2017). The physiologic stress response during mediation. *Ohio State Journal On Dispute Resolution 32*(1), 29-74.

Tehrani, H. D., & Yamini, S. (2020). Personality traits and conflict resolution styles: A meta-analysis. *Personality and Individual Differences*, *157*, 109794. https://doi.org/10.1016/j.paid.2019.109794

Theunissen, T. P. M., Meyer, T., Memon, A., & Weinsheimer, C. C. (2017). Adult eyewitness memory for single versus repeated traumatic events. *Applied cognitive psychology*, *31*(2), 164-174. https://doi.org/10.1002/acp.3314

Todorova, G., & Bear, J. B. (2014). Can conflict be energizing? A study of task conflict, positive emotions, and job satisfaction. *Journal of Applied Psychology*, *99*(3), 451-467. https://doi.org/10.1037/a0035134

Triandis, H. C., Chen, X. P., & Chan, D. K. S. (1998). Scenarios for the measurement of collectivism and individualism. *Journal of Cross-cultural Psychology*, *29*(2), 275-289. https://doi.org/10.1177/0022022198292001

Trueman, S. W. T. (2013). Contextualizing mental health nursing encounters in Australian remote aboriginal communities: Part 2, client encounters and interviews. *Issues in Mental Health Nursing*, *34*(10), 772-775. https://doi.org/10.3109/01612840.2013.775615

Turner, J. C., & Reynolds, K. J. (2012). Self-categorization theory. In P. A. M. v. Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 399-417). SAGE.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science, 211*(4481), 453–458. https://doi.org/10.1126/science.7455683

United Nations. (n.d.). *Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.* https://sdgs.un.org/goals/goal16

Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., Crockett, M. J., Crum, A. J., Douglas, K. M., Druckman, J. N., Drury, J., Dube, O., Ellemers, N., Finkel, E. J., Fowler, J. H., Gelfand, M., Han, S., Alexander, H. S., Jetten, J., . . . Willer, R. (2020). Using social and behavioural science to support covid-19 pandemic response. *Nature Human Behaviour*, *4*(5), 460-471. http://dx.doi.org/10.1038/s41562-020-0884-z

Van Bavel, J. J., Cichocka, A., Capraro, V., Sjåstad, H., Nezlek, J. B., Pavlović, T., Alfano, M., Gelfand, M. J., Azevedo, F., Birtel, M. D., Cislak, A., Lockwood, P. L., Ross, R. M., Abts, K., Agadullina, E., Aruta, J. J. B., Besharati, S. N., Bor, A., Choma, B. L., . . . Boggio, P. S. (2022). National identity predicts public health support during a global pandemic. *Nature Communications*, *13*(1), 517. https://doi.org/10.1038/s41467-021-27668-9

Van Damme, I., & Smets, K. (2014). The power of emotion versus the power of suggestion: Memory for emotional events in the misinformation paradigm. *Emotion*, *14*(2), 310-320. https://doi.org/10.1037/a0034629

Venu, A. N., Sigroha, S., & Shankar, S. (2021). Dynamics of social networks and collective behavior: A social identity approach [Opinion]. *Frontiers in Human Dynamics, 3*. https://doi.org/10.3389/fhumd.2021.676190

Weitz, D. (2011). The brains behind mediation: Reflections on neuroscience, conflict resolution and decision-making. *Cardozo Journal of Conflict Resolution, 12*, 471-490. https://www.pdx.edu/center-child-family/sites/centerchildfamily.web.wdt.pdx.edu/files/2020-07/FC-the-brain-behind-mediation.pdf

Westerman, T. (2021). Culture-bound syndromes in Aboriginal Australian populations. *Clinical Psychologist, 25*(1), 19-35. https://doi.org/10.1080/13284207.2020.1843967

Westerman, T., & Wettinger, M. (1997). Psychological assessment and intervention. https://indigenouspsychservices.com.au/wp-content/uploads/2018/10/Psychological-Assessment-of-Aboriginal-People-Assessment.pdf

Wiley, K. E., Leask, J., Attwell, K., Helps, C., Barclay, L., Ward, P. R., & Carter, S. M. (2021). Stigmatized for standing up for my child: A qualitative study of non-vaccinating parents in Australia. *SSM – population health, 16*, 100926-100926. https://doi.org/10.1016/j.ssmph.2021.100926

Williams, K. E. G., & Hinshaw, A. (2018). Outbursts: An evolutionary approach to emotions in the mediation context. *Negotiation Journal*, 165. https://doi.org/10.1111/nejo.12222

Wilmot, W. W., & Hocker, J. L. (2011). *Interpersonal conflict* (8th ed.). McGraw-Hill.

Wise, R. A., Sartori, G., Magnussen, S., & Safer, M. A. (2014). An examination of the causes and solutions to eyewitness error. *Frontiers in Psychiatry, 5*(102). https://doi.org/10.3389/fpsyt.2014.00102

Zarling, A., Lawrence, E., & Marchman, J. (2015). A randomized controlled trial of acceptance and commitment therapy for aggressive behavior. *Journal of Consulting and Clinical Psychology, 83*(1), 199-212. https://doi.org/10.1037/a0037946

Żemojtel-Piotrowska, M., Sawicki, A., & Jonason, P. K. (2020). Dark personality traits, political values, and prejudice: Testing a dual process model of prejudice towards refugees. *Personality and Individual Differences, 166*, 110168. https://doi.org/10.1016/j.paid.2020.110168

Zimbardo, P. G., Johnson, R. L., & McCann, V. (2009). *Psychology: Core concepts* (6th ed.). Pearson/Allyn and Bacon

REVIEW STATEMENT

Neuroscience, Psychology and Conflict Management was produced with support from the Open Educational Resources Collective initiative of the Council of Australian University Librarians.

This book has been peer-reviewed by a subject expert.

The review was structured around the needs of the intended audience of the book, and covered:

- subject matter
- accuracy
- presentation of diverse perspectives
- longevity of the text
- clarity of the writing
- structure
- consistency
- user experience.

The author wishes to thank Professor Ken Purnell, Head of Educational Research at Central Queensland University, Australia, for taking the time to thoroughly review the book.

Professor Purnell notes in his review that "this must-read resource connects psychology and neuroscience, enabling readers to handle conflicts with depth and insight," and, "it is a well-organised eBook that guides readers through the intricacies of conflict management". Professor Purnell also notes other attributes of the eBook:

- **Comprehensive integration**: This eBook skilfully integrates fundamental concepts from neuroscience, cognitive psychology, personality psychology, and social psychology, providing a thorough exploration of conflict management. It offers a complete view of conflict dynamics.
- **Research-informed content**: The eBook includes relevant, research-backed information, ensuring its credibility. Readers gain evidence-based insights, improving their comprehension of conflict resolution strategies.
- **Thought-provoking**: The content stimulates thought and inquiry. By introducing behavioural neuroscience, the book not only elucidates the origins of conflict but also provides readers with practical tools for effective conflict management.
- **Logical organisation**: This eBook is well-structured. The topics are logically organised, making for a seamless reading experience.
- **Appropriate arrangement**: The sections and chapters are thoughtfully arranged. The progression

aligns with the reader's level of understanding, making complex concepts easily accessible.

VERSIONING HISTORY

This page provides a record of changes made to this textbook. Each set of edits is acknowledged with a 0.1 increase in the version number. The exported files for this toolkit reflect the most recent version.

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1.0	11 March 2024	First published on the CAUL OER Collective Platform	