CHANNING

Neuro Narratives

Issue 1

A magazine written and produced by psychology students at Channing School.

Welcome

Welcome to the first edition of Neuro Narratives magazine. I am delighted to present a diverse array of articles crafted by our Year 12 pupils, delving into the realms of intellectual inquiry. This is truly the students' work, designed and written by the students, in their own words with no teacher input or editing.

In this edition, the articles explore topics such as the complex worlds of alcoholism and psychological disorders, navigate the ever-evolving landscape of social connections and the social network, and ponder the profound discussions regarding gender roles.

I extend my heartfelt congratulations to the pupil contributors, whose passion and diligence have breathed life into these articles. Your unwavering commitment to rigorous and thoughtful analysis is the cornerstone of Neuro Narratives' success, and for that, I am deeply grateful.

Building on our commitment to highlighting underrepresented voices, this edition shines a spotlight on the achievements of women in psychology. I trust that their profiles will serve as a source of inspiration for our readers.

As you immerse yourself in this edition of Neuro Narratives magazine, I urge you to challenge preconceived notions, broaden your intellectual horizons, and embark on a journey towards a deeper understanding of the world around us.

Neuro Narratives magazine is the place where curiosity reigns supreme, and the pursuit of knowledge is paramount.

I hope you enjoy this edition and please let me know if you would like to contribute to the next issue.
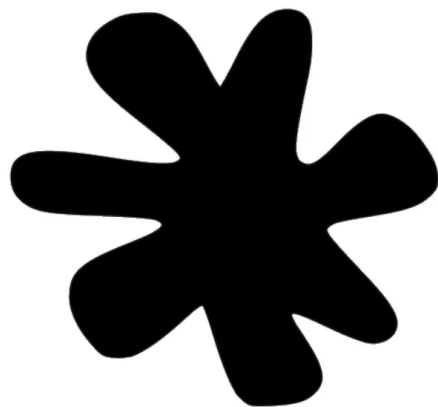
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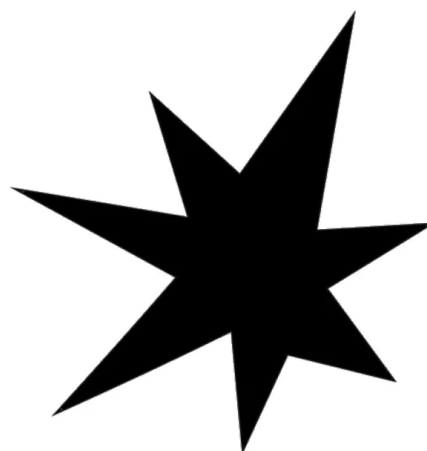*Head of Psychology*

Magazine Editors

Zara and Charlie

Kiki and Bouba effect

by Caelle Dunne-Vidulich

bouba

kiki

The Kiki and Bouba effect was first introduced by Dimitri Uznadze who conducted an experiment where he gave ten participants a list of made up words and showed them different drawings, he then asked them to match up the drawings with the words. He found that 45% of the participants picked the same word or name for the same drawing, additionally 40% of the participants picked the same name for three other drawings. He concluded that there must be some sort of recognition pattern or strategy that the participants used.

Later Wolfgang Köhler, a psychologist, released a book that discussed two different shapes, one rounded and one pointy, and found that people tended to match the pointed one with the word "takete" and the rounded one with "maluma". This led to an experiment being conducted by Edward Hubbard and V.S. Ramachandran where they made two shapes, one which was a jagged pointy shape, and the other which was more rounded. They found that 95-98% of the participants paired the name Kiki with the jagged shape and the name Bouba with the curvy shape.

There is a clear relationship between sound and understanding in language, think of onomatopoeia, we can see a link between words like bang and their meaning. We see this thing throughout all different languages and the step between the sounds of the words and the actual look of things additionally have a clear connection. Human language has always been based on sound symbolism, think about the hieroglyphs and we can see it through the development of many words. Words have been created and people can guess the meaning of them just by the way they look and sound.

One explanation with the relation of sounds and ideas is the way our tongue moves. When we move our mouths in open and rounded shapes such as bouba it is a more gentle and smoother sound and feeling in our mouths, opposed to more narrow and rounded shapes such as when saying kiki as they tend to make and feel sharper. Extending this it has been suggested that even the look of the words has a part to play, as the shape of the word kiki is more spikey visually, whereas the shape of the word bouba is more rounded.

If we take this further we see that in different languages there are similar sounds that have similar meanings. In more recent studies done speakers of specific languages such as Japanese, Korean and Swedish make similar links between sounds and meanings and shapes. However in this same study they found that in some languages there tended not to be a correlation between the kiki and bouba sounds with their corresponding shapes, languages such as Romanian, Albanian, Turkish and Mandarin.

This is an interesting effect as it shows the psychology behind the development of language and it shows that the link between language and meaning is not completely random. We can see that it is not just an effect that is had on purely English speakers and is rather rooted in human capacity and the development of language.

Pictured: Dimitri Uznadze

The Small World Problem

by Charlie Gaver

We are all familiar with the concept of *"six degrees of separation"*: the idea that all people are on average six social connections away from each other in the social network. But where did this idea come from?

In 1967 Stanley Milgram searched to find an answer to The Small World Problem, which was formulated by Milgram as *"What is the probability that any two people, selected arbitrarily from a large population, such as that of the United States, will know each other?"*. To answer this question Milgram came up with *The Small World Experiment*. In brief, participants were tasked with sending a letter to a target person, through intermediaries, with instructions to pass it on to someone they knew on a first-name basis, who they believe may be socially closer to the target person.

Milgram chose individuals in the U.S states of Nebraska and Kansas to be the starting points and he chose individuals in Massachusetts to be the end point of a chain of correspondence. These states were specifically selected to represent a great distance both socially and geographically in the United States. Each selected individual from the starting cities were sent packets which included a letter detailing the purpose of the study, basic information about the target person, a roster for each recipient to write their name on and business postcards pre-addressed to Milgram at Harvard. Assuming that each participant did not know the target person, the person was to think of a friend, relative or acquaintance who they knew on a first name basis and who they believed was more likely to know the target. They were then directed to sign their name on the roster and forward the packet to the person of their choosing. One of the pre-addressed business postcards was then sent back to Harvard in order for Milgram to track the chain's progression. Once the packet eventually reached the target person in Boston, the researchers could examine the roster to count the number of times it had been forwarded. Additionally, any packets that never reached the target were tracked using the incoming postcards to identify the breaking point of the chain.

In one of Milgram's first trials of this experiment, participants from Kansas and Omaha were attempting to forward the packet onto a stockbroker named Jacobs in Sharon, Massachusetts. In one case a woman in Omaha sends the packet to her high school friend, a bank clerk in Council Bluffs, Iowa. She sends it to a publisher in Belmont, Massachusetts. He sends it to a Tanner in Sharon who sends it to his brother in law, a sheetmetal worker, who sends it to a dentist, who sends it to a printer. He sends it to Mr Jacobs, the stockbroker in Sharon, Massachusetts. There were seven links in the chain.

Milgram found varying results. In a few cases the packet reached the target individual in as few as one or two links, while other chains were composed of as many as nine or ten links. On average just less than a quarter of the letters actually made it to the target person, as a significant amount of people refused to pass the letter forward. Among the successful chains, the average path length rounded to six, giving rise to the concept of *"six degrees of separation".* Thus we determine that six degrees of separation exist between one and the seven billion strangers that one may or may not encounter in your lifetime.

Milgram's *Small World Experiment* could be criticised for unrealistic generalisations. Milgram applied his findings to the rest of the world, stating that there are *"six degrees of separation"* between any two individuals worldwide, regardless of their geographical locations. His study only explored the social network in the United States which is not at all representative of the world's greatest social and geographical distance. He generalised the findings of his study worldwide despite his own discovery that closer geographical proximity increased the likelihood of a letter reaching the target recipient.

Nonetheless, *The Small World Experiment* holds profound implications for social psychology. It underscores the interconnectedness of human social networks and highlights how individuals are linked through surprisingly short chains of social relationships. This phenomenon not only sheds light on the structure of social networks but also delves into fundamental aspects of human behaviour such as trust, cooperation and social influence. Moreover, it challenges conventional notions of distance and isolation by demonstrating the remarkably close-knit nature of society. By revealing the existence of "six degrees of separation", the findings emphasise the intricate dynamics of social interaction and ways in which individuals are connected within a larger societal framework.

Rosy Retrospection: Why We Remember the Past More Fondly

by Zara Ferguson

Have you ever looked through old photos on your phone and reminisced on your summer holidays the year before? And you think "Wow, those days were so much fun". But then remember that you actually got sick on the first day and had to spend most of it in bed. You might be thinking to yourself: why does this happen? Why do we recall the past in a more positive way than the reality? This is a phenomenon called 'rosy retrospection' and is felt by almost everyone at least once.

Rosy retrospection refers to our tendency to recall the past as better than the present. It is similar to nostalgia, but more biassed and untrue. It stemmed from the English idiom 'rose-tinted glasses', meaning to see things as better than they actually are. There is also the common phrase: the 'good old days', used often by people in the later generations as they look back on their past and always seem to remember it as better than the present they are living in now.

This notion of distorted perception was first introduced in 1994 by Terrence Mitchell of the University of Washington and Leigh Thompson of Northwestern University in a paper, and later in 1997 they published their experimental support for it. They found that vacationers recalled a holiday more fondly a few months later compared to shortly after the vacation. This clearly supports their idea of rosy retrospection and how different the past can look to reality.

There are a few different possible reasons for this phenomenon. This could be due to our evolutionary roots where we learnt to remember the past better to maintain our mental wellbeing, or because of our cognitive biases like hindsight bias which can influence how we perceive past events.

There is biological proof that can be used to explain rosy retrospection. The 'reminiscence bump' may have something to do with it. This is the term given to a period of our lives, normally when we are between 10 and 30 years old, when

most of our vivid long term memories occur, with a particularly high concentration during our 20s as many significant moments and firsts occur in this time.

There is also research to suggest that there are higher levels of hormones and neurotransmitters like dopamine during this time, which plays a critical role in episodic memory formation. Younger people also are more likely to be optimistic about the future, and so when we look back on our childhood we remember these feelings more often than the actual events.

Additionally researchers have found that negative memories from our past decay more over time than positive memories, which stay with us for longer. This can lead to disproportionate feelings of the past, as we have more positive access.

The effects of rosy retrospection can be vast. For individuals, they can have an inaccurate evaluation of both time periods, as if we view the past as better than it actually was then the present seems worse than it actually is. The systematic effect can also be important. It is shown that there has been an increase in feelings of nationalism in countries like the US which can lead to an extensive political effect as people favour the past much more and politicians can use this to their advantage.

In closing, rosy retrospection is a cognitive bias where we tend to remember the past more positive than it actually was. It is important to recognise this so we can be more aware of our own biases and make more informed decisions about the present and future. While it can be fun to look back through old photos, we must remember the reality and consider how rosy retrospection may shape our perceptions. Recognizing this phenomenon can help us navigate decision-making, enhance emotional well-being, and foster empathy. By understanding the complexities of memory and perception, we can better appreciate the richness of human experience.

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Colour psychology: How does colour affect how we feel?:

by Sophie McSpadden

Colour surrounds us every day, and without us even realising, influences our moods, decisions, and perceptions. Much of this can be explained by colour psychology. Colour psychology is an area of colour theory that describes the emotional and psychological connotations between colours and emotions. This relates to how our brains perceive and respond to different wavelengths of light and how this affects us psychologically. Ultimately colour psychology relates to how light that enters our eye, is transmitted by the optic nerve. We view colour as our eyes contain specialised cells called cone cells that detect different wavelengths of light, allowing us to perceive a wide spectrum of colours. The thalamus in the brain then processes these signals and assigns meaning and emotional significance to various colours. While some areas of colour psychology are perceived to be somewhat universal, several elements are based on our cultural, or personal experiences or the context of a situation.

Different colours tend to be associated with different emotional states and the viewing of a certain colour can often subliminally influence our moods. Red colours tend to be associated with energy, passion, and excitement. When viewed, red has also been known to raise our bodies heart rate and blood pressure which can lead to an increase in appetite, which is why red is the most commonly seen colour in fast food logos. The colour red can also be used to invoke a sense of urgency or importance which is why it's often seen used in hazard signs or warning labels. The colour blue is most frequently associated with calming/ soothing emotions as well as feelings like wisdom, hope, and reason. Due to its soothing nature and associations with knowledge, blue is often seen in environments like hospitals or to decorate classrooms or offices. Yellow, another primary colour, tends to stimulate emotions like happiness/ optimism and is most commonly the colour associated with joy, however, it's also a bright colour, known to grab attention and sometimes indicate danger which is why it's often seen alongside red on hazard/ danger signs. The final primary colour, green is often linked to nature, growth, and harmony, green is often associated with health, freshness, and environmental consciousness, and is often seen in companies focusing more on eco awareness.

Colour plays a crucial role in our day to day lives and is used most commonly for marketing in brands. For example, the iconic red coca-cola logo was strategically chosen to evoke feelings of excitement, energy, and passion. Red is also associated with celebration and happiness, making it an ideal choice for a brand that aims to create positive associations with its product. Additionally the famously recognised green starbucks logo utilises the colours associations with freshness, healing and wealth and features white detailing in the middle, representing simplicity and cleanliness, all which are feelings the brand is eager to associate itself with. Finally the red and yellow Mcdonalds logo, like many other fast food companies, utilises the red nature of stimulating appetite and feelings of excitement and yellows connotations of joy and optimism, all in an attempt to connect these sentiments with their company and its food.

Finally, Colour psychology has numerous applications in psychological practice. In the past, ancient civilizations like the Egyptians and Chinese were known to practise chromotherapy (a method of treatment that uses colour for general healing purposes). Today, chromotherapy is seen as an alternative treatment method (used instead of standard medical treatment), and generally involves one of 2 methods: either viewing certain colours directly with our eyes, or reflecting certain colours on certain parts of the body. While the therapy is not very popular today and requires more research, a 2020 study hinted at the potential of chromotherapy in alleviating compassion fatigue and post-traumatic stress among intensive care unit nurses. Another way colour psychology is used in the practice of psychology is in medication. For example, white coloured pills are often associated with greater pain relief, while red pills are often viewed as working faster/ having greater efficiency.

In summary, colour psychology relates to the impact colours have on human emotions and behaviour. Although colour psychology is still viewed very sceptically by most psychologists and its generally believed the effects of colour are greatly exaggerated, it's still utilised in design, marketing, therapy, and everyday life, affecting how we interact and experience these elements of the world.

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Mamie Phipps Clark
(1917-1983)

- The first black women to earn a PhD from Columbia University
- She was a social psychologist who focused on the development of self-consciousness in black preschool children.
- Clark's most famous work, the "Dolls Test", assessed the racial preferences of young children in segregated schools.
- Clark's research on the effects of segregation on Black children played a critical role in the legal push to desegregate schools, resulting in the Supreme Court ordering American public schools to end the segregation of black and white students.

The Placebo Effect

by Sophia Towner

The placebo effect is when a person's mental or physical health improves after using 'fake' treatment. This effect can occur as the person may believe they benefit from the treatment and therefore have an exception to feel better, leading to them actually believing some change has occurred. Placebos can also be used in clinical trials to help understand the effects of new treatment and can be used to control conditions.

The placebo effect can occur due to many reasons. Professor Ted Kaptchuk of Harvard-affiliated Medical Center said "The placebo effect is more than positive thinking — believing a treatment or procedure will work. It's about creating a stronger connection between the brain and body and how they work together" . This can be true as the brain is the biggest explanation as to how and why the placebo effect occurs. Placebos can often be used to help relieve symptoms of anxiety as the patient may take the placebo with an expectation to feel better. Some experts also say that there is a relationship between how strongly a person expects to see results and whether or not results occur. The bigger the expectation, the more likely it is that a person will experience positive effects.

However, the fact that the placebo effect is tied to expectations doesn't make it imaginary or fake. Some studies show that there are actual physical changes that occur with the placebo effect. The thought that a patient has been given something that is proven to help may be soothing and reduce the levels of stress chemicals the body produces, such as adrenaline. Placebos can also impact other brain chemicals and may trigger the release of the body's own natural pain relievers, endorphins.

Despite a lot of scientific research around the placebo effect it is still unclear as to how the phenomenon works. Some explanations have been suggested such as classical conditioning. Classical conditioning is where a person learns to associate a stimulus with a response. The association is then remembered, affecting future experiences. Through this process of association, patients may acquire a behaviour. In the case of placebos a patient may be given a pill that looks like any other drug they have used in the past, which would therefore create the response of a situation from the past which would relieve symptoms. One problem with the placebo effect is that it can be difficult to distinguish from the actual effects of a real drug during a study. Finding ways to distinguish between the placebo effect and the effect of treatment may help improve the treatment and lower the cost of drug testing.
One thing that has been proposed to increase the risk of somebody developing alcoholism is a person having a pre-existing psychological disorder. These psychological disorders can include; PTSD, personality disorders and mood disorders. There is a wide range of proposed reasons that these psychological disorders can cause alcoholism.

Alcoholism and Psychology

by Kitty Hannam

Personality disorders, mainly Cluster B personality disorders such as borderline personality disorder (BPD) and antisocial personality disorder, can also pose a risk for alcoholism. One personality type is impulsivity (or disinhibition), people with this personality often have traits such as psychoticism and sensation seeking (searching for experiences or feelings that often cause the release of adrenaline). It has been shown that there is a positive correlation between disinhibition and alcoholism; this could be because of their unique traits that cause the mesolimbic system of the brain to reward a person for negative, damaging behaviour because of their sensation seeking and lack of impulse control. Another personality type is neuroticism or negative affectivity; people with this experience symptoms such as a lowered mood, anxiety, and distress. People with this personality type could be using alcohol as a way of self medicating and regulating their symptoms to minimise personal distress.

Mood disorders such as depression and bipolar disorder commonly happen alongside alcoholism due to the similar symptoms of both the disease and the potential genetic similarities that cause the two disorders. The addition of prolonged and heavy drinking and a pre- existing mood disorder makes it more likely for a person to have suicidal tendencies, poorer cognitive function, violent tendencies and commonly a prolonged and more intense mood episode. People with bipolar disorder can go through periods of mania or hypomania, in which people have increased emotional highs, become more active and tend to be more confident, which can lead to an impairment in somebody's judgement of their reality. When experiencing mania or hypomania, people are more likely to act recklessly, and in many cases people tend to drink excessively. Excessive drinking as a way of self-medicating while in a state of mania has two proposed explanations; it may be an attempt to prolong a euphoric state or it may be a way of counteracting the severe symptoms of a manic state.

Post traumatic stress disorder (PTSD) often happens alongside alcoholism and is argued to be a risk factor of developing alcoholism due to people's want to self medicate in order to lower their negative symptoms of their condition caused from a history of traumatic events; this theory is known as the self-medicating theory. PTSD can cause symptoms such as insomnia, self-destructive tendencies and constant vigilance. Self-destructive tendencies can lead to a person developing AUD and make it harder for them to recognise their behaviour as harmful due to their reckless mindset caused by previous traumas. Typically, PTSD develops before alcoholism in these cases, it is proposed that alcohol relieves PTSD symptoms, such as lowered moods, anxiety and severe mood swings; this is because alcohol can replace the brain's deficiency of endorphins and dopamine which is caused by traumatic events.

Eleanor Maccoby
(1917-2018)

- Research in Child Development and Family Dynamics
- FIrst Comprehensive Empirical Survey of Gender DIfferences
- In 1950 Maccoby received her PhD from the University of Michigan
- Her book with Carolyn Jacklin, The Psychology of Sex Differences, was the first large-scale review of the literature on gender differences, which established that some such differences are universal, whereas many others vary from culture to culture. It continues to be heavily cited today.
- Eleanor Maccoby is listed as number 70 on the American Psychological Association's list of the 100 most eminent psychologists of the 20th century.

How does childhood grief affect development

By Emily Silver

Bereavements can be a deeply traumatic experience for anyone, if someone close to you has passed, it can cause a variation of responses, implications to physical health, mental health as well as behaviours. Grief and death may be traumatic for anyone, no matter their age, therefore possibly having psychological impacts on anyone at any stage in their lives, however this article will focus on the impacts of death particularly for children and how this affects their further development.

Children and adolescence is the age that we are most easily influenced and therefore are likely to be greatly hindered by bereavements. It is estimated that 5% of children in the United States lose one or both parents by the age of 15. Around 1 in 16 have been bereaved of a friend, and many more are affected by the death of someone else close to them. 78 percent of 11- to 16-year-olds report that at least one of their close relatives or friends has died.

In order to mourn a loved one, the child must understand the concept of death, be able to form an attachment and have a mental representation of their attachment figure that has passed. It could be argued that children at the age of 3 or 4, may not be able to grieve.

A Hungarian psychologist, Nagy, analysed words and drawings of children who had been exposed to trauma and death and the next few years of the event. She produced a three stage model of awareness, suggesting the older a child is the more aware they become, and therefore the more understanding they are of the permanency of death. This could suggest that some children may not be as impacted by death than others as they aren't aware of it when it occurs.

On the other hand, although it may seem that children aren't impacted by a death, by playing with their toys as if nothing happened, this is their limited cognitive and emotional capacity and doesn't mean that they haven't been affected. Losses are painful and frightening, so many just can't handle the emotional strain that grief causes, meaning they may avoid their emotions to not be overwhelmed. This means that they suppress their emotions and may have outbursts, their reaction may happen months or even years later. Children cope differently to adults and to each other when experiencing death, so many don't understand what a child requires in order to limit the impact of the grief that they experience.

Young people often revisit their grief, expressing it differently especially at times of further change or loss or significant milestones. Ideally, children would have a stable and supportive family, with the help of support networks such as their school or different communities. However, this is not always the case, and may depend on their social or economic status and individual circumstances. Death is probably more likely to affect a child's development if they do not have the required support network to help them gain the necessary skills to deal with their emotions.

A wide range of interrelating factors affect a child's response to such events, including their previous experiences and characteristics, the circumstances of the death, their beliefs and culture, their social relationships and the support available to them. A child is greatly affected if their routine or situation changes. Often the emotional difficulties of death accompany changes and new challenges . Such as a child's primary carer passing and the child being brought up by a more distant relative, or when another caregiver is finding it difficult to deal with the passing themselves. This brings additional pressures to the child, changing their lives even more when they require stability the most, however this may be unavoidable, depending on the individual circumstance.

As they get older and develop their understanding of the meaning a death has in their lives. There is increasing evidence of a 'late effect' of grief in childhood, differences between them and peers are more noticeable two years after death than in the early months. Bereavement may have impacts into adulthood as well as childhood. Like any child who is facing difficulties or obstacles, children, parents and teachers report difficulties at school from poor concentration, lack of interest or bullying. Some bereaved children have lower average exam scores than their peers However, 'opposite effects' may be seen as some young people strive particularly hard to succeed.

Psychologists have noticed how often major loss in childhood seems to result in psychopathology. Adults with various mental disorders, in particular depression, frequently have experienced a loss in their childhood. This suggests that these events can cause the development of psychiatric disorders, having long term effects into adulthood.

Grief is dependent on individual circumstances, and its effects cannot be generalised, some may be more affected in their development than others. The emotional capacity and awareness of a child may be an important factor in determining impacts of death for children. However a death will probably affect a child in some capacity, the extent of the impact varies in different environments, different personal and other external factors.

The Psychology Behind Homophobia

By Adele Ryan

Homophobia, the ideology of having negative feelings and attitudes towards homosexuality, has been prominent in societies for millennia. In 1533, Henry VIII made male homosexual activity punishable by death, and while the last hanging in England for the crime was conducted in 1835, consentual homosexual acts taking place in private was only legalised in 1967. Throughout the 1900s, gay people and the LGBT+ community were subjected to discrimination and hate crimes, a well known example being Alan Turing, a World War Two code-breaker who was prosecuted for 'gross indecency' and was given the choice between imprisonment or hormonal treatment to 'reduce' his homosexuality. While in the west there have been significant legal and societal changes towards the acceptance of homosexuality, gay, lesbian, and bisexual people still face homophobia from the world around them. Outside of the UK, over 70 countries continue to criminalise homosexuality, and five of these will carry out the death penalty if homosexual activity is discovered.

So where does homophobia come from? While the causes of homophobia are unclear, there are many theories about where the ideology stems from. Several psychoanalytic theories explain homophobia as anxiety-based, suggesting that it may arise from unconscious fears and desires. Sigmund Freud suggested that homophobic people may project their repressed homosexual desires onto others which can lead to feelings of discomfort and aggression, which is supported by research showing that when individuals with high levels of internalised homophobia were shown homoerotic stimuli, they showed higher levels of arousal - suggesting their subconscious was torn between their desires and societal expectations. As well as this, in a study that measured outward and internal homosexual and heterosexual desires, the participants who told the researchers they were heterosexual but who showed hidden same-sex desires were the ones who displayed anti-gay attitudes and who told researchers they supported harsher punishments for homosexuals. The researchers from this study have suggested that people in denial of their own sexual orientation may feel threatened by people who are comfortable in their identity of gay, lesbian, or bisexual and their homophobia may be a result of their internal struggle with their sexual orientation.

Psychoanalytic psychologists are not the only ones who have researched homophobia; psychologists who subscribe to the social learning theory have also explored the ideology. Social learning theory believes that behaviour is learned through experience; through observation, imitation, and reinforcement. Psychologists that focus on the social learning theory approach suggest that in environments where homophobia is present - such as families with homophobic parents or communities with conservative and homophobic ideologies - tend to have the children in that family or community internalise and replicate the same views. An experiment was conducted that measured implicit sexual orientation, implicit and overt homophobia, and parenting style of an individual. The results showed that the participants who said they had supportive and accepting parents were more in touch with their implicit sexual orientation, whereas participants who came from authoritarian homes, grew up with conservative parents, or grew up with homophobic parents, had the largest difference between their overt and implicit sexual orientation.

It's important to acknowledge that while homophobia can stem from an individual's concept of the self, family, or community, institutions such as the government, religion, and the media majorly influence views on homosexuality. While there is no definite explanation for homophobia, many psychologists believe it stems from a mixture of cognitive biases, unconscious motivations, and cultural influences. Psychologists hope that by addressing these factors, societies can work towards creating more inclusive and accepting environments for individuals, regardless of their sexual orientation.

Unravelling the Psyche of Serial Killers

by Maya Grosman

The phenomenon of serial killers has long fascinated and perplexed both psychologists and the public alike. These individuals commit multiple murders over a period of time, often with distinct patterns and motives. Exploring the psychology behind serial killers unveils a complex interplay of biological, psychological, and environmental factors that contribute to their aberrant behaviour.

Firstly, it's crucial to understand the biological underpinnings of serial killers. Research suggests that some individuals may have genetic predispositions or neurological abnormalities that predispose them to violence. For example, abnormalities in the prefrontal cortex, which regulates impulse control and decision-making, have been observed in some serial killers. Additionally, imbalances in neurotransmitters like serotonin and dopamine may influence aggression and sensation-seeking behaviours. While these biological factors may contribute to a propensity for violence, they alone cannot fully account for the development of a serial killer.

Psychological factors play a significant role in shaping the mindset of serial killers. Many exhibit traits associated with personality disorders, such as narcissism, psychopathy, and antisocial personality disorder. These individuals often lack empathy and remorse, allowing them to rationalise their heinous actions without guilt. Furthermore, childhood experiences, particularly abuse, neglect, or witnessing violence, can deeply impact psychological development and contribute to the formation of maladaptive coping mechanisms. Some serial killers harbour deep-seated resentments or fantasies of power and control, which manifest in their violent acts as a means of exerting dominance over their victims.

Environmental influences also play a crucial role in the development of serial killers. Chaotic or abusive family environments, exposure to violence or trauma, and social isolation can exacerbate existing psychological vulnerabilities and foster a sense of detachment from societal norms.

Additionally, societal factors such as media glorification of violence or inadequate mental health resources may contribute to a culture that inadvertently enables or sensationalises serial killers.

The process of becoming a serial killer typically unfolds over time through a series of escalating behaviours known as the "homicidal triad." This triad consists of three behaviours commonly observed in childhood: cruelty to animals, fire-setting, and persistent bedwetting beyond the age when it's considered developmentally appropriate. While not all individuals who exhibit these behaviours will become serial killers, they often serve as early warning signs of deeper psychological disturbances.

Understanding the psychology of serial killers is essential not only for academic curiosity but also for developing effective prevention and intervention strategies. Early identification and intervention for individuals displaying concerning behaviours, coupled with comprehensive mental health support and resources, may help mitigate the risk of future violence. Additionally, destigmatizing discussions surrounding mental illness and promoting empathy and understanding can contribute to a society that fosters healthier coping mechanisms and reduces the likelihood of individuals resorting to violence.

In conclusion, the psychology of serial killers is a multifaceted and nuanced topic that involves a complex interplay of biological, psychological, and environmental factors. While there is no singular explanation for why individuals become serial killers, studying their motives, behaviours, and underlying psychological mechanisms can provide valuable insights into human nature and inform efforts to prevent and address such violence in society. By unravelling the psyche of serial killers, we can work towards creating a safer and more compassionate world for all.

Mary Whiton Calkins
(1863-1930)

- In the 1880's Calkins was granted special permission to attend seminars at Harvard (then an all-male institution)
- Calkins passed all the requirements for a Ph.D. at Harvard with distinction, but she was refused a Harvard doctoral degree because she was a woman.
- She began to teach psychology at Wellesley College and established the first psychology laboratory at an American women's college.
- In 1898 Calkins was elected as the American Psychological Association's first female president.
- She authored several books and lectured widely during her distinguished, decades-long career in psychology.

The psychology behind gender roles

by Émilie Goodman

In this essay I set out to investigate the psychology behind the man-made construct of gender roles. Gender roles can be defined as sets of socially accepted behaviours or attitudes which have been deemed appropriate or desirable for individuals based on their sex. Traditionally these behaviours are related to either portraying masculinity or femininity. Importantly gender roles can vary enormously based on cultural and religious norms as well as personal preference.

Through research I discovered that psychology takes the stance of gender roles being learned throughout and during childhood rather than being an innate construct as claimed by some. I discovered 2 different psychological interpretations for how and why gender roles develop during childhood: the gender schema theory and the social learning theory. Both of these theories attribute different explanations for why one develops the construct of gender roles from an early age.

The gender schema theory proposes that first and foremost children are active learners meaning that through socialisation they attribute their own attitudes and behaviours towards gender roles and typically organise themselves into gender categories without exterior influence. This can be defined as a schema. These schemas can be remembered throughout later life leading to attitudes towards gender being affected at a later date. For example people are more likely to remember men as firefighters and women as cooking in the kitchen simply due to the schemas attributed to gender during childhood.

The second theory proposed as an explanation for gender roles is the social learning theory. The social learning theory argues that behaviours are learned through reward, punishment and reinforcement. Studies found that when children are rewarded for behaving in concurrence with their assigned gender roles they are more likely to emulate this behaviour in later life. Furthermore if they are punished for going against gender norms they are less likely to test gender breaking boundaries in the future. Thus this theory suggests that the way in which adults react to children's behaviour either in concurrence or opposition with their gender

role will affect their outlook on gender in the future.

There is also further evidence to suggest that the infliction of gender roles comes from upbringing and parenting rather than being self inflicted. Lytton & Romney found that often sons and daughters are treated differently by parents therefore affecting their attitudes towards gender in later life furthermore fathers are often more likely to encourage gender stereotypes and behaviours.

It is also important to note that gender roles can be self-inflicted through a desire to be accepted socially. Studies have found that most people generally conform to what is socially acceptable in order to be liked e.g. normative social influence. The act of conforming to how the majority behaves can cause internalised gender roles as short term conformity can easily become internalised and thus be normalised. For example if someone dresses in what is typically defined as a 'girly' fashion to fit in with other girls, they may enjoy the feeling of fitting in with the group and therefore abandon their previous preferences towards clothes thus internalising this manner of dress. This is known as conforming to gender roles.

Ultimately I find gender roles a fascinating construct to investigate and extremely psychologically intriguing.
Overall through research and evaluation I found that gender stereotypes and roles are generally learned or taught and are not inherent. Although the gender schema theory proposes that children often categorise themselves by gender, conflicting research showed that gender roles are learned via punishment or reward and by observation of role models or primary caregiver.

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 https://openpress.usask.ca/introductiontopsychology/chapter/gender/#:~:text=There%20are%20also%20psychological%20theories,learners%20who%20essentially%20socialize%20themselves.
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https://www.sciencedirect.com/topics/psychology/gender-role#:~:text=Abstract,their%20genitalia%20look%20at%20birth.

Does music affect how food tastes?

by Liviana Feher

For over 50 years there has been scientific enquiry into how auditory stimulus can affect the perception of taste. But is there any proof in the pudding?

In 2022 a study was conducted by Campinho, Sousa and Mata, looking into the idea that certain styles of music could influence the prevalence of aspects of taste. Their study focused on perceptions of the tastes for sweet and sour, and they created a musical composition for each taste, to investigate whether auditory stimuli could impact the perception of gustatory stimuli. The aim of this study was to see whether the participants would perceive to experience a change in the level of sweetness or sourness of the food given, based on the musical composition they listened to.

The musical compositions were based on previous research done about what type of auditory characteristics are associated with gustatory stimuli, conducted by Spence et al between 2011-2019.

The experiment was conducted with an initial sample of 60 participants, with 49 of the participants responses used to formulate a final conclusion. The participants were each given the same dessert and asked to analyse the level of sweet and sour taste in the dessert. The dessert chosen for the experiment was a passion fruit mousse, as it was found to have the needed levels of sweetness and sourness, as well as other structurally sound qualities which made it an ideal food to test out the queried affects music might have on the perception of the taste. The participants were initially screened to make sure that they could successfully recognise the sensory elements needed to be measured.

For the experiment, there were three different conditions used to test the idea that music could influence the perception of taste. Each condition had the participant given the same quantity of the passion fruit mousse, from a singular batch created. The batch of passion fruit mousse was stored in a regulated environment, to preserve the quality and reduce any extraneous variables which could occur if the dessert was not properly maintained.

The first condition had the participants eat the dessert in silence. This condition was used as a control condition; to allow the participant to taste the dessert without any musical influence. This would allow the participant to have a base understanding of what the 'regular' levels of sweetness and sourness were supposed to taste like, without having the perception of the gustatory stimuli be affected.

Condition A had the participants eat the dessert while listening to the musical composition designed to be the 'sweet' music. The expected outcome would be that the participants would report that the dessert had a stronger sweet taste.

Condition B had the participants eat the dessert while listening to the musical composition designed to be the 'sour' music. The expected outcome would be that the participants would report that the dessert had a stronger sour taste.

Campinho, Sousa and Mata in fact found some variation in the actual results of the experiment, compared to their hypothesised results. It was found that while the participants were listening to the sour musical compilation their perception of the sour taste was found to be stronger, and shown significantly across multiple participants. Listening to sweet music, on the other hand, was found to not increase the sweet taste reported by the participants, but to decrease the intensity of the sour taste.

Overall, it was shown that there was an association between musical stimuli, and how gustatory stimulus was perceived by the participants. The influence of music, and the categorised 'style' of music, was shown to have a prevalent affect on the perception of the flavours the participants reported, showing that music can really affect how food tastes.

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