CHAPTER 12

STATES OF CONSCIOUSNESS

Consciousness relates to our awareness of our thoughts, feelings, perceptions and surroundings at any one moment in time. It creates our reality (what we believe to be real) and our sense of self. This chapter examines the psychological construct of consciousness, including normal waking consciousness and altered states of consciousness. It considers different states of consciousness – from when you are alert, to being not fully aware or even lacking awareness altogether.

KEY KNOWLEDGE

- consciousness as a psychological construct that varies along a continuum, broadly categorised into normal waking consciousness and altered states of consciousness (naturally occurring and induced)
- changes in a person's psychological state due to levels of awareness, controlled and automatic processes, content limitations, perceptual and cognitive distortions, emotional awareness, self-control and time orientation

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CHAPTER OVERVIEW

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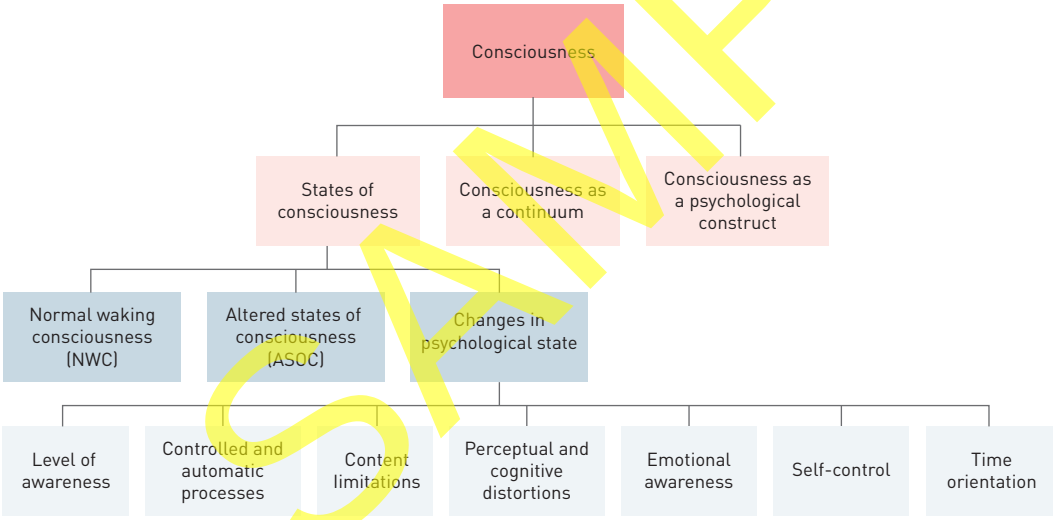
States of consciousness: two broad categories	> Normal waking consciousness > Altered states of consciousness
Changes in psychological state	> Level of awareness > Controlled and automatic processes > Content limitations > Perceptual and cognitive distortions > Emotional awareness > Self-control > Time orientation

CONTENT MAP



Consciousness as a psychological construct

Are you conscious? If you are reading this, the answer is most definitely yes! You probably already have a good idea about the meaning of the word 'conscious' and, indeed, the word 'unconscious'. In everyday conversation, we tend to use 'conscious' interchangeably with the word 'aware'. For example, how aware are you at this moment? Your answer will be subjective – it depends on what you are experiencing. It is also often difficult to describe to others and for others to completely comprehend.

What is consciousness?

Consciousness can be defined as the awareness of our own thoughts, feelings and perceptions (internal events) and our surroundings (external stimuli) at any given moment. It creates our reality (what we believe to be real and happening at this moment) and is central to our sense of self. Our sense of self is developed through being aware of what we are doing, why we are doing it and the awareness that others are probably observing, evaluating and reacting to it. Take a look around you. Can you describe your surroundings? Are you aware of what is going on in your environment? How do you feel about it?

Others cannot directly know what you are thinking, feeling or perceiving and most of us have some difficulty conveying this to others. Our own conscious experience is personal and private, and it is difficult to measure accurately or compare with other people's.

Why is consciousness a psychological construct?

Psychological constructs are used to understand or explain things that we believe exist but cannot see, touch, or measure in any way. Consciousness is a psychological construct because it is believed to exist, but we are unable to physically measure it, so descriptions are 'constructed' to explain it.

Consciousness as a continuum

Right now you are paying attention to the words on this page, but what were you focusing on a moment ago? Maybe you were daydreaming or thinking about an assessment task due today, making plans for the weekend or waking up from sleep. All these different mental activities represent different states of consciousness.

Our level of awareness of internal events and external surroundings varies throughout the day. You will have times when you are alert (such as during your Psychology class, of course!) and others when you are feeling quite drowsy. Consciousness can be thought of as operating on a continuum from a high level of consciousness or awareness through to the point of being unconscious (being totally unaware), as shown in Figure 12.1. The more aware we are of our thoughts, feelings, perceptions and surroundings, the higher the level of consciousness. Our level of awareness of internal events and external surroundings is known as a **state of consciousness**.

States of consciousness can also be divided into two broad categories – normal waking consciousness and altered states of consciousness. We will focus on these in detail in the second half of this chapter. **Normal waking consciousness** tends to occupy the middle part of the continuum in Figure 12.1 (the awake to alert zone).

An **altered state of consciousness** exists both on the lower part of the continuum (during reduced awareness) and the upper part of the continuum (during heightened awareness).

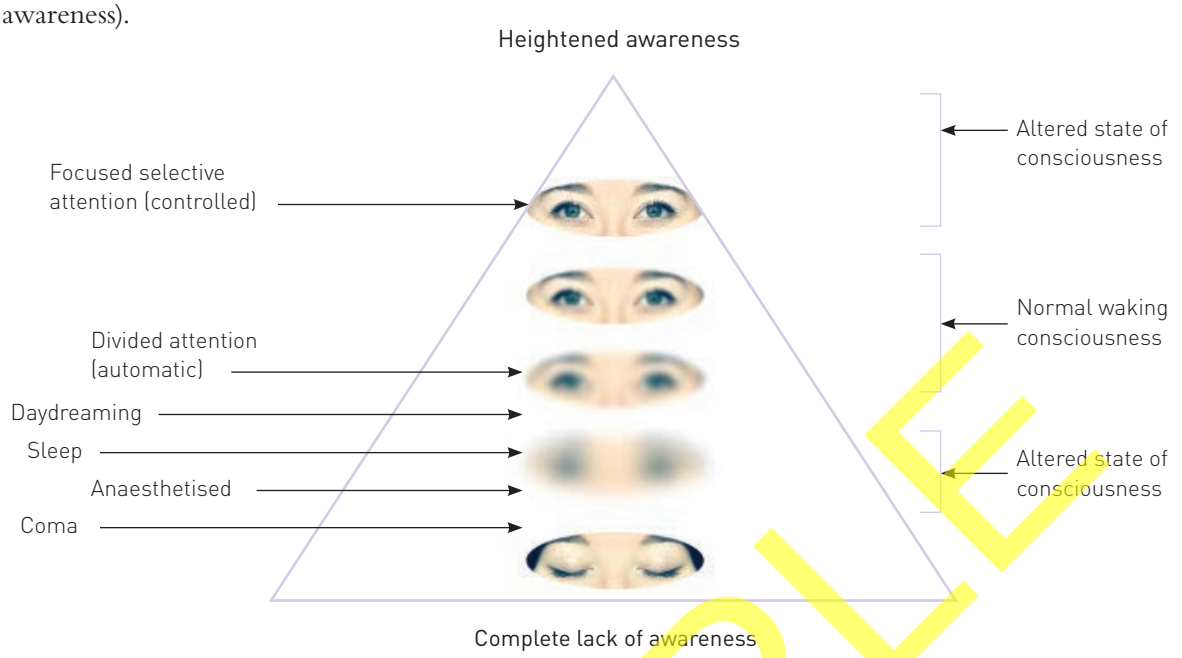


FIGURE 12.1 The continuum of awareness

12.1 INVESTIGATE

OUT THE WINDOW!

- Stand up and look out the window.
- Imagine that some animals have escaped from the zoo and you can see them out the window.
- For two minutes, think about what the consequences of this would be. For example, what could it look like outside this window?
- Pay attention to your thoughts and write brief points down on paper, making sure the order of your thoughts as they flow from one to another is evident. You might like to share some of your thoughts with the class.

QUESTIONS

1. What types of animals did you imagine? What were they doing?
2. Did your thoughts wander off track or did they focus on answering the question?
3. Was it easy, almost automatic and involuntary, to shift your awareness from one event to another?
4. At times, did you find yourself concentrating on internal events (for example, whether or not you are hungry, what homework you need to do tonight)?
5. At times, did you find yourself concentrating on your external surroundings (for example, what other students were doing, a noise outside the room, people walking outside)?
6. Read about William James. While initially you were forced to think about a question, the activity went for long enough for it to be part of a stream of consciousness. Explain how this activity relates to James's notion of 'stream of consciousness'.

WILLIAM JAMES: THE STREAM OF CONSCIOUSNESS

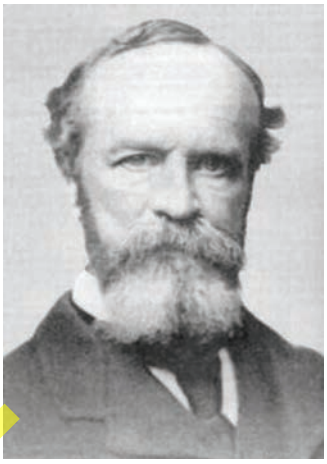


FIGURE 12.2 American psychologist William James (1842–1910)

William James (1842–1910) studied the conscious experience. He coined the phrase **stream of consciousness** as he viewed consciousness as an ever-changing series of thoughts that can shift smoothly and effortlessly from one moment to the next, just like water flowing in a stream.

According to James, our conscious experience is:

- *continuous*: it is never empty; thoughts are not isolated and can flow easily from one topic to another without interruption
- *ever-changing*: it rarely travels along one line of thought and constantly changes as we become aware of new information
- a highly *personal experience*: it relies on our own thoughts, feelings and perceptions
- *selective*: we can usually choose to focus on some things and ignore others. We can focus on *internal* events (thoughts, feelings and perceptions) and/or *external* surroundings
- *active*: consciousness has a purpose to allow us to function in our world.

> Consciousness … does not appear to itself chopped up into bits … a 'river' or a 'stream' are the metaphors by which it is most naturally described … as the brain changes are continuous so do all these consciousnesses melt into each other like dissolving views. Properly they are but one protracted consciousness, one unbroken stream.
>
> William James (1890)

FIGURE 12.3 James likened consciousness to a series of ever-changing thoughts that flow smoothly from one to the next.

When you looked out of the window during the exercise in Investigate 12.1, what did you think of? Did your mind keep track and focus on the question? The odds are that it didn't. Initially, you might have thought of the type of animals that could be outside, what they were eating. Your consciousness might then have shifted to wondering what you would have for lunch. You may be planning to eat with a friend. Next, you focus on where they are in the classroom. In the above scenario, your consciousness focused on internal and external events and consisted of an ever-changing stream of thoughts that shifted from one moment to the next with relative ease. It drifted along the stream at different paces.

REVIEW 12.1

1. Define consciousness.
2. Why is consciousness considered a psychological construct?
3. Consciousness is considered to be varied on a continuum of awareness. How does this relate to James's idea of the 'stream of consciousness', including his ideas of our conscious experience?

States of consciousness: two broad categories

States of consciousness are viewed as constantly changing on a continuum of awareness. Two broad categories exist on this continuum – normal waking consciousness and altered states of consciousness.

Normal waking consciousness

Think about how aware you are of your thoughts and feelings and what is happening around you at the moment. You have a real understanding of where you are, what time it is, what you are thinking, how you are feeling and who you are with. That is, you are experiencing normal waking consciousness – a state that is relatively organised, meaningful and clear. Normal waking consciousness can be loosely defined as the state of consciousness you experience when you are awake and aware of your thoughts, feelings and perceptions from internal events and the surrounding environment. Your experience during normal waking consciousness creates your reality and provides a baseline from which to judge other states of consciousness.

Throughout the day, and even throughout a lesson, your level of awareness will vary. You may focus intently on reading your textbook but later feel a bit drowsy and find yourself distracted by noise in the corridor outside. These changes are part of normal waking consciousness.

Altered states of consciousness

An altered state of consciousness can be defined as any state of consciousness that deviates from normal waking consciousness, in terms of marked differences in our level of awareness, perceptions, memories, thinking, emotions, behaviours and sense of time, place and self-control. As such, this could include states produced by the learnt technique of meditation, psychological drugs (including alcohol), fever, psychosis (a serious condition where the sense of reality is lost) and even daydreaming and sleep. Altered states are often culturally significant and can happen through religious experiences. An altered state of consciousness can be induced deliberately or occur naturally.

SUPPORTING UNDERSTANDING

Meditation – an example of an altered state of consciousness.

While meditation is not explicitly mentioned in the study design, it is an example of an altered state of consciousness that is a different experience from daydreaming or alcohol-induced states.

Meditation induces an altered state of consciousness in which a person uses mental exercises to become highly focused on a single thought to the exclusion of others. This single thought may be a stimulus that is usually ignored, such as breathing, or a simple stimulus such as a pattern or a word. As a result, meditation encourages a heightened awareness and brings cognitive processes under greater control. The normal flow of consciousness is disrupted and, with practice, meditation prevents the ever-changing stream of thoughts from entering consciousness.

INVESTIGATE 12.2

GUIDED MEDITATION

Guided meditation exercises encourage a relaxed state and are particularly good for someone who is new to meditation and prefers listening to a soothing, relaxed voice. Meditation is a trained skill and it takes practice to become good at it. Meditation can help you become calmer and your thoughts become clearer.

Before you start, take the following measurements:

- your level of anxiety, on a scale of 1 = very calm, 2 = calm, 3 = slightly tense, 4 = tense 5 = very tense
- your heart rate (beats per minute).

Your teacher will take you through a meditation exercise. Follow their instructions and then answer the questions about your experience.

Discussion

1 First take your measurements:
   - your anxiety levels
   - your heart rate
   - an estimate of how long the exercise took.

2 Consider your measurements.
   - **a** Were you able to relax during this activity? Did your anxiety level reduce?
   - **b** Did the meditation exercise reduce your heart rate?
   - **c** Did you accurately guess the amount of time that passed during the meditation exercise?

3 Collect class results. Work out the mean for each type of measurement.

	DIFFERENCE IN ANXIETY LEVELS	DIFFERENCE IN HEART RATE	PERCEIVED LENGTH OF TIME	DESCRIPTION OF THE EXPERIENCE
Individual results				
Class results (means)				

4 Discuss the results. To what extent did participants experience an altered state of consciousness?

Changes in psychological state

Think of a time when you were sick with a high fever. What did you experience? Did you lose track of where you were and what was happening around you, your sense of time and the ability to think clearly?

Now think of a time you were at a party with lots of people, loud music and flashing lights. Did you 'absorb' yourself into the scene? If so, did the time fly? Were you extremely happy and less inhibited than usual? If you answered yes, then you experienced an altered state of consciousness. You don't need drugs to deliberately alter your state of consciousness: an environment such as this one can do it for you.

FIGURE 12.4 Being sick with a fever is an example of an altered state of consciousness.

The following characteristics help determine whether you are experiencing normal waking consciousness or an altered state of consciousness and highlight the changes in psychological state. The differences between these characteristics in terms of normal waking consciousness and altered state of consciousness are also summarised in Table 12.2 on page xx.

Level of awareness

Awareness relates to how conscious or aware you are of internal (within your body) and/or external (within your environment) events. A number of levels of awareness exist during normal waking consciousness, from having little awareness of internal and external events to being tuned in to specific ones. It is not unusual to swap 'consciousness' with the term 'awareness' since they are linked together. Your level of awareness influences the other characteristics of consciousness.

Look back at the continuum of awareness (Figure 12.1). In an altered state of consciousness, your level of awareness either decreases or increases compared to normal waking consciousness. You become more or less aware of your perceptions and/or surroundings. When suffering from a fever, for example, you become less aware of what is happening in your environment. If you are experiencing heightened awareness, you can become more aware of certain events that are happening around you.

INVESTIGATE 12.3

LEVELS OF AWARENESS

Study the following pictures. Place the pictures in an order along a continuum, from total awareness (highly alert) to complete lack of awareness (unconsciousness or in a coma). Are some easier to place on the continuum than others? Explain.

SUPPORTING UNDERSTANDING

Attention

At any given time, an enormous amount of information is available from our senses, memories and other cognitive processes. It is impossible to attend to all of this information. Your attention can be focused on events that are taking place in the environment (external) or inside your mind (internal) and attention can shift *consciously* or *unconsciously*.

Attention relates to the information that you are *actively processing*, either consciously or even outside your conscious awareness. Attention overlaps with consciousness, as what you are consciously aware of is often also the focus of attention. For example, try recalling what you ate for dinner last night. The answer requires attention in order to reach your conscious awareness.

A range of stimuli can attract our attention, including:

- novel stimuli (such as something new or unusual)
- changes in stimulation (such as the volume on a radio suddenly increasing)
- something that is personally meaningful to us (such as our name being mentioned across a crowded room) or important for us to attend to at the time.

Attention may be broadly classified into the following types:

- **Selective attention** refers to the *limitations* placed on how much we can focus at any given moment on one stimulus or event to the exclusion of others.
- **Selective inattention** refers to the way we attend to (or do not attend to) information that may be relevant but emotionally upsetting.
- **Divided attention** refers to the capacity to attend to and perform two or more activities at the same time.

Controlled and automatic processes

When you write a sentence, you pay attention to its meaning or the spelling of a word rather than the process of forming each letter. The act of writing each letter or word is automatic, with little mental effort or conscious awareness. **Automatic processes** require very little awareness or mental effort to be performed well and they generally don't interfere with other automatic or controlled processes. In other words, automatic processes require little attention and little thought and can allow you to do two things at once.

Another example of an automatic process is texting on a mobile phone. Many people are very fast and efficient at doing this. They are well-practised and know exactly where the buttons are and so can create the message with ease. For them, texting is a simple task that requires little mental effort.

Compare this to someone who is learning how to write text messages. This could be someone who has a new mobile phone or a person who rarely sends text messages. The person must concentrate on how to create the message – it requires their full attention. For this person, texting is a complex task as it is yet to be learnt or mastered and requires greater mental effort. It is an example of a **controlled process**. Controlled processes require full awareness and mental effort to focus on the required task. This person needs to be consciously aware of what they are doing and concentrate on how to perform the task. They are unable to complete another controlled process at the same time as both would require their full attention and therefore would interfere with each other. A person sending a text message for the first time is unlikely to be able to listen to an important announcement simultaneously.

FIGURE 12.5 Learning to drive is a complex process. With practice, the basic skills of driving become automatic.

Learning how to drive provides a very good example of how an activity can become automatic. At first, you can feel awkward and experience difficulties monitoring your hands and feet, especially if you are learning to drive a manual vehicle. At this stage, operating the car requires your full attention because it is a controlled process. You might even find it hard to talk to your instructor or read road signs. As your skills develop, you will find it easier to steer, indicate, check the rear-view mirror and change gears. Finally, you will find yourself doing these things automatically and be able to concentrate on the traffic and other driving conditions. The basic skills of driving the car are now automatic processes.

Attention relates to our ability to undertake controlled and automatic processes.

- Controlled processes require selective attention – a person must actively focus attention in order to successfully complete the task.
- Automatic processes enable us to have divided attention – if a task requires little mental effort and attention, we can often engage in other tasks at the same time.

TABLE 12.1 The differences between automatic and controlled processes

	AUTOMATIC PROCESS	CONTROLLED PROCESS
Amount of conscious awareness	Requires little, if any, conscious awareness	Requires full conscious awareness
Attention	Requires little attention or mental effort (enables us to have divided attention)	Requires selective attention (must actively focus attention on the task)
Task difficulty	Simple (easy) or mastered tasks	Usually complex (difficult) or novel (new or yet to be mastered) tasks

In an altered state of consciousness, you usually find it difficult to carry out controlled processes. Your ability to perform some automatic processes can also be impaired. In some altered states of consciousness, however, you may be so focused (high level of awareness) that you find some tasks easier.

INVESTIGATE 12.4

MEDIA RESPONSE: ON THE PHONE? GET OFF THE ROAD!

The use of mobile phones, either handheld or hands free, is banned for L-plate and P1-plate drivers. It is also illegal for all drivers to touch a mobile phone while in control of a motor vehicle, even when stopped at traffic lights.

Go to the TAC website. Download and read the brochure.

Is this law fair? Is driving while using a mobile phone dangerous? Obviously, physically touching a mobile phone is dangerous – a driver has to take a hand off the steering wheel and eyes off the road. Therefore, it is physically impossible to carry out the tasks simultaneously. But what about the use of hands free mobile phones for inexperienced drivers?

Prepare a supporting document that justifies the banning of mobile phones while driving laws. Outline the laws and the reasons for implementing them. Using psychological terms, relate your argument to the relevant characteristics of normal waking consciousness.

What other laws exist that are applicable for inexperienced drivers only? Can these laws be justified using the same psychological reasoning? Discuss.

Content limitations

During normal waking consciousness, we mainly control what we focus our attention on, and our thoughts tend to be organised and logical. For instance, to read this page you must focus your attention on it to be able to see the print. You need to think logically and limit your attention to what is written in order to fully understand it. The content (type of information) of normal waking consciousness is therefore generally *more limited* (restricted) than the content of altered states of consciousness. Our thoughts tend not to be as creative, bizarre, unrealistic or impossible as our thoughts during an altered state of consciousness.

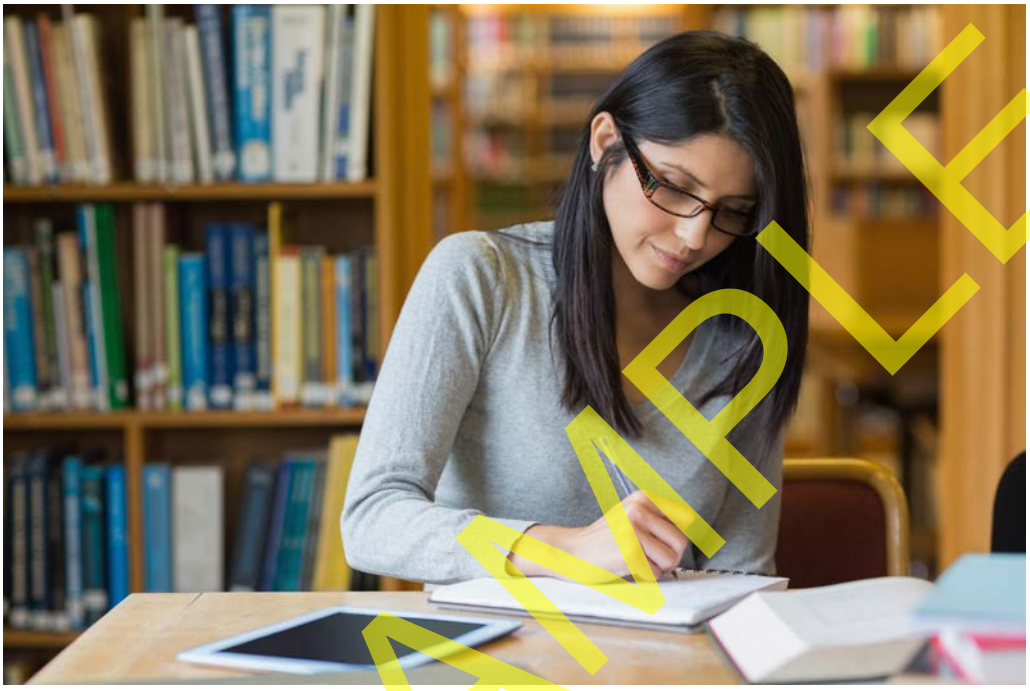


FIGURE 12.6 During normal waking consciousness, we control what we focus our attention on, such as the words we are reading or writing while doing homework.

During an altered state of consciousness, your ability to pay attention to certain tasks can be increased or decreased compared to normal waking consciousness. In normal waking consciousness you can usually prevent yourself from focusing your attention on issues, thoughts or events that are unpleasant. During an altered state of consciousness, whether it is naturally occurring (such as sleep) or artificially induced (such as by drugs), your mental defences are lowered and the content of your thoughts and dreams may be both broader and deeper than in normal waking consciousness. The content of your consciousness when in an altered state of consciousness is often disorganised and senseless or bizarre and unusual. Or, to the other extent, its content could be extremely narrow (limited) as you concentrate intently on one thing.

Tasks that require selective attention may be impaired during an altered state of consciousness. It can also be very difficult to divide attention, even between automatic processes.

Perceptual and cognitive distortions

Perception is the process of organising sensory input and giving it meaning. During normal waking consciousness, our perceptions are usually clear and rational. We can make sense of sensory input and have a real awareness of our internal state and any external stimuli.

Your perception of sensory input is often quite different in an altered state of consciousness. For instance, you may perceive colours as being more vivid or duller. You might not perceive pain or you might have a stronger reaction to it. Vision, hearing, touch, taste, smell and balance can all be affected in an altered state of consciousness.

Cognition is a broad term that relates to mental activities such as thinking, problem-solving, language, analysis and reasoning. During normal waking consciousness, we have a sense of reality. Our thoughts are usually rational, clear and meaningful. During normal waking consciousness, the brain actively stores information in the memory and retrieves it for use in thinking. Memory is a vital component of normal waking consciousness as it is involved in nearly every activity we undertake. We can generally access our memories and remember events and experiences processed into long-term memory in this state.

There is a tendency for cognitive functions to become distorted during an altered state of consciousness. Thoughts may become disorganised, as evidenced during some dreams. Thinking may lack logic and problem-solving may be impaired. The memory of events that occurred during an altered state of consciousness might not be accurate and we might not even be able to recall them at all during normal waking consciousness. Furthermore, we may have difficulty remembering things that we normally remember in normal waking consciousness, such as a good friend's name or our telephone number.

Emotional awareness

During normal waking consciousness, we are generally aware of our feelings and usually show a range of emotions that are normal for us and appropriate for the situation. We can usually monitor our emotions and even hide our true feelings from others.

The way emotions are experienced is often different during altered states of consciousness.

Emotions can be heightened. This means they can become more intense, such as being much happier or sadder.

Emotions can also be dulled to the extent that people feel emotionally numb. This can happen, for example, when someone is in a state of shock following a crisis or personal tragedy.

Emotions might also be inappropriate as there can be a lack of understanding of the emotional reality of the situation.

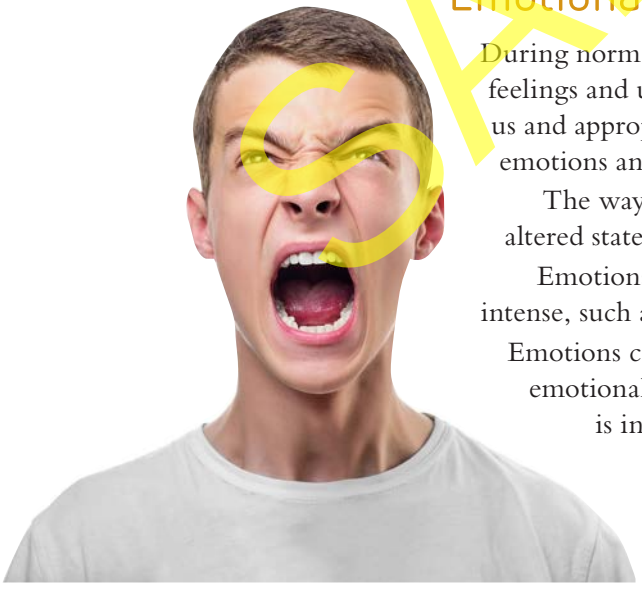


FIGURE 12.7 Emotions can be heightened when experiencing an altered state of consciousness.

Self-control

Consciousness allows us to direct our thinking and monitor our impulses and behaviours. During normal waking consciousness, our ability to maintain self-control is usually maintained. We tend to be quite reserved and avoid doing anything that we think is risky or embarrassing.

Our ability to maintain self-control is often reduced during an altered state of consciousness. Our inhibitions are lowered and we might do things we would not do during a normal state of consciousness. We might be more open to suggestion, meaning that we are more likely to follow instructions with little resistance or thought about the consequences. However, this is not always the case: some people gain greater self-control in certain altered states of consciousness.

Time orientation

During normal waking consciousness, we usually have a good awareness of the passage of time. It is perceived to move in 'real' time. For example, when it feels as if 10 minutes have passed, about 10 minutes have actually passed. We understand where we are in time (night or day, year and hour) and are able to focus on the past, present and future.

Time tends to be experienced at a different speed when in an altered state of consciousness. For example, when woken from sleep after just one hour, you may be surprised that you haven't yet had an entire night's sleep. On other occasions, you can't believe that a whole night has passed when the alarm sounds to herald the start of another day of school.

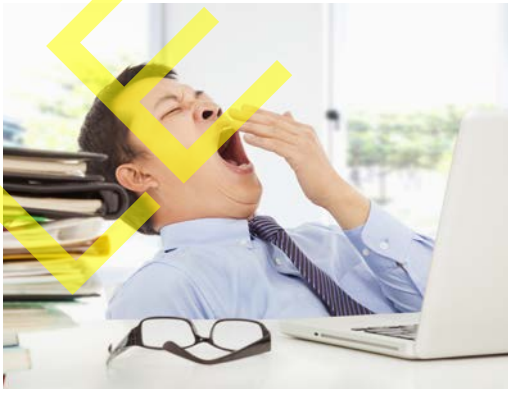


FIGURE 12.8 Time can seem to slow down when in some altered states of consciousness, such as when you are bored.

It is difficult to differentiate between the infinite number of states of consciousness that we experience. Therefore, we tend to divide them into the two broad categories of normal waking consciousness and altered states of consciousness. Some of the differences between these two categories are summarised in Table 12.2.

TABLE 12.2 Comparisons between normal waking consciousness and altered states of consciousness

CHARACTERISTIC	NORMAL WAKING CONSCIOUSNESS	ALTERED STATE OF CONSCIOUSNESS
Level of awareness (awareness of internal and external events)	Awake and generally aware of internal and external events. A good sense of place, time and reality.	May be increased or decreased compared to normal waking consciousness. Most often, level of awareness is lowered during an altered state but can be increased when a person experiences heightened awareness.
Controlled and automatic processes (your ability to effectively perform two or more tasks at once depending on the level of complexity)	Able to perform controlled and automatic processes within normal limits. Attention is focused or highly selective and can be divided between tasks.	Usually less (although sometimes more) able to perform controlled processes and automatic processes. Usually less control over attention, which may be highly selective but less able to be divided between tasks.

CHARACTERISTIC	NORMAL WAKING CONSCIOUSNESS	ALTERED STATE OF CONSCIOUSNESS
Content limitations(the amount of control you have to limit what you attend to)	More constrained and controlled. Can selectively process different parts of what is in consciousness.	May be more or less than in normal waking consciousness. Usually less constrained or controlled, with reduced ability to process information but fewer limitations on content.
Perceptual and cognitive distortions (the degree of awareness and efficiency of your perceptions and cognitions, i.e. memory and thought processes)	Perceptions (including of pain) are realistic and normal. Effective control of the memory processes of storage and retrieval. Thought processes organised and logical.	Perception (including pain) may be altered. Memory processes may be disrupted or distorted: storage and recall may be more fragmented or less accurate. Thought processes disorganised and less logical.
Emotional awareness (the experience of emotions, i.e. feelings)	Greater awareness of emotions and control of emotional awareness.	Less (although sometimes more) control of emotions, e.g. more or less affectionate, aggressive, anxious.
Self-control (the ability to maintain self-control, usually in terms of monitoring behaviours)	More control over actions and movements, e.g. you are able to make yourself walk in a straight line.	Usually less control over actions and movements, e.g. not able to make yourself walk in a straight line. Less control over emotions and thoughts but greater susceptibility to suggestion may increase self-control.
Time orientation (your ability to correctly perceive the speed at which time passes)	Clear sense of time, e.g. the passage of time, including past, present and future.	Distorted sense of time, e.g. time may appear to speed up or slow down.

INVESTIGATE 12.5

RESEARCH INVESTIGATION: SHEEP DASH! GAME

Go to the Sheep dash! game on the BBC website or find a similar media game that measures your reaction time. Your level of alertness depends on your state of consciousness at the time and therefore will affect your reaction time.

Play this game under different conditions, for example, at a time when you:

- are drowsy (for example, after lunch or on a hot afternoon)
- are alert (for example, mid-morning)
- have recently had caffeine or sugary food (for example, chocolate).

Before playing the game, rate your state of consciousness by completing the information in the table.

To measure awareness, use the scale: 1 = asleep, 2 = drowsy, 3 = relaxed, 4 = intense, 5 = hyper-aroused.

To measure heart rate, tilt your head up and place two fingers against the carotid artery on one side of your neck. Count the pulses for 30 seconds, then multiply this by two to get the number of beats per minute.

Other physiological measurements such as body temperature, blood pressure and respiration rate may also be measured.

DATE	TIME	LEVEL OF AWARENESS	HEART RATE	CONDITIONS (INCLUDE ACTIVITY PRIOR TO THIS ONE THAT MAY ALTER YOUR STATE OF CONSCIOUSNESS, E.G. SLEEP, MEAL, SPORT, CONCERT)	SHEEP DASH! REACTION TIME

Questions

1 Under what condition(s) was your reaction time the fastest? Slowest?
2 Was there evidence that your level of awareness affected your reaction time?
3 Was there an association between your level of awareness and your heart rate?
4 Were there any environmental conditions (potentially confounding variables) that may have affected your performance during one of the trials?

12.3 REVIEW

1 List some of the characteristics of consciousness that may change as a result of changes in psychological state (changes in states of consciousness).
2 In terms of self-control, how do we tend to behave during normal waking consciousness?
3 In terms of controlled and automatic processes, explain why learner drivers must log 120 hours of supervised driving time.
4 Consider a time when you experienced one of the following:
   - being sick with a high fever
   - being at a party with lots of people, loud music and flashing lights.
5 Describe the characteristics of consciousness you experienced in terms of your:
   a level of awareness
   b ability to perform controlled and automatic processes
   c content limitations
   d perceptual and cognitive distortions
   e emotional awareness
   f self-control
   g time orientation.
6 Do you think these experiences are examples of altered states of consciousness? Explain your answer.

CHAPTER SUMMARY 12

- Consciousness is an awareness of our own thoughts, feelings and perceptions (internal events) and our surroundings (external stimuli) at any given moment.
- Consciousness is a psychological construct because it is believed to exist but cannot be directly observed or measured. Descriptions are 'constructed' to explain it.
- Consciousness can be thought of as operating on a continuum, from a high level of consciousness (awareness) through to a low level and even on to the point of being unconscious (totally unaware).
- Normal waking consciousness is the state of consciousness we experience when we are awake and aware of our thoughts, feelings and perceptions generated from internal events and the environment.
- If we deviate from this normal baseline of waking consciousness, we experience an altered state of consciousness, which may reflect either heightened or reduced awareness.
- Differences in psychological states of consciousness can be described in terms of the following characteristics:
  - level of awareness: that is, more or less aware of internal and external events
  - controlled and automatic processes: ability to effectively perform two or more tasks at once, depending on their level of complexity, is more likely to decline and it is more difficult to perform automatic processes
  - content limitations: that is, usually less (though sometimes more) control to limit what you want to attend to
  - perceptual and cognitive distortions: the degree of awareness and efficiency of your perceptions and cognitions (thoughts and memories) is often more distorted
  - emotional awareness: the experience of emotions (feelings) is more or less in an altered state
  - self-control: the ability to maintain self-control, usually in terms of monitoring behaviours, is affected
  - time orientation: the ability to correctly perceive the speed at which time passes.

ESSENTIAL EXAM KNOWLEDGE

KEY TERMS

For the exam, you must know definitions for the following key terms and concepts and be able to relate them to an example where appropriate:

- altered states of consciousness
- attention
- automatic processes
- cognition
- consciousness
- continuum of awareness
- controlled processes
- divided attention
- normal waking consciousness
- perception
- selective attention
- state of consciousness.

KEY IDEAS

For the exam, you must know:

- the reason why consciousness is a psychological construct
- that consciousness varies on a continuum of awareness
- the difference between normal waking consciousness and altered states of consciousness
- the ability to classify examples of a state of consciousness as normal waking consciousness or altered state of consciousness with reference to possible differences in the following characteristics:
  - level of awareness
  - controlled and automatic processes
  - content limitations
  - perceptual and cognitive distortions
  - emotional awareness
  - self-control
  - time orientation.

RESEARCH METHODS

For the exam, you must be able to:

- understand the challenges that surround studying consciousness
- use your knowledge of research methods to evaluate a research study
- apply your knowledge and understanding from this chapter to a related research study
- understand ethical considerations relating to studying consciousness.

TEST YOUR UNDERSTANDING

1 Johannes is sitting in class, trying to listen to what the teacher is saying but he is also aware that he is feeling warm in the sunshine, he is looking forward to a game of tennis after school, the new girl in the row in front of him has sparkling highlights in her hair and the chair he's been sitting in for the double lesson has a hard seat! Johannes is most likely experiencing:
   a normal waking consciousness
   b an altered state of consciousness showing reduced awareness
   c an altered state of consciousness showing heightened awareness
   d distortions of cognition and perception.

2 Ravi is experiencing an altered state of consciousness. He does not notice that the temperature has dipped to below 4 °C. Which of the following explains his experience according to the characteristics of an altered state?
   a Ravi's self-control is reduced.
   b Ravi's controlled processes require increased attention.
   c Ravi's perception of the passage of time is distorted.
   d Ravi's perceptions are distorted.

3 Which of the following is likely to be true for a person in an altered state of consciousness?
   a The person may find it easy to judge the passage of time.
   b The person may have more control over emotions.
   c The person may be more open to suggestion.
   d The person may find that their powers of thought and reasoning are enhanced.

4 Which of the following is unlikely to be true for a person in an (heightened awareness) altered state of consciousness?
   a The person may find it difficult to judge the passage of time with accuracy.
   b The person may be more sensitive to noise than in normal waking consciousness.
   c The person may be more (or less) emotional than they are when in normal waking consciousness.
   d The person may find that they are paying selective attention to several automatic processes.

5 Which of the following scenarios displays the highest level of awareness?
   a Emma is bored in class and puts her head down on the desk to fall asleep.
   b Justin is watching his favourite show on TV while eating chips.
   c c Cadence is about to jump out of a plane to go tandem skydiving.
   d d Will is reading a book while he is on the train.

6 Sacha is sitting in class one afternoon after having an iced coffee at lunchtime. She hears what the teacher is saying, and is very interested as she takes notes rapidly. Sacha can be described as being in:
   a an altered state of consciousness of heightened awareness
   b an altered state of consciousness of reduced awareness
   c a state of normal waking consciousness
   d a state of heightened waking consciousness.

7 Which of the following is a true statement?
   a Controlled processes require no attention.
   b Automatic processes require little attention.
   c Controlled processes require little attention.
   d Both controlled and automatic processes require full attention

8 When Erwin was first learning to play the guitar, he found it impossible to change chords and sing at the same time. Now that he has been in a rock band for two years, he finds it easy to play, sing and even perform complex sequences of steps on stage. The explanation for this is:
   a an automatic process has become a controlled process, requiring little attention
   b a controlled process has become an automatic process, requiring full attention

c an automatic process has become a controlled process, requiring full attention

d a controlled process has become an automatic process, requiring little attention.

9 Victor has been driving a manual car for several years; Hugo has just passed his test for his P-plates. When Miranda is a passenger in their cars, she finds that she can have a sensible conversation with Victor but Hugo does not seem to pay any attention to her. Which of the following is the most likely explanation for this?

a For Victor, driving is a controlled process enabling divided attention.

b For Victor, driving is a controlled process requiring selective attention.

c For Hugo, driving is a controlled process enabling divided attention.

d For Hugo, driving is a controlled process requiring selective attention.

10 Tia is taking her first driving lesson in a manual car. Which of the following is not likely to be true?

a Tia finds it difficult to judge the passage of time.

b Tia finds it difficult to hold a sensible conversation with the instructor.

c At the end of the lesson, Tia finds it difficult to remember features of the buildings they have passed.

d At the end of the lesson, Tia can recall all the features of the route they have taken.

SHORT ANSWER

11 Define 'consciousness' and outline the idea that consciousness varies according to states.

1 mark

12 a Explain the concept of a psychological construct, giving consciousness as an example.

1 mark

b Name some other psychological constructs you have been studying in Psychology this year.

1 mark

13 Describe the defining difference between normal waking consciousness and altered states of consciousness.

2 marks

14 a What is the 'continuum of awareness'?

1 mark

b Where does altered states of consciousness tend to be situated on the continuum of awareness?

1 mark

15 Can we experience more than one state of consciousness during normal waking consciousness? Explain your answer.

2 marks

16 Give one example of naturally occurring altered states of consciousness and one example of deliberately induced altered states of consciousness.

2 marks

17 Our psychological state of consciousness is tied to a number of different characteristics. Name and describe some of these characteristics.

3 marks

18 Playing 'Advance Australia Fair' on the piano can change with experience from being a controlled process to being an automatic process. Explain what this means.

2 marks

19 Marcel is working outside on an extremely hot day. As a result, he is experiencing an altered state of consciousness. What is he likely to experience, in terms of:

a content limitations?

1 mark

b perceptual and cognitive distortions?

1 mark

c perception of time?

1 mark