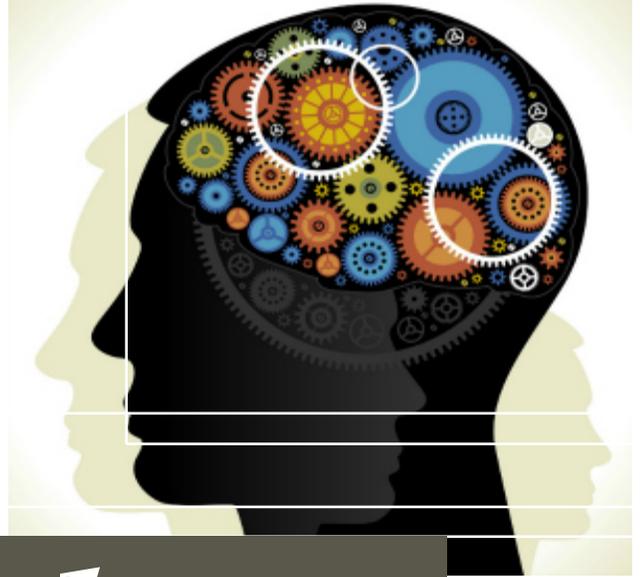


In this issue >>>

Hear from our Year 12 students as they explore a wide range of interesting topics within Psychology.

June 2022

# Psychology



current topics >>>

- ⌘ *Freud's controversial theories Pg.1*
- ⌘ *How does cultural perspective play an important role in psychology? Pg.2*
- ⌘ *How does cultural relativism affect us when we are defining abnormality Pg.3*
- ⌘ *Stages of sleep Pg.4-5*
- ⌘ *A summary of a psychological study Pg.6*
- ⌘ *Phobias: Day-by-day or lifetimes old? Pg.7*



## Freud's controversial theories

Sigmund Freud's biggest contribution to Psychology was providing psychologists and scientists alternative ways to approach mental disorders. Traditionally, those diagnosed with a mental disorder that needed treatment were put on physical/ medicinal treatments and for many years psychologists believed that this was the best way to 'solve' mental illness. However, Freud's research brought about the creation of 'talking therapies'. These are our more recognised modern day forms of therapy such as counselling. While Freud gave immeasurable contributions to the world of Psychology – many of his theories were bizarre and spark controversy even today.

However, in this article we will be talking about the **three parts of personality- id, ego and superego:**

1. The id is an unconscious parts of the personality and seeks immediate gratification. For example, if Jane is hungry and sees an apple pie cooling in a window, she takes it for herself.
2. The superego causes feelings of guilt when rules are broken, therefore the superego is our morals, principals, and ethics. For example, Jane's superego would enable her to do nothing when she sees an apple pie cooling in a window. Her superego tells her that it is someone's pie and that it is not acceptable to trespass on someones property and take their pie.
3. The ego concerns the reality of the situation. The ego mediates between the id and superego. For example, Jane's ego would tell her that she should not take the pie from the windowsill, but instead she can buy some pie at the nearest supermarket.

By Maanya Sawhney

# How does cultural relativism affect us when we are defining abnormality?

By Natasha  
Surender

*There are different ways of classifying abnormality, one is deviation from ideal mental health (defined by Jahoda as criteria necessary for meeting ideal mental health, including: resistance to stress, growth/ self- actualisation, high self-esteem and sense of identity, autonomy, accurate perception of reality and successfully working, loving and enjoying our leisure). However different areas of this criterion may be culture bound as they are firmly rooted in the context of US and Europe. Particularly the concept of self-actualisation (striving to reach our potential) would likely be dismissed as self-indulgent in much of the world. Furthermore what defines success in our working, social and love-lives is very different in different cultures.*

*Another definition of abnormality is deviation from social norms (concerning behaviour that is different from the expected standards of behaviour in a community or society). A limitation, however, of this definition of abnormality stems from differences in cultural perspective. For example a person from one cultural group may label someone from another group as abnormal using their standards rather than the person's standards, i.e. the experience of hearing voices is the norm in some cultures (as messages from ancestors) but would be seen as a sign of abnormality in most parts of the UK.*

*One of the biggest controversies in relation to classification and diagnosis concerns the ICD (the International Classification of Diseases (ICD)) are culturally biased because it is created in Europe, Psychology is a discipline that evolved within a very specific cultural context: - 64% of psychological researchers from US; in some texts, 90% of studies have US Participants; samples are predominantly white, middle class. This means they tend to use definitions of abnormality that are not relevant to all cultures. For example, Davison & Neale (1994) explain that in Asian cultures, a person experiencing some emotional turmoil is praised & rewarded if they show no expression of their emotions. However in certain Arabic cultures the outpouring of public emotion is understood and often encouraged. Without this knowledge, an individual showing overt emotional behaviour may be regarded as abnormal, when in fact it is not. Unfortunately cross-cultural misunderstandings are common, and may contribute to unfair and discriminatory treatment of minorities by the majority. For example the high diagnosis rate of schizophrenia amongst non-white British people, Cochrane (1977) reported that the incidence of schizophrenia in the West Indies and the UK is 1 %, but people of African-Caribbean origin are seven times more likely to be diagnosed as schizophrenic when living in the UK.*

*A major advantage of increasing the awareness of cultural bias is that it has had major practical and theoretical applications and therefore has had a major contribution to Psychology.*

*By identifying the possible issues of cultural bias, we have significantly increased our understanding of the impact of culture, of cultural differences and also of culture specific behaviours. This has had major benefits, for example in the diagnosis of mental illness where culture specific behaviours were often mis-diagnosed as symptomatic of psychological abnormality. Recent issues of diagnostic manuals such as the DSM now include a list of culture specific behaviours. This is a major step forward as such understanding of cultural differences and variations can lead to more accurate diagnosis of mental health issues. A recognition of cultural differences leads to less discrimination.*

# How does cultural perspective play an important role in psychology?

Culture can be described as all the knowledge and values shared by a society, however cultures may differ from one another in many ways. This means that the findings of psychological research conducted in one culture may not apply directly to another and the tendency to interpret all phenomena through the 'lens' of one's own culture, ignoring the effects that cultural differences might have on behaviour, known as "cultural bias" is common. One of the most infamous examples of the damage that can be created by cultural bias was the US Army IQ tests used just before the First World War. The tests showed that European immigrants fell slightly below white Americans in terms of IQ and that African Americans were at the bottom of the scale with the lowest mental age. Such research could lead to a number of (incorrect) negative implications/beliefs developing, individuals may be misled to believe that European immigrants and African Americans are not as 'intelligent' or as 'well educated' as White Americans. This could have led to pre-existing discrimination being reinforced, such false findings could be used to prevent African Americans and European immigrants from being assigned certain jobs and could create a false hierarchy in society.

This is an example of ethnocentrism, when one judges other cultures by the standards and values of one's own culture, for example the IQ test may have tested knowledge specific to the U.S and understandably migrants would score less coming from a different cultural background. In its extreme form, ethnocentrism is the belief in the superiority of one's own culture which may lead to prejudice and discrimination towards other cultures.



However, there have been many positive changes in psychological research practice over recent years which could see a decrease in culture bias. For example, researchers in psychology travel much more now than they did 50 years ago. This means that they have an increased understanding of other cultures at a personal and professional level. Academics hold international conferences where researchers from many different countries and culture regularly meet to discuss and exchange ideas. This could lead to a reduction in culturally bias research as, such discussions with psychologists and researchers from other cultures would highlight flaws in methodology that could have potentially led to culturally bias results.

Another key concept to understand is cultural relativism, which is the idea that norms and values, as well as ethics and moral standards, can only be meaningful and understood within specific social and cultural contexts.

For example slurping is seen as very rude in the UK but is seen as courteous in Japan when eating noodles.]Norms and values can be understood from an emic approach, which refers to the investigation of a culture from within the culture itself. For example the research of European society from a European perspective is emic, and African society by African researchers in Africa is also emic. Unfortunately emic constructs are likely to be ignored or misinterpreted as researchers from another culture may not be sensitive to local emics and their own cultural 'filters' may prevent them from detecting them or appreciating their significance. However, an emic approach is more likely to have ecological validity as the findings are less likely to be distorted or caused by a mismatch between the cultures of the researchers and the culture being investigated. On the other hand cultural bias can occur when a researcher assumes that an emic construct (behaviour specific to a single culture) is actually an etic (behaviour universal to all cultures).



# Stages of Sleep

By Qais Osmani

## Introduction

*Sleep. Arguably one of the most important daily activities that contributes to our health. Without sleep, we wouldn't be able to function. To list a few of the many benefits of sleeping:*

- *Repair muscles - sleep gives our bodies the time it needs to rest and repair*
- *Learn and make memories - while we sleep, our brains begin to organise and process all the information we have taken on during the day. It converts our short-term memories into long-term memories. This helps us to learn. As a result, when we wake up, we can often see things more clearly.*
- *Reduce stress levels - when we are feeling stressed, our bodies release 'stress hormones', for example cortisol which in some cases can keep us awake. When we sleep, these hormone levels could either decrease or instead another hormone could be released during our sleep to counteract the effects. (potential experiment/research)*

## What are the stages of sleep?

*To many people's surprise, while we sleep, there are a few stages that we go through. A common misconception is that when we fall asleep, we immediately fall into deep sleep. As we sleep, our brain cycles through 4 stages of sleep:*

*Stages 1 to 3 are what's considered non-rapid eye movement (NREM) sleep, also known as quiet sleep. Stage 4 is rapid eye movement (REM) sleep, also known as active or paradoxical sleep.*

*Sleep stages occur in cycles lasting 90 to 120 minutes each. Four to five cycles occur during a typical night of sleep.*

*Shifting of stages occurs over the course of the night, Psychology Article - Stages of Sleep 2 typically with an increased percentage of NREM sleep in the first half of the night and an increased percentage of REM sleep in the second half of the night. The entire sleep cycle repeats itself several times a night with every successive REM stage increasing in duration and depth of sleep. There used to be 5 different stages of sleep but this was changed by the American Academy of Sleep Medicine in 2007.*

## NREM Stage 1

*The first stage of the sleep cycle is a transition period between wakefulness and sleep. During stage 1 sleep the following changes occur:*

- *Brain slows down*
- *Heartbeat, eye movement, and breathing also slows*
- *Body relaxed and muscles may twitch (myoclonic jerk)*

*This brief stage lasts from anywhere between 5 to 10 minutes. During this time, the brain is still fairly active and is producing high amplitude theta waves (slow brainwaves occurring mostly in the frontal lobe of the brain). At the beginning of stage 1, the brain produces high amplitude alpha, but as the stage progresses, it begins to produce theta waves. Brain waves are electrical pulses in the brain that change accordingly to what we are doing or how we are feeling.*

## NREM Stage 2

*According to the American Sleep Foundation, people spend approximately 50% of their total sleep time during NREM stage 2, which lasts for about 20 minutes per cycle.*

*During stage 2 sleep, the following changes occur:*

- *Become less aware of surroundings*
- *Decrease in body temperature*
- *Eye movements stop*
- *Breathing and heart rate become more regular*
- *Muscles relax further*

*Stage 2 is characterised by theta waves, but the brain also begins to produce bursts of rapid, rhythmic brain wave activity known as sleep spindles. The sleep spindles are thought to be a feature of memory consolidation - when your brain gathers, processes, and filters new memories you acquired the previous day.*

## NREM Stage 3

*Deep, slow brain waves known as delta waves begin to emerge during NREM stage 3 sleep—a stage that is also referred to as delta sleep. This is a period of deep sleep where any noises or activity in the environment may fail to wake the sleeping person. The following changes occur during stage 3 sleep:*

- *Muscles are completely relaxed*
- *Blood pressure drops and breathing slows*
- *Progress into deepest sleep*

Stage 2 is characterised by theta waves, but the brain also begins to produce bursts of rapid, rhythmic brain wave activity known as sleep spindles. The sleep spindle are thought to be a feature of memory consolidation - when your brain gathers, processes, and filters new memories you acquired the previous day.

### NREM Stage 3

Deep, slow brain waves known as delta waves begin to emerge during NREM stage 3 sleep—a stage that is also referred to as delta sleep. This is a period of deep sleep where any noises or activity in the environment may fail to wake the sleeping person. The following changes occur during stage 3 sleep:

- Muscles are completely relaxed
- Blood pressure drops and breathing slows
- Progress into deepest sleep

### REM Sleep

While our brains are aroused with mental activities during REM sleep, the fourth sleep stage, our voluntary muscles become immobilized. It's in this stage that our brain's activity most closely resembles its activity during waking hours. However, our bodies are temporarily paralyzed—a good thing, as it prevents us from acting out our dreams. REM sleep begins approximately 90 minutes after falling asleep. During REM sleep the following happens:

- Brain lights up with activity
- Body is relaxed and immobilized
- Breathing is faster and irregular
- Eyes move rapidly
- We dream. (A succession of images, ideas, emotions and sensations that usually occur involuntarily in the mind)

Like stage 3, memory consolidation also happens during REM sleep. However, it is thought that REM sleep is when emotions and emotional memories are processed and Psychology Article - Stages of Sleep 4 stored. The brain also uses this time to cement information into memory, making it an important stage for learning. It is during deep sleep (stage 3 NREM and REM), that our cells repair and rebuild, and hormones are secreted to promote bone and muscle growth. Our bodies also use deep sleep to strengthen our immunity so we can fight off illness and infection. Sequence of Sleep Stages It is important to realise that the four stages of sleep do not progress in perfect sequence. If we have a full night of uninterrupted sleep, the stages progress as follows:

1. Sleep begins with NREM stage 1 sleep.
2. NREM stage 1 progresses into NREM stage 2.
3. NREM stage 2 is followed by NREM stage 3.
4. NREM stage 2 is then repeated.
5. Finally, you are in REM sleep. Once REM sleep is over, the body usually returns to NREM stage 2 before beginning the cycle all over again.

### How do we have evidence for these stages?

We are able to see how the brain engages in various mental activities as a person falls and is asleep, by using an electroencephalogram. An electroencephalogram(EEG) is a non invasive test that records electrical activity in the brain. It is a painless and noninvasive test where, small sensors are attached to the scalp to pick up the electrical signal produced by the brain. These signals are then recorded by a machine and are looked at by a doctor.

### What is a myoclonic jerk?

Have you ever experienced a jolt or a jump when you think you have fallen asleep that scares the living daylights out of you? Myoclonus is a brief twitching of the muscles that can occur separately or in groups, as well as in a sequence or at random. A common form of myoclonus while awake is hiccups, which are quick contractions affecting the diaphragm. Sleep myoclonus, is a form of myoclonus which occurs during sleep, usually in the stage just before deep sleep. Also known as a hypnic jerk or hypnagogic jerk, sleep myoclonus will rarely disturb the subject or bed partner to the point of waking and disrupting sleep patterns. Sleep myoclonus is involuntary, nonrhythmic muscle twitching that occurs either as a person falls asleep or during sleep. Sleep myoclonus is not a disease but a symptom of several different conditions. Sleep myoclonus can also happen without a known cause.



# Experiment

*This term, students in Year 12 have been conducting experiments in class and have created articles similar to the way they would've been published after a psychological research has been done. Here is the final report from Stefan (Y12) who summaries his group's findings.*



*There seems to be a large and ever-growing age divide in British politics, with young people often being portrayed as holding far more liberal views than their older counterparts. This has been typified in the long-standing Labour-Conservative debate, with Labour being presented as the party of the young and the Conservatives typically being assumed to appeal to a much older group of voters. As is rarely the case with such strong stereotypes, this is well-supported by statistics. In the 2019 General Election, just under 30% of those aged 18-24 voted conservative, whereas just under 60% of those aged 75 and over voted conservative, a figure twice as high.*

*Conversely, 50% of those aged 18-24 voted Labour and only 20% of those over 75 voted Labour. Indeed, the only fixture in British politics across ages seems to be the Liberal Democrats, who consistently received 10% of the vote across all age groups in the 2019 General Election, just as they did for the two previous elections in 2017 and 2015.*

*But what explains this difference? While it seems to be a foregone conclusion that older people will vote Conservative and younger people will vote Labour, there must be some underlying explanation for this trend. The most wide-spread psychological explanation for this is that people become less adaptable to change as they age. Thus the social change that more liberal parties present would become progressively more likely to be an anxiety-inducing prospect for older individuals rather than an exciting one, pushing them to vote for more conservative parties.*

*A study supporting this was conducted at the London School of Economics by Geoff Evans and James Tilly, who found that with each year that an individual aged they were a maximum of 0.38% and a minimum of 0.32% more likely to vote for the Conservative party. While this may seem like such a small effect that it would necessitate another explanation for how preferences vary with age, the cumulative effect of this small difference over large lengths of time explains the above statistics almost exactly. Using the highest estimate above predicts a difference of*

*This statistic corresponds well with the 30% difference between conservative turnout between the 18-24 group of voters and the over 75 group of voters. Considering other important factors that affect voter preference, such as specific policies presented by a given leader or the specific personality of party leaders and members, this is an astoundingly close correlation.*

*In addition, there is neurobiological evidence supporting this idea. Research by Dr. Bertran-Gonzalez, published in Neuron in 2016 found that a specific brain circuit in the striatum responsible for adaptability to change declines with age. In their experiment, mice were given sweet-tasting pellets and grain-tasting pellets, and a lever producing each. Mice prefer variety in their diet, so when fed on one type of pellet for a long time they sought to obtain the other type.*

*When the researchers switched the levers it was found that younger mice quickly realised this and changed which lever they were pressing to get which pellet, whereas older mice struggled with this considerably more. When the specific brain circuit being studied was deactivated in the younger mice, they struggled exactly as much as the older mice with changing levers. While, obviously, mice are different to people this circuit is also present in human brains (as it is in all mammals in fact) and could go some way to explaining why older people have a harder time adapting to change. However, human biology is not so deterministic. This brain circuit can be preserved by frequent cognitive activities (i.e. crosswords, word puzzles, etc.) and even by more physical factors such as maintaining a healthy diet and staying physically active.*

*Conversely, those younger people who have no experience adapting to change or challenge may be less developed in this area of the brain as a result. It must be said, therefore, that the findings presented in this article are neither conclusive nor absolute for all people in all age groups across the world and there is still a vast potential for change in voting preference and political attitude across both a generation and an individual human's lifespan. They do, nevertheless, present a fascinating insight into the neurobiological nature of a field long considered to be purely theoretical and socratic, the field of politics, and so serve as a powerful reminder as to how far-reaching the effects of human nature can be.*

# Phobias: Day-by-day or lifetimes old?

By Emaan Esmail

Phobias; known and experienced all over the world, with up to 15% of the globe estimated to suffer for their entire lifetime. But how much do we really know about them?

Fear is an emotion extremely well-preserved through our ancestry - even today, phobias stemming from our predecessors are widespread. Common phobic stimuli, now normalised through the frequency in which they occur include the dark, heights, snakes and fire, to name a few.

But how do we explain the apparent transfer of these fears? How is it possible that phobias from long ago still live today?

The biological theory of phobias suggests that through genetic transmission, fear associated with these stimuli are passed down through generations. Those who adopt this approach speculate that this is done to better prepare future generations against objects that threaten life and safety, as these stimuli were harmful to early humans.

And the theory seems to fit with the bigger picture. A British study found that 64% of adults in the UK are still afraid of the dark, with even more reportedly feeling uncomfortable turning the lights off before bed, and acrophobia (fear of heights) is one of the most common fears, with an estimated 1 in 20 people suffering from it. Fear of snakes is even more common - it's thought that at least half of the population feel anxious in the presence of them, and of that group, 2-3% would be diagnosed with a snake phobia by clinical criteria.

Seligman (1971) had a very interesting take on the evolutionary input of phobias, saying that we have evolved to be conditioned to fear some things more than others, and suggesting that less input was required to learn an association to a 'prepared' stimulus rather than a non-prepared one. For instance, if evolution prepared us to be afraid of fire, we could make an association between the phobic stimulus of fire and the emotional response of fear much more quickly than, say, an association between fear and a rock. This could potentially serve as an explanation for why the odds of developing some fears are higher than others.

But how do we process this? If we accept that fear can be passed down through genetics, dating all the way back to the very beginnings of our development as a species, who are we to say that our phobias and fears are actually our own?

And to end this article, I present you all with a more thought provoking question: what phobias might future generations inherit from us?

