





# Welcome

Welcome to the second edition of Neuro Narratives magazine. I am delighted to present another 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 complexity of procrastination, navigate the ever-evolving world of education and its psychological effects, and ponder the profound impact of the Covid-19 pandemic.

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.

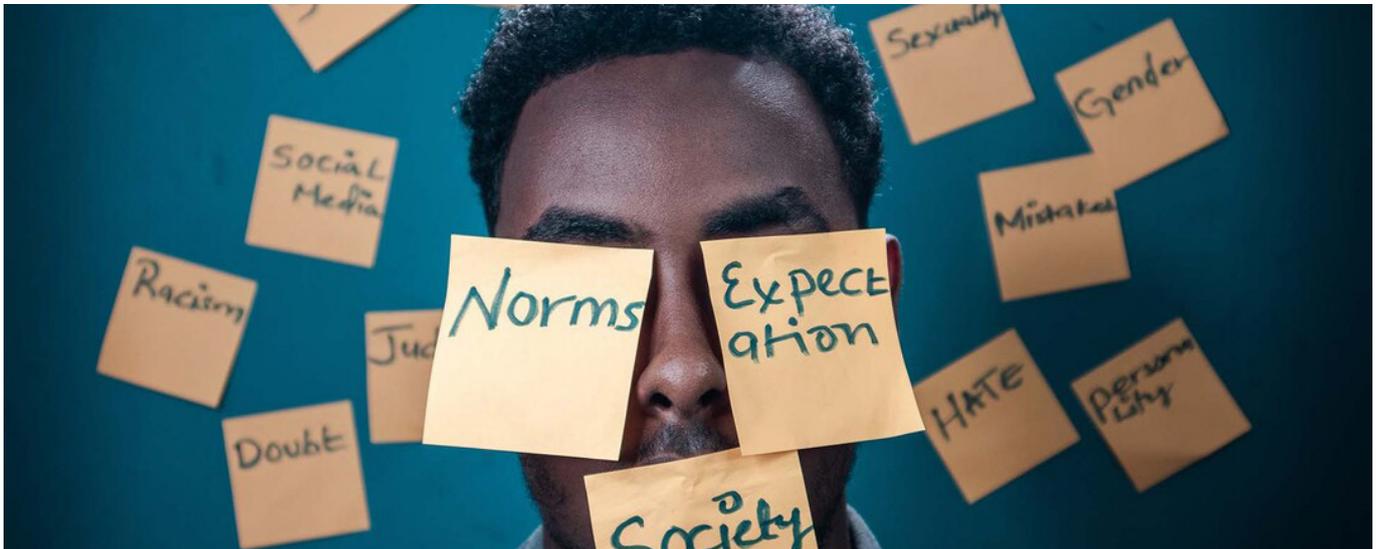
I hope you enjoy this edition and please let me know if you would like to contribute to the next issue.

**Mr Philip Starr**  
*Head of Psychology*

**Magazine Editors**  
Zara and Charlie

# The harmful consequences of labelling

by Ava Terversham



Stereotyping and labelling children, specifically at a young age can have huge impacts on children's development and can therefore affect their behaviour for the rest of their lives. If children are constantly given negative labels or punished for their mistakes, their self-esteem will be damaged. This can cause reduced confidence, which can lead to less success in academics or social situations. If young people are labelled as certain things such as being 'bad' at a subject it can easily be internalised, the child will no longer try to succeed or improve because they don't think it is possible. On the other hand, if children are praised for their strengths and not put into categories, an environment of confidence will be instilled which can positively set up their futures.

It is very important for teachers and caregivers of children to recognise the harmful effects of stereotyping and instead to use this knowledge to intentionally avoid giving any labels to children that could possibly be limiting. There is one specific experiment which I believe demonstrates the severity of the impact of labelling. This is the monster study:

In 1939 this study was carried out to see how labelling affects children's development. Specifically, this was investigated in regards to stuttering and if labelling children as 'stutterers' hindered their progress in overcoming the stutter. Dr Johnson tested this on a group of 22 lowan orphans. At the beginning of this experiment almost half of these orphans already had a stutter. The orphans were divided into four groups, there were two groups: one of stutterers and one of 'normal speakers'. Both these groups were told their speech was fine, they were praised for their efforts in overcoming speech difficulties. The other two groups (one of stutterers and one of normal speakers) were treated very differently, they were

told off and punished and told not to speak unless they were sure they could articulate properly.

The results showed a huge difference between the results of these two groups. The first two groups that were praised showed only positive results, it was found their speech levels either remained the same or improved. On the other hand, the second two groups showed no improvement or progress, in fact many stutterers got worse and many orphans who did not previously have a stutter now developed speech problems, more specifically some stopped talking altogether as they became very self conscious. Unfortunately some of the consequences lasted far beyond the study and many were left with speech problems that lasted for years afterwards. After the study Johnson and other scientists realised it was extremely unethical to have experimented on these orphans especially as it had subjected them to a high level of psychological damage and lasting physical consequences. This resulted in seven subjects suing the state of Iowa in 2007, they were all awarded with \$1.2M. Despite this, the study showed us the extreme consequences of labelling and stereotyping specifically on the development of children.

The findings from this study can be applied in more relevant contexts, for instance in school. Putting people into different classes depending on their ability, at a very young age, could be questioned as the people in the lower groups may feel as if progress is impossible. Additionally the subconscious attitudes of teachers may reinforce this and lead to these students never making as much progress as others. Similarly, the higher sets will remain exceeding in their subject as they have been labelled as 'more intelligent' and 'skilled'.

# Does the Stanford Prison Experiment prove that we should promote rehabilitation over incarceration?

by Saskia Ransford



## Introduction:

The Stanford Prison Experiment conducted by psychologist Philip Zimbardo in 1971 remains a seminal study in understanding the dynamics of power, authority, and human behaviour within the context of incarceration. However, while the findings shed light on the potential for abuse within penal systems, it would be simplistic to assert that they unequivocally advocate for the promotion of rehabilitation over jail time. Rather, the study underscores the complexity of human nature and the necessity for a multifaceted approach to criminal justice.

## The Stanford Prison Experiment:

In the Stanford Prison Experiment, college students were assigned roles as guards and prisoners in a simulated prison environment. What began as an academic exercise quickly spiralled into a nightmare as guards exhibited abusive behaviour and prisoners experienced psychological distress. The study was terminated after 6 days, highlighting the alarming ease with which individuals in positions of authority can succumb to cruelty and dehumanisation.

## Implications for Rehabilitation:

The findings of the Stanford Prison Experiment undoubtedly raise questions about the efficacy of punitive measures within prison systems. It contains dehumanising conditions within the simulated prison mirrored real-life instances of abuse and underscored the inherent flaws in punitive approaches to incarceration. By focusing solely on punishment, societies risk cycles of violence and aggression, ultimately hindering the prospects for rehabilitation and reintegration.

## Rehabilitation as a Solution:

Promoting rehabilitation over punitive incarceration represents a model shift in criminal justice courses. Rather than merely punishing offenders, rehabilitation seeks to address the underlying factors contributing to criminal behaviour and facilitate meaningful rehabilitation eg. drug abuse and

alcoholism. Through education, vocational training, and access to mental health services, incarcerated individuals can acquire the skills and support necessary to reintegrate into society as contributing and productive members.

## Critiques and Challenges:

However, it is essential to acknowledge the limitations of the Stanford Prison Experiment and the complexities. Critics argue that the study's artificial nature may not accurately reflect the dynamics of real-world incarceration due to exaggeration of the power roles and lack of realism. Moreover, the success rate of rehabilitation relies on societal attitudes towards punishment and the willingness to prioritise long-term societal well-being over short-term imprisonment.

## A Balanced Approach:

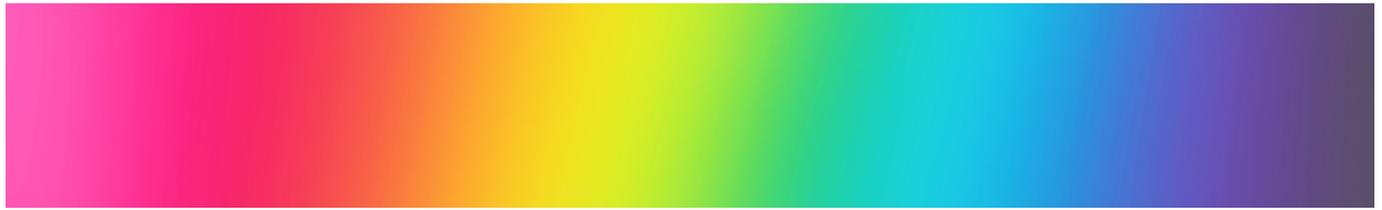
While the Stanford Prison Experiment serves as an example against the excesses of punitive incarceration, it does not provide definitive results for reform. Instead, it calls for a balanced approach that combines elements of both rehabilitation and punishment within the criminal justice system. Recognizing the humanity of both victims and offenders, policymakers must strive to cultivate environments that prioritise accountability, empathy, and restoration.

## Conclusion:

The Stanford Prison Experiment remains a reminder of the potential for abuse within systems of power and authority. While it underscores the need to reevaluate punitive approaches to incarceration, it does not offer a one-size-fits-all solution. Instead, it calls for an understanding of human behaviour and a commitment to promoting rehabilitation while ensuring accountability. By embracing rehabilitation as a guiding principle, societies can move towards a more just and humane approach to criminal justice, one that prioritises healing and redemption over punishment and retribution.

# The Impact of Color on Human Emotion

by Poppy Waltasaari



Colour psychology is a specialised field within colour theory that investigates the impact of various colours on human mood and behaviour. It delves into the intricate connections between colours and emotional responses, while also considering the nuanced influences of factors such as age and cultural background. In essence, colour psychology has evolved into a popular dimension of colour theory, establishing meaningful associations between specific colours and the diverse range of emotions experienced by individuals.

The realm of marketing and advertising has become a notable bastion for the strategic application of colour psychology. The substantial commitment of resources by select companies to delve into this field, accompanied by the widespread adoption of its principles across diverse industries, signals a profound belief in the effectiveness of colour psychology as a pivotal component of advertising endeavours. Within the advertising sphere, the deliberate utilisation of colour extends beyond mere aesthetics. It serves as a potent tool to elicit specific responses from consumers – from kindling hunger to shaping positive or negative associations, fostering trust, and even manipulating the perception of calmness or energy. The intentional deployment of colour emerges as a strategic means to wield influence over consumer emotions and perceptions.

**Red:** commands attention and evokes strong emotions like love, passion, and anger. Universally symbolising strength, power, and danger, it stimulates and excites, linked to sexuality and increased appetites. Energising and confidence-boosting, it's associated with physical needs and survival instincts. In attire, smaller red accents uplift moods, but excessive use may convey bossiness.

**Orange:** represents encouragement, optimism, and extroversion, combining red's energy with yellow's cheerfulness. It inspires courage and vitality, yet can convey pessimism. In business, it suggests affordability and feminine energy. Worn boldly or subtly, it enhances creativity and pairs well with autumn shades, but variations in dye lots require careful inspection. Orange silk ties remain powerful symbols of success.

**Yellow:** the colour of intellect and creativity, stimulates the left brain. Uplifting and illuminating, it brings hope and cheerfulness. Excessive yellow may induce anxiety and criticism. Influencing men, it's seen as cheap, but paired wisely, it adds authority. Yellow ties, though less common, remain

stylish in prints or polka dots.

**Green:** symbolises nature and growth, and conveys balance, healing, and stability. It represents security, wealth, and prestige in darker shades, while lighter greens evoke rebirth and freshness. Excessive green may lead to envy and selfishness. In business, it's beneficial for health-related products. Wearing green strategically enhances professionalism and approachability, especially in teal tones for men.

**Blue:** symbolises trust, serenity, and peace, evoking loyalty, integrity, and predictability. Its calming effect reduces tension, slows the pulse, and inspires wisdom. Universally favoured, blue is ideal in business, suggesting trust, honesty, and dependability, fostering customer loyalty. However, it can be perceived as mature or conservative, countered by more vibrant blues for added interest.

**Purple:** the colour of imagination and spirituality, fosters high ideals and creativity. Individuals drawn to purple are often compassionate and supportive, radiating tranquillity. Associated with wealth, royalty, and quality, purple enhances beauty appreciation and creative reactions. In marketing, purple denotes superior products, making it an ideal choice for service businesses. It offers a creative alternative in fashion, conveying authority with a high-contrast appeal. Purple ties and pastel mauve shirts are favoured by adventurous dressers in creative industries.

## Colour psychology as therapy:

Ancient cultures, such as the Egyptians and Chinese, practised chromotherapy, utilising colours for healing. Today, colorology is employed as a holistic or alternative treatment. Red stimulates the body and mind, enhancing circulation; yellow purifies the body and stimulates nerves; orange aids lung healing and boosts energy; blue soothes illnesses and relieves pain; and indigo shades address skin problems. A 2020 study hints at chromotherapy's potential to alleviate compassion fatigue and post-traumatic stress among intensive care unit nurses, though more research is necessary.

Reference : 03/03/24

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# The Potential Impact of the Covid-19 Pandemic on young people

by Niamh Carter



The 2019 Covid-19 pandemic had lasting impacts on people all over the world, it brought about significant disruptions to the economy, peoples mental health, socialisation and overall the general well being of many people. However, whilst people of all ages were affected by the pandemic, particularly young people felt these negative repercussions which can be explained by something called the 'pandemic skip' where young people have felt out of sync with their minds and their bodies due to the stunted development of their brains. Many researchers claim that young people face unique challenges and potential long-term consequences as a result of the pandemic.

Following the outbreak, national school closures had been implemented, and students were required to stay at home, which was perhaps one of the most profound impacts of the pandemic on young people due the disruption to education they faced. The closure of schools and the transition to remote learning for students led to millions of them worldwide being forced to adapt to new modes of instruction. Some of these students had never even heard of the tools and apps used for this online learning change, this is not to mention the millions of young people who could not afford the appropriate technology and resources to be able to continue with this online education, leading to a large gap in their knowledge which had possible devastating impacts on their future education. Moreover, the loss of in-person interaction with teachers and peers hindered social and emotional development, potentially impacting academic progress and future opportunities. When all of these challenges and worries combine: reduced social interaction, stay-at-home restrictions, difficulties in schoolwork, substantial changes to daily routine, fear of becoming sick, and boredom, they can create dramatic psychological effects on teenagers and adolescents.

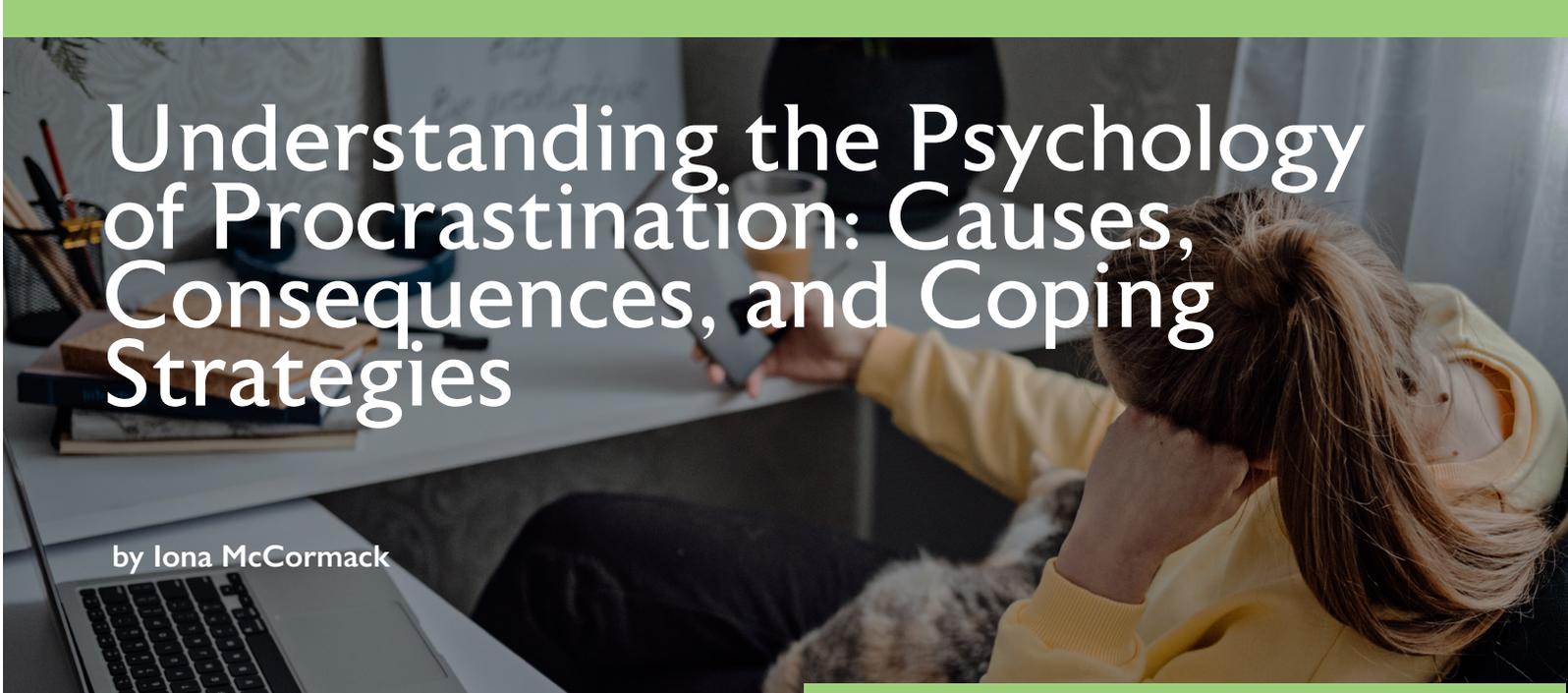
In addition to the educational challenges faced by young people, it also took a large toll on their mental health. The social restrictions placed upon young people led to increased feelings of isolation, stress, anxiety and worry. The uncertainty of the pandemic paired with the concerns about health, safety and the future, contributed to elevated levels of stress and psychological distress. For example, a survey of 2,106 16 to 25-year-olds

commissioned by a charity, revealed that almost a quarter (23 per cent) of young people in the UK believe they will never recover from the impact of the Covid-19 pandemic. Additionally, more than one in four (44 per cent) are more anxious now than they were at the start of the Covid-19 pandemic.

Moreover, the economic impact of the Covid-19 pandemic may have long-term consequences for young people's future prospects. Many people lost their jobs or found themselves working less hours due to business closures, lay offs and economic downturns resulting from the pandemic. This economic downturn led to reduced opportunities for career advancement, with young individuals who entered the job market or pursued higher education facing increased competition, limited employment options, and financial barriers that hindered their ability to achieve their goals and aspirations. This added stress of the uncertainty of their future on young people could have significant impacts on their mental health leading to higher levels of depression and anxiety.

However, despite the challenges and problems young people faced and continue to face due to the pandemic, there was also an opportunity for young people to gain resilience and unique skills and abilities that they possibly may not have been able to garner if they had not faced such a trying time at a young age. The shock will energise the most resilient members of this age cohort to take the climate and other battles into their own hands. In addition, Covid may even be politicising Generation Z in unforeseen ways, just as seismic global events have historically shaped the generations who came of age at their height. Other young people revealed the long spells of isolation had made them understand the need for "genuine" human interactions. "Life cannot be lived in social networks or video calls. We need people around us to make sense of ourselves," a Dutch student said.

In conclusion, Covid-19 psychologically affected young people and had long lasting effects on many of them. Whilst there were some positive changes from the pandemic, there were many negative repercussions and society should not 'forget' about the possible effects and mental strain it put on young people.



# Understanding the Psychology of Procrastination: Causes, Consequences, and Coping Strategies

by Iona McCormack

Procrastination is a common behaviour that affects most individuals across various parts of life, from academic to professional to personal tasks. Despite its prevalence, procrastination often leads to negative consequences, including increased stress, reduced productivity, and a lack of well-being. In this article, I will look into the psychology of procrastination, exploring its causes, the psychological mechanisms involved and effective coping strategies.

## **Causes of Procrastination:**

Procrastination can stem from various factors, including fear of failure, perfectionism, low self-efficacy, and impulsivity. Fear of failure can lead individuals to avoid tasks to protect their self-esteem, while perfectionism may result in unrealistic standards and the fear of not meeting them. Low self-efficacy is the lack of belief in your ability to complete tasks successfully, and this can undermine motivation and lead to procrastination. Additionally, impulsivity and difficulty in regulating emotions can contribute to prioritising immediate gratification over long-term goals. Therefore the causes of procrastination are not so clear cut. The stigma that it stems from laziness is completely incorrect, in most cases procrastination is a symptom of a much larger issue.

## **Psychological Mechanisms Involved:**

Several psychological mechanisms underlie procrastination, including temporal discounting, present bias, and the tendency to prioritise short-term rewards over long-term goals. Temporal discounting refers to the desire of someone to prioritise instant gratification over less immediate rewards that they may receive in the future. This may cause people to continually avoid long term tasks but will continue to complete tasks that will result in an immediate reward. Present bias involves settling for immediate rewards and underestimating future rewards, people who suffer from this will tend to regard future rewards as less important and this will deter them from trying to complete them early. These cognitive biases can lead individuals to procrastinate, as they focus on short-term fulfilment rather than long-term benefits.

## **Impact of Procrastination:**

Procrastination can have significant consequences for individuals'

academic, professional, and personal lives. In academic settings, procrastination can lead to poor academic performance, missed deadlines, and increased stress. This can be detrimental to students' mental health. As seen above, procrastination is due to a plethora of psychological factors and if some students are underperforming it could be down to something that is out of their hands. In the workplace, procrastination can result in missed opportunities, decreased productivity, and strained relationships with colleagues. This can harm a person's professional career and lead to a lack of enthusiasm in their work life that can spill over into their personal life. Moreover, procrastination can affect individuals' mental health, contributing to feelings of guilt, anxiety, and depression. Some people may procrastinate social plans or get to get together and this can add to their already prevalent feelings of anxiety. All of these concepts are bi-products of procrastination demonstrating the importance of this issue as being regarded as a psychological process.

## **Coping Strategies:**

There are effective strategies to overcome procrastination and improve productivity. Time management techniques, such as breaking tasks into smaller, manageable steps and setting specific deadlines, can help individuals avoid procrastination. Cognitive-behavioural strategies, such as challenging negative beliefs and setting realistic goals, can enhance motivation and reduce procrastination. Additionally, Developing self-awareness and understanding one's triggers for procrastination is also crucial for implementing effective coping strategies. These methods can all be useful in reducing if not eradicating the effects of procrastination on an individual.

Procrastination is a complex behaviour influenced by various psychological factors. By understanding the underlying causes and psychological mechanisms involved, individuals can adopt effective coping strategies to overcome procrastination and enhance productivity. Through the coping mechanisms listed above individuals can mitigate the negative consequences of procrastination and achieve their goals more effectively.

# Our school system is broken. Not a specific school, but the whole UK education system.

by Gigi Baxter

Mind, a leading mental health charity in the UK, researched mental health problems experienced by young people at UK secondary schools. Mind questioned over 2800 people, including students, parents, school staff and mental health professionals, and the findings were unfortunate, but not shocking; 78% of students said that their education experience had made their mental health worse.

Clearly, the UK education system needs to be reshaped, but first we need to understand why it is not working.

Teenagers require eight to ten hours of sleep, with seven to eight hours of sleep being the minimum necessary for their brains to work effectively. *Better Health*, however, found that most students get, on average, six and a half to seven and a half hours of sleep. Simply “going to bed earlier” will not solve this problem. *Neurology Live* found that melatonin release is delayed in adolescents, shifting their circadian rhythm, causing them to become tired later and to wake up later. Early school starts, however, disrupt this cycle.

The educational system also fails students during the period surrounding GCSEs and A-levels, four intense and highly stressful years. A minimum of five GCSEs are compulsory, but most students take between nine and ten. With so many subjects, there is not time to learn any of the subjects thoroughly. Rather than expanding one's knowledge, the process necessitates memorising endless facts and figures and meeting the specific requirements of markers. To succeed, over the four week exam period, one must demonstrate mastery of the mark scheme, rather than acquiring real knowledge.

With A-levels, many people believe that, by decreasing the number of subjects to three or four, workload and stress levels will also decrease, allowing time for students to explore their interests and who they are as a person. However, this does not prove to be true.

A-levels do allow you to explore subjects that interest you in deeper detail, but the system still has problems. Along with the stress of the year 12 summer exams, that dictate where you will or will not be able to attend university, A-level students experience the additional burden of having to worry about UCAS – whether one is doing enough extra curriculums, enough additional reading, attending enough talks – all of which takes up additional time and energy.

It is clear that GCSEs and A-Levels, as structured, create excessive stress for students. When someone experiences stress, cortisol and adrenaline are released, quickly boosting energy by raising serum glucose levels, and activating the

amygdala, the part of the brain that controls mood, motivation and fear. In addition, these hormones deprioritise the immune, digestive and reproductive function, all deemed non-essential during a threatening situation.

This ‘fight or flight’ response, a function of the sympathetic nervous system, is a reaction to perceived danger. This sympathetic response is only meant to be a temporary reaction. When this stress response becomes chronic, however, physical and mental health are negatively impacted.

GCSEs and A-levels result in four years of constant stress. Sustained exposure to cortisol leads to an increased risk of health problems such as anxiety, depression, sleep problems, weight change, and problems with memory and focus. According to the World Health Organisation, depression, anxiety and behavioural disorders are among the leading causes of illness amongst adolescents.

Many schools do offer advice and guidance to students, however they recognise that there is only so much they can do. Systemic change is needed, specifically regarding the structure of GCSEs and A-level programs.

Some suggest making GCSEs less exam focused, basing a percentage of one's overall grade on course work. This would allow the student more control over their grade as they would be able to demonstrate their development across the two years, also giving a wider picture of the knowledge they have acquired. In addition, it allows students who do not perform well in exams to have a chance to display their academic achievements. These adjustments could relieve the stress and pressure of everything depending solely upon the exams at the end of the two years.

This method, however, would require extra time and funding as there will be more to mark. One could also argue that making coursework count could even increase stress, but this is just one of many solutions suggested as people debate how to repair GCSEs and A-levels. In short, there is no single answer that is sufficient to effectively change and improve the UK education system; we just know that it must.

The UK education system at the moment expects students to balance workload, learning and extracurriculars, whilst maintaining a good balance between social and work life, getting enough exercise and sleep. Unfortunately, under the current system, it is extremely difficult to achieve this balance. Something always has to be sacrificed and, for students, that means choosing between their mental wellbeing and their academic success.



## Karen Horney (1885 - 1952)

- One of the first women trained as a Freudian psychoanalyst.
- She radically countered the views of the Freudian school.
- She pointed out that the male-centricity of Freudian psychoanalysis derived from the fact that it was largely developed by men.
- She overturned and reversed the idea of penis envy.
- Her views on neurosis, feminist psychology, and 'the self' continue to influence the fields of cultural psychology, interpersonal psychotherapy, and humanistic psychology.
- In 1937 she published *The Neurotic Personality of Our Time*, which had wide popular readership.
- In 1941 Horney was made Dean of the American Institute of Psychoanalysis,
- In 1941 she also founded the *American Journal of Psychoanalysis*



# What are dreams and why do we have them ?

By Bella Challis

Dreams are a normal part of sleeping. Dreams are a sequence of images, ideas, emotions, and sensations that occur in the mind during certain stages of sleep. The content and purpose of dreams are not fully understood, although they have been a topic of scientific speculation and a subject of philosophical and religious interest throughout recorded history. For example the ancient Egyptians believed that dreams acted as oracles with complex meanings. A dream about a violent death was said to symbolise a long life whereas a dream about a donkey represented good luck. Over the past two centuries psychologists have conducted 4 most commonly accepted dream theories which I will discuss below.

The first dream theory is Sigmund Freud's who suggested dreams may have a particular scientific purpose. Freud felt that dreams were a pathway to the unconscious mind and demonstrated suppressed desires. He believed that through the analysis of dreams, we can gain some insight into a person's motivations and wishes. He believed that dreams were a form of wish fulfilment and a way for a person to say or do things that they had not done in the past. For example in Freud's interpretation of Dreams he discusses how dreams serve to understand the unconscious mind. He uses an example of a personal dream called Irma's injection. In this dream he was able to reproach a patient who he could not help as she refused treatment, Freud had felt extremely guilty about this. This demonstrates how his wants of trying to help her again were fulfilled.

Another dream theory was conducted by Carl Jung who believed that dreams are meaningful expressions of the unconscious mind, reflecting universal symbols called archetypes. These symbols represent fundamental human experiences and emotions, helping individuals on their journey towards self-discovery and personal growth. Jung emphasised the symbolic nature of dreams and the importance of interpretation, suggesting that they compensate for imbalances in the conscious mind. In contrast to Freud, who focused more on the individual's repressed desires and early childhood

experiences, Jung's theory incorporated a broader view of the unconscious, including the collective unconscious and archetypal symbols that go beyond personal experiences. While Freud saw dreams primarily as wish-fulfilment, Jung viewed them as containing deeper insights into the psyche and serving the purpose of individuation.

A further theory is the REM (Rapid Eye Movement) and Activation-Synthesis theory of dreaming, it proposes that dreams are a result of brain activity during the REM stage of sleep. According to this theory, during REM sleep, the brainstem sends random signals to the cortex, the outer layer of the brain responsible for higher-level thinking. The cortex then tries to make sense of these random signals by synthesising them into a coherent narrative, which we experience as dreams. Dreams are essentially the brain's attempt to interpret and organise these neural impulses, incorporating elements from memory, emotions, and experiences. Activation-Synthesis suggests that dreams are not inherently meaningful but rather a byproduct of the brain's activity during sleep. This theory challenges the idea that dreams have deep psychological significance, instead emphasising the biological processes underlying dreaming.

Finally there is the Threat Simulation Theory of dreaming which says that dreams evolved as a way for the brain to simulate and rehearse threatening or dangerous scenarios, thereby enhancing survival skills. According to this theory, during sleep, the brain generates dreams that contain elements of potential threats or challenges faced by the individual. By simulating these scenarios in a safe environment, the brain can prepare the individual to respond effectively to similar threats in waking life. This theory suggests that dreams serve an adaptive function, helping individuals practise coping strategies, problem-solving, and emotional regulation in the face of potential dangers. While not all dreams may involve threats, the Threat Simulation Theory highlights the evolutionary significance of dreaming as a mechanism for survival and preparedness in the face of adversity.

# What is the psychology behind the making of criminals?

By Tara Moriarty



What is the psychology behind the making of criminals? There are many different factors that can influence the shaping of criminals such as biological factors, many different theories but also the environment that they were surrounded by during a person's childhood, so let's have a look at what psychologists believe makes a criminal.

Firstly we have the biological factor. We can't choose the chemical makeup of our brain just like we can't choose anything else about ourselves so there are different variants of our biology that can influence the likelihood of us becoming criminals. Variances in autonomic arousal and neuroendocrine functioning show that can increase the likelihood of us displaying criminal-like behaviour. There is also some evidence that those that are antisocial may have undeveloped or damaged prefrontal cortex, which doesn't fully develop until you are around 20 years of age, which can explain why many young people can often get involved in criminal behaviour. The hormone Dopamine is often also linked to criminal behaviour because it releases a rewarding feeling when certain behaviours are repeated, showing that once you start it's hard to stop because of the happy feeling you get from the dopamine being released.

Secondly the idea of where you grew up and what you were surrounded by during your childhood is shown to play a pivotal role in the development of criminals. Those who come from poorer backgrounds often are faced with certain difficulties meaning that they may turn to crime as a way to provide for themselves and others, especially if they are child they then develop this habit from a very early age. Living in an area

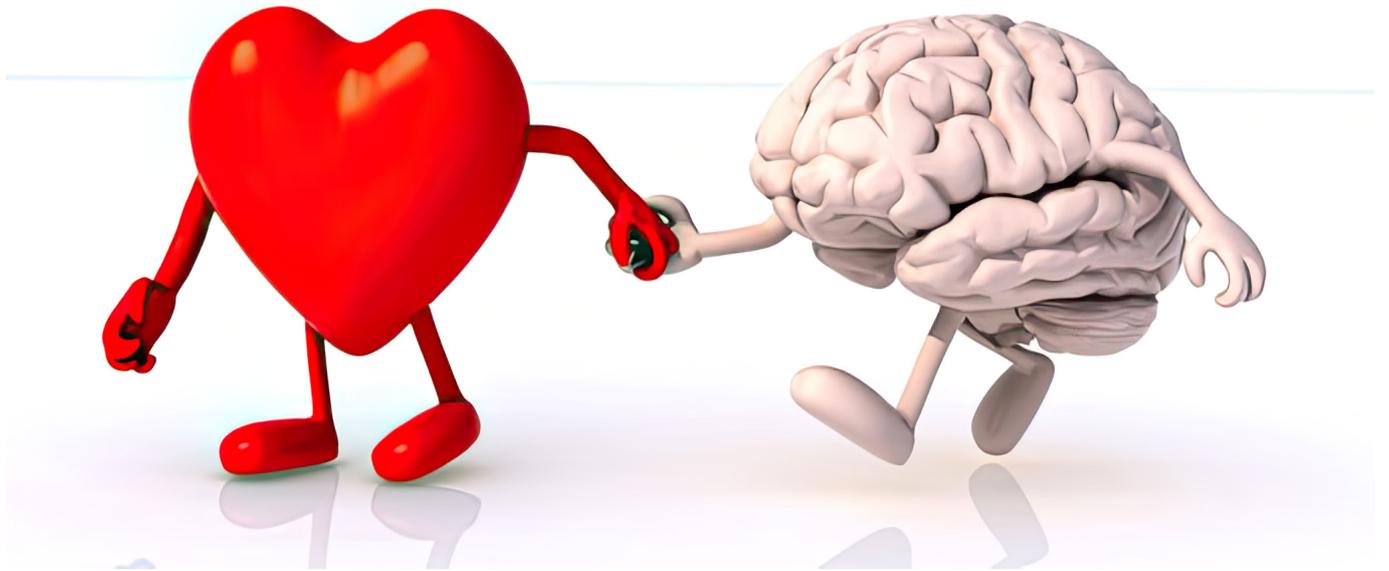
of poverty can mean that there is a lack of community or social interaction/support which can also increase the risk of developing criminal behaviours. As well, if you live in an area with a high level of crime it's more likely to influence you because you're surrounded by that type of behaviour, therefore the idea of classical and operant conditioning can show why people have these tendencies because their behaviour isn't corrected and therefore maintained.

Finally, many different theories can also play a part in the making of criminals. The social learning theory shows why children may develop criminal actions. The Social Learning theory states that behaviours are made through observations and reinforcement through the people around them continuing to act the same way. A young child may develop criminal tendencies if they grow up surrounded by family members or friends that are involved in criminal activities and therefore increase the likelihood that they develop the same type of behaviour. The positive reinforcement of an adult in their life will mean that the child maintains these types of behaviours therefore meaning that the probability of a child sustaining these criminal manners will continue into adulthood.

These different factors show that the idea that criminals are not made but rather just born can be partially true as there are biological factors affecting the ability to have criminal tendencies but yet you can not control the genetics that you have, whereas you can also see that there are environmental factors in it as well showing that it is something that you can develop as well.

# The Neurochemistry Behind Being in Love

By Scarlett Davis



Love, something that has fascinated poets, artists, and scientists for centuries, is not merely a fleeting emotion, but a complex interplay of neurochemical processes within the brain.

To put it simply, hormones and neurotransmitters work together to control our emotions and behaviours. Dopamine, often known as the “pleasure neurotransmitter,” floods the brain during the initial stages of love, creating feelings of euphoria, excitement, and craving for the beloved’s presence. This surge of dopamine activates the brain’s reward system, similarly to the effects of addictive substances, reinforcing the desire to seek out and bond with the object of affection.

Simultaneously, the brain experiences a surge in oxytocin and vasopressin, often referred to as the “bonding hormones.” Oxytocin, in particular, plays a key role in fostering emotional attachment and intimacy, which facilitates trust and bonding between partners. Its release is enhanced by physical contact, such as hugging or kissing, which strengthens the emotional connection between individuals.

Moreover, love entails a dampening of activity in brain regions associated with negative emotions and critical judgment, such as the amygdala and prefrontal cortex. This phenomenon, known as “emotional bias,” leads individuals to perceive their partners in a more positive light, idealising them and overlooking their

flaws and imperfections. Interestingly, the brain responds to love and pain relief in similar ways. Studies using functional magnetic resonance imaging (fMRI) have shown that when people are experiencing romantic love, there is less activation in the brain regions linked to physical pain and social rejection. This implies that love has analgesic qualities, explaining why it can be consoling and comforting during difficult times.

Furthermore, long-term romantic relationships are characterized by a stabilization of neurochemical activity, transitioning from the intense infatuation phase to a more profound, enduring attachment. The brain adapts to the presence of the partner, with dopamine levels returning to baseline while oxytocin and vasopressin continue to play a pivotal role in maintaining emotional closeness and relational satisfaction. However, it’s essential to acknowledge that love isn’t immune to challenges. Relationship conflicts and stress can trigger fluctuations in neurochemical levels, leading to feelings of insecurity, anxiety, or even depression.

From the euphoric highs of dopamine to the profound bonds forged by oxytocin, love leaves an irreversible mark on our neural circuitry, influencing and shaping our perceptions, behaviors, and ultimately, our relationships.

# The mind, psyche and psychology: Phineas Gage's Enduring Impact on Neuroscience

by Priya Tiwana

The case study of Phineas Gage is one of the few that have impacted neuroscience in such a profound manner. On a seemingly ordinary day in 1848, Gage's life took a dramatic turn when a tamping iron pierced his skull, altering not only his physical appearance but also his personality, changing the study of the human brain forever.

The remarkable aspect of Gage's case lies not just in the extent of his physical injury but also in the insights it provided into the organisation of the human brain. The tamping iron, propelled with immense force, caused severe damage to Gage's prefrontal cortex, an area now known to play a critical role in decision-making, social behaviour, and emotional regulation. Despite sustaining such catastrophic trauma, Gage survived—a testament to the brain's remarkable resilience and capacity for recovery.

Additional examinations of Gage's skull and modern neuroimaging studies have provided further pieces of evidence of the specific brain regions affected by the injury. It was the ventromedial prefrontal cortex, in particular, that bore the brunt of the damage. This region is intricately involved in processes such as self-regulation, impulse control, and the evaluation of reward and punishment—a realisation that bolstered the emerging theory of functional specialisation within the brain.

Gage's case also highlighted the concept of neuroplasticity, the brain's ability to reorganise and adapt in response to injury or experience. Despite the loss of a significant portion of his prefrontal cortex, Gage managed to maintain high cognitive abilities, allowing him to retain basic language abilities and memory function. This phenomenon underscored the brain's capacity for functional reorganisation, as neighbouring regions assumed roles previously carried out by the damaged tissue—a principle that continues to underpin modern neurorehabilitation strategies.

Moreover, Gage's case spurred a paradigm shift in our understanding of the neural basis of personality. Prior to his injury, Gage was described as affable, responsible, and industrious. However, post-accident, he exhibited marked changes in behaviour, displaying impulsivity, irritability, and a lack of social decorum. This observed alteration in personality provided compelling evidence for the role of the prefrontal cortex in mediating complex social behaviours and emotional regulation—an insight that laid the groundwork for subsequent investigations into the neural underpinnings of personality traits and psychiatric disorders.

The enduring legacy of Phineas Gage extends beyond the realm



of neuroscience, permeating diverse fields such as psychology, psychiatry, and even philosophy. His case serves as a poignant reminder of the intricate interplay between brain structure, function, and behaviour—a nexus that continues to fascinate and elude researchers to this day. By illuminating the profound consequences of focal brain lesions on cognition and personality, Gage's story has contributed immeasurably to our understanding of the human condition and the enigmatic workings of the mind.

As we reflect on the enduring impact of Phineas Gage, we are reminded not only of the fragility of the human brain but also of its remarkable capacity for adaptation and resilience in the face of adversity. His legacy endures as a beacon of curiosity and discovery, inspiring generations of researchers to unravel the mysteries of the brain and unlock the secrets of the human psyche.



# Schizophrenia

by Chloe Hommel



## What is schizophrenia?

Schizophrenia is a long-term mental health condition that causes a range of differing psychological symptoms. It is often referred to as a type of psychosis, meaning that a person with this disorder may not be able to distinguish their own thoughts and ideas from reality. Some common symptoms that may be caused by schizophrenia are: hallucinations, delusions, losing interest in everyday activities, feeling disconnected from your feelings or emotions, and wanting to avoid people or situations. People may also experience persistent difficulties with their cognitive or thinking skills such as memory, attention and problem-solving

## Who does it affect?

Schizophrenia affects around 24 million people worldwide (1 in 300 people), and onset is most often during late adolescence and the twenties. As well as this, onset tends to occur earlier in men than in women. It is frequently associated with distress to a great extent, as well as difficulties engaging in all aspects of life.

Sadly, people with schizophrenia often experience human rights violations, both inside mental health institutions and in community settings, with the stigma against people with this condition causing social exclusion and impacting their relationships with others. This social exclusion contributes to discrimination, which therefore can limit access to education, housing and employment.

## Case study of Kelsey Patterson

The case study of Kelsey Patterson provides a clear example of what can happen when the mental health system fails to provide adequate care, therefore not only endangering the patient themselves, but also putting the public at risk. Patterson struggled with schizophrenia for over two decades, leading him to commit several irrational assaults, however instead of helping him into treatment, the state of Texas mostly left Patterson to his own devices. According to the Houston Chronicle, he was 'left half-treated and unsupervised by the state for years despite a history of psychotically inspired, near-fatal assaults'.

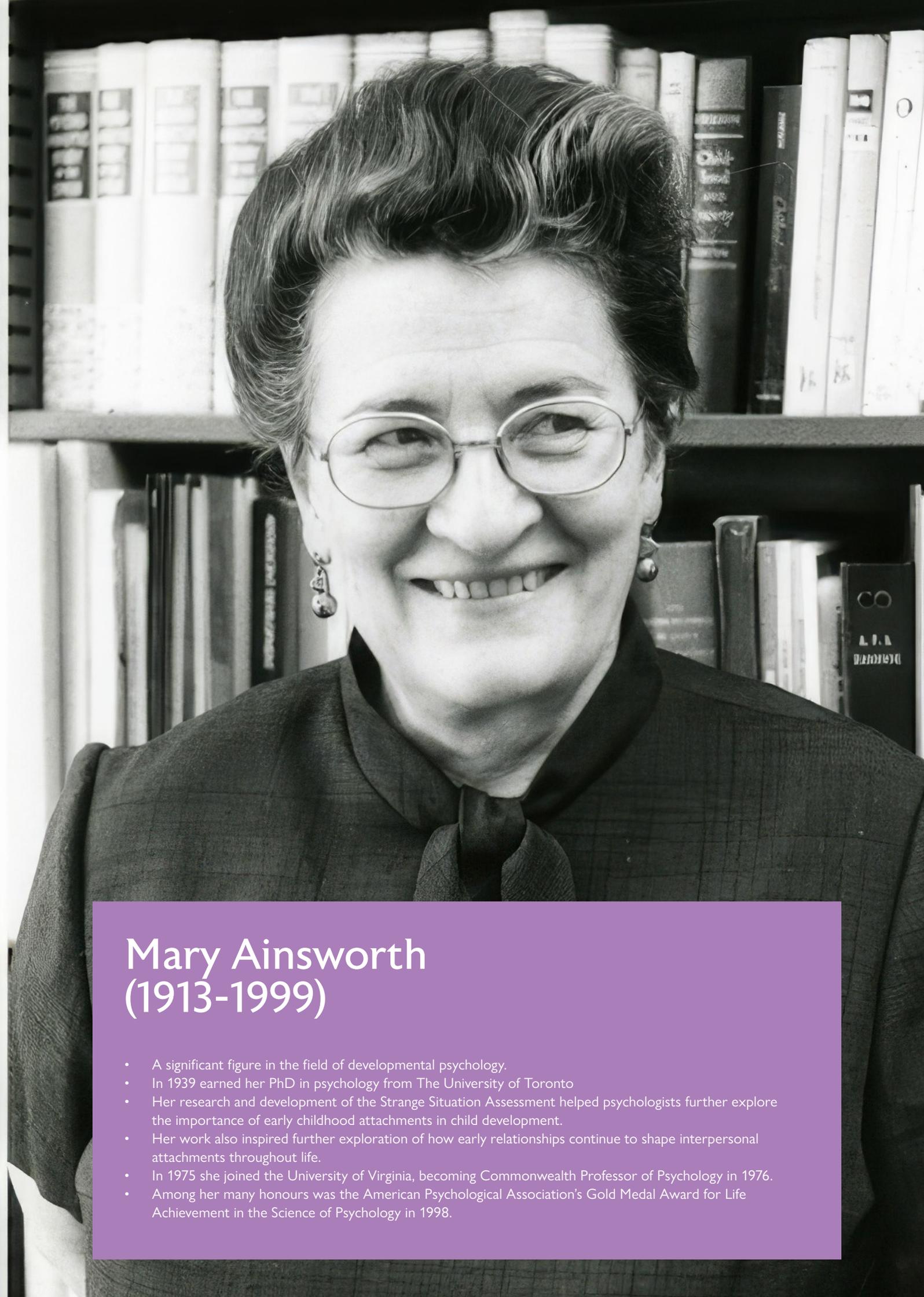
This therefore exemplifies the need for time and money to be spent on developing the cures and treatments of psychological disorders such as schizophrenia.

## What are the treatments for the condition?

Although there is currently no cure for schizophrenia, a variety of antipsychotic medications are effective in reducing the psychotic symptoms, as well as reducing the potential for future psychotic episodes and their severity. As well as this, treatments such as CBT or supportive psychotherapy may reduce symptoms and enhance aspects of social life that can be distorted and hindered by schizophrenia.

## How is schizophrenia developed?

Schizophrenia tends to run in families but no single gene is thought to be responsible. Research suggests that a combination of genetic, physical and environmental factors can make a person more likely to develop the condition. As well as this, psychosocial factors may also affect the onset of schizophrenia, meaning that activities such as drug taking are associated with an elevated risk of developing the disorder. Instead of one single gene being responsible for the onset of schizophrenia, it is likely that different combinations of genes make people more susceptible to the condition. However, it is essential to note that having these genes does not necessarily mean you will develop schizophrenia! Evidence that the disorder is partly inherited comes from the studying of twins. It has been found that if a twin develops schizophrenia, the other twin has a 1 in 2 chance of developing it too, even if they are raised separately, because of the fact that identical twins share the same genes. However, in non-identical twins (who have different genetic makeups), if one twin develops schizophrenia, the other twin only has a 1 in 8 chance of developing it as well. This research of twins therefore suggests that genes are not the only factor influencing the development of schizophrenia, as psychological and environmental factors also play a large role in the development of the disorder. For example, a stressful or emotional life event may trigger a psychotic episode, which when triggered frequently may lead to schizophrenic tendencies.



## Mary Ainsworth (1913-1999)

- A significant figure in the field of developmental psychology.
- In 1939 earned her PhD in psychology from The University of Toronto
- Her research and development of the Strange Situation Assessment helped psychologists further explore the importance of early childhood attachments in child development.
- Her work also inspired further exploration of how early relationships continue to shape interpersonal attachments throughout life.
- In 1975 she joined the University of Virginia, becoming Commonwealth Professor of Psychology in 1976.
- Among her many honours was the American Psychological Association's Gold Medal Award for Life Achievement in the Science of Psychology in 1998.

