

Psychology Matters

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Letter From The Editor-in-Chief

Hi readers!

Thank you for choosing to read our second issue of Psychology Matters. I want to give a massive thank you to Ms. Flatto and Ms.

Cohen for supporting our budding publication this year and really helping it flourish. As always, thank you to our wonderful team who has worked together to fill every page of this issue with intriguing (and well edited) articles. None of this would have been possible without our amazing writers, editors, artists, and designers. And as always, thank you to every single one of you who has picked up a copy of this issue and is eager to read what amazing articles we have in store.

I hope you enjoy reading!

- *Nicole Au*

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PERFECTIONISM AND MENTAL HEALTH

By Rachel Lan

Striving for excellence is often seen as a good characteristic, as it is assumed that an individual has a good work ethic or is a good student. But, setting the standards too high to the point where it's impossible to achieve the goal becomes harmful to one's mental well-being.

What is Perfectionism?

Perfectionism is a personality trait driven by internal pressures of wanting to avoid failure or judgment, as well as external factors such as social, academic, or cultural pressures. However, not all types of perfectionism harm individuals. Adaptive perfectionism is a healthy, achievement-oriented type of perfectionism, where individuals have high standards but set realistic goals for themselves while working hard for their success. On the other hand, perfectionism can have a darker side, which is known as maladaptive perfectionism. This is a type of perfectionism that is failure-oriented and is based on the fear of feeling unworthy and having low self-confidence. The three types of maladaptive perfectionism include self-oriented, other-oriented, and socially prescribed. Self-oriented perfectionism is when an individual forces an unrealistic desire to be perfect on themselves. Other-oriented perfectionism is forcing unrealistic standards of perfection on others. Socially prescribed perfectionism is recognizing unrealistic expectations of perfection from others.

Perfectionism and Mental Disorders

When having a maladaptive perfectionist mindset, there is the potential to harm an individual's mental health significantly, as this mindset can lead to a variety of different mental health disorders. Perfectionists can develop depression,

anxiety, obsessive-compulsive disorder (OCD), eating disorders, and even suicidal thoughts. Thomas Curran, a lecturer in the Department for Health at the University of Bath in the United Kingdom, and Andrew P. Hill, of York St. John University, conducted a series of studies to further their understanding of the correlation between mental disorders and perfectionism. One of their studies showed that more than 70% of adolescents who died by suicide had the habit of setting unrealistic standards for themselves (Sandoiu, 2018). According to a study from 2018, about 30% of undergraduate students experience depression symptoms, with perfectionism being widely associated with the symptoms.

Curran and Hill pointed out that people with self-oriented perfectionism are more likely to have clinical depression, eating disorders, and higher suicidal rates in teenagers. It also exacerbates the presence of bipolar disorder, which is a mental health condition that causes unpredictable shifts in a person's mood, energy, activity level, and concentration (Newman & French, 2023).

Effects of Maladaptive Perfectionism on Well-being

These mental disorders can drastically impair an individual's mental well-being. After making a mistake, they are overly critical and easily find faults in their decisions. Instead of celebrating their accomplishments, they usually neglect them and disregard compliments. Perfectionists have a harsh, critical internal dialogue that constantly reminds them that they aren't good enough, even if they work as hard as possible. Along with the inner voice being draining enough, perfectionists criticize themselves for the fact that they're being self-critical and that their constant efforts to "be better" just prove their self-imperfection.

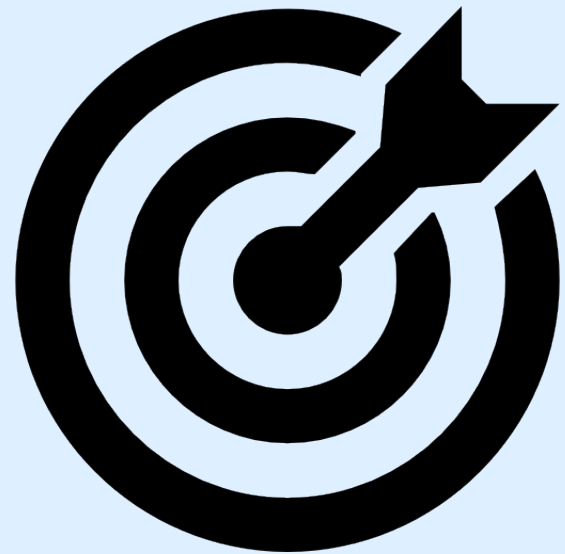
Effective Coping Strategies

In navigating the challenges caused by perfectionism, developing effective coping strategies is important for building resilience and keeping a healthy mental mindset. To combat perfectionism it is crucial to be aware of one's thoughts and behaviors relating to perfectionism. This can be done by writing down thoughts that come to one's mind when feeling the need to be perfect in a situation, even if they feel irrational. While writing them down, pick up on the themes that start to show within your thoughts. Once these themes are identified, it's much easier to change the mindset. Another coping strategy is to practice mindfulness by praising oneself using compassionate self-talk, and challenging negative self-judgements. Practicing self-kindness helps reduce the maladaptive perfectionism individuals experience. It is also important to acknowledge that it's completely normal to make mistakes, as it teaches the brain that a mistake isn't the end of the world. This can be done by trying something new, and instead of focusing on how to be perfect at it, switching the mindset to enjoying it or learning how to get better at it. Mistakes are opportunities for improvement and learning. To ensure an overall well-being, set reasonable goals and break down tasks to minimize feelings of failure and overwhelm. These goals should be specific and attainable. Perfectionists usually have the "all-or-nothing" mindset, a cognitive distortion where individuals view the world as a binary. They define their experiences and processes as either right or wrong. This is an unhelpful and harmful way of thinking, as it can lead to anxiety and maladaptive perfectionism. To fight against this thinking, individuals should break down tasks into smaller, more manageable ones. Checking off one task at a time increases feelings of accomplishment and decreases feelings of failure. Ultimately, recognizing the damaging effects on mental health and creating healthy coping techniques through cognitive behavioral therapy allows individuals to embrace imperfection and prioritize self-

care (Cox, 2022).

Wanting to achieve excellence is admirable and important for success. Still, it's important to acknowledge the line between achievement-oriented perfectionism, and the negative effects of maladaptive perfectionism on an individual's mental health. The challenge of trying to accomplish unattainable goals can lead to a variety of mental health disorders, and extreme critical self-criticism can only further these negative effects. However, by practicing productive coping strategies, individuals can change their maladaptive perfectionism thought patterns into a healthier mindset, resulting in high, reasonable expectations while embracing imperfection and maintaining a healthy well-being.

Learning about maladaptive perfectionism can help students identify unrealistic standards and the psychological consequences. Through shedding light on this topic, I hope to foster a stronger resilience to this unhealthy form of perfectionism by promoting healthier approaches to strengthen the Horace Mann community.



Our Internal Rhythms - A Desire to Be in *Harmony*

By Charles Chaitman

When you think of dance music, you may think of pop music or electronic dance music and probably don't think of choral and ambient music. When asked to describe dance music and provide examples, people agreed on similar pieces of music that felt danceable across cultures and genres of music. The ability for music to elicit movement and feelings of pleasure is known as groove (Levitin et al., 2018). Across all cultures, the most important aspect of making music groovy is its rhythm and meter. Traditionally, groovy music is bouncy, energetic, and fast. Music with a strong downbeat and a medium level amount of syncopation is high groove. Lower frequencies create a stronger downbeat, which is why EDM has a pulsing bass. Music with no syncopation is boring, but too much syncopation distorts the timing of the downbeat and becomes confusing. Music with the highest groove is around 100-130 BPM, which is slightly faster than the range of human walking and the heartbeat, around 60-120 BPM. People respond most commonly to music that is in groups of 2 or 3. This is because, in order to dance and move through time, it is necessary to anticipate your next movement. Music, which has a constant pulse or meter coordinates the next moment in time, and our bodies internalize that rhythm.

Entertainment is when the body syncs up with external stimuli, in this case, music and movement (Foster Vander Elst et al., 2023). Movement of the body and internal neural firings repeat to the tempo of the music. This is only possible when individuals can predict the next beat of the music and with our internal rhythm. If people could not predict these beats, they would react after every downbeat of the music and become offbeat. Our ability to internalize the rhythm and create expectations for the next moment in time is what makes metrically repetitive music satisfying and easy to dance to. Entrainment comes from the cerebellum, supplementary motor area, and premotor sensory cortex, all parts that are involved in movement. The Brodmann area is for anticipation and the basal ganglia and sensory motor area are for beat perception. Having an internal rhythm is what allows musicians to start playing again on the next beat after making a mistake, and what allows us to hear loud rests when the music stops but you can still feel the beat (Foster Vander Elst et al., 2023).

Dance and music are universal and appear in every human culture. William McNeill, Leroi-Gourhan, and Michael Corballis argued that the first form of communication to evolve was dance, from that came music and poetry, and from that came language. History showed that groups who danced and sang together were more successful in their work. McNeill argued that the euphoric feeling created by dancing and making music in groups strengthened group harmony. He also noted, however, that authoritarian regimes utilized dance and music to build



group solidarity and inflict conformity (Grau, 2015). When does the line blur from empathy and altruism to conformity? The power of dance comes from its ability to bring groups of people together and strengthen their bonds, as well as to promote altruistic and prosocial behavior. In order for people to dance together, they need to be on the same beat, and this is why dance music is rhythmically repetitive and stable, allowing us to dance in groups and not just by ourselves. Dance is a social activity, and its ability to strengthen social bonds and promote altruism is why every culture celebrates it. Dance music, even though not necessarily needed to dance, coordinates people to be in sync and feel the unifying and strengthening effects of dance.

To prove that moving in synchrony promotes altruism, 14 month old infants were strapped to an assistant's chest and

were bounced either synchronously or asynchronously with an experimenter facing across from them (Cirelli et al., 2014). After 145 seconds of bouncing either with or against the experimenter to the song “Twist and Shout” by The Beatles, the assistant left the room and the infant was left with the experimenter and the parent. The experimenter then dropped a marker, paper ball, or clothespin, and if the infant helped the experimenter by giving the object back to them in 30 seconds, they were awarded 1 point. If the infant tried but was unsuccessful, or gave the object back after 30 seconds, they scored .5 points. The 30 seconds were divided: In the first 10 seconds, the experimenter only looked at the dropped object, in the second 10 seconds, the experimenter looked back and forth between the infant and the object, and in the last 10 seconds, the experimenter repeated the name of the object. The percentage of infants who handed back the object between asynchronous and synchronous bounces was 13.1% and 25.8%. Infants who were bounced in synchrony with the experimenter were almost twice as likely to perform altruistic behavior than infants who were bounced in asynchrony. There was no difference in the percentage of infants who handed the object back to the experimenter after the 30 seconds, which demonstrates that synchronous bouncing promotes immediate helping. One cause for this is that during the last 10 seconds, infants felt they had to conform to picking up the object, instead of true altruism which was more immediate. In another experiment, the infants bounced in synchrony, however not symmetrically, meaning that when the infant was down on the downbeat, the experimenter had their legs straighten on the same beat, or on the high part of their bounce. Results for altruism were similar to the first group of synchronously bouncing infants and experimenters, meaning that perfect unison of dancers is not required, but synchronization to the meter through movement is.



We enjoy dancing because it allows us to express emotions as well as bring us closer together with the people around us. The most exhilarating dance music has a strong pulse because it conducts us to dance in harmony. On a neural level, our brain is able to anticipate and predict the next moment in time through music which allows us to prepare the next movement of our bodies, and stay in time with others. In a time when people are quick to judge others and isolate themselves, dance can break down barriers and build understanding.



THE PSYCHOLOGY BEHIND FAKE NEWS

By: Gillian Ho



Fake news is defined as false stories that appear to be news, spread on the internet or other media, usually created to influence political views or as a joke (Cambridge Dictionary, 2024). Fake news falls under the categories of misinformation – false or inaccurate information regardless of intention – and disinformation – false information intended to mislead consumers. Considering only 39% of Americans in 2023 trusted the media for reliable information, why is fake news such an issue, continuing to spread rapidly on social media and print journalism (Statista, 2024)?

This isn't about being easily fooled. Believing fake news stems from a phenomenon in human cognition known as cognitive biases. These biases are mental shortcuts or patterns in reasoning, memory, or judgment that can lead to erroneous conclusions. They are inherent to everyone's thinking processes. So, why do humans have cognitive biases? In most cases, these mental shortcuts make daily tasks easier. For instance, people don't need to relearn their route from home to work every day because it's ingrained in their minds, allowing them to navigate without much conscious effort. This automatic process helps conserve mental energy for

more complex tasks. However, cognitive biases can also lead to errors in thinking. They can narrow individuals' perspectives, causing people to overlook important factors or overemphasize certain aspects of a situation. An example of overlooking is when young people believe they don't need health insurance because they are generally healthy, ignoring the potential for unforeseen health issues. Similarly, an example of overemphasizing is when fearful people hear a lot of news stories about shark attacks, leading them to believe that shark attacks are a common occurrence, even if statistically, they are rare.

Cognitive biases also impact how people process information, especially in the context of fake news. Four specific biases are particularly relevant: first, the tendency to focus on attention-grabbing elements like headlines and tags without delving into the accompanying content; second, the influence of social media popularity signals on people's attention and acceptance of information; third, the exploitation of partisanship, which can strongly influence beliefs; and fourth, the persistence of false information even after it's been corrected (UCSB, 2016).

For instance, these cognitive biases lead people to form

opinions based solely on eye-catching signals from fake news sources, without critically evaluating the information itself. An example of this was seen in an experiment by National Public Radio (NPR), where the company published an article titled, "Why aren't Americans Reading Anymore?" Ironically, no one read the actual article saying that it was a joke, but continued to publicize the headline (UCSB, 2016).

Another bias relates to how people perceive the popularity of news items, known as the "bandwagon effect." This effect occurs when individuals are influenced by the apparent popularity of something rather than its content. The number of shares, likes, or positive ratings can sway beliefs, often without considering the credibility of the information. Additionally, the desire to be seen as knowledgeable or to gain approval can lead people to share news stories they haven't actually read, further perpetuating the spread of misinformation.

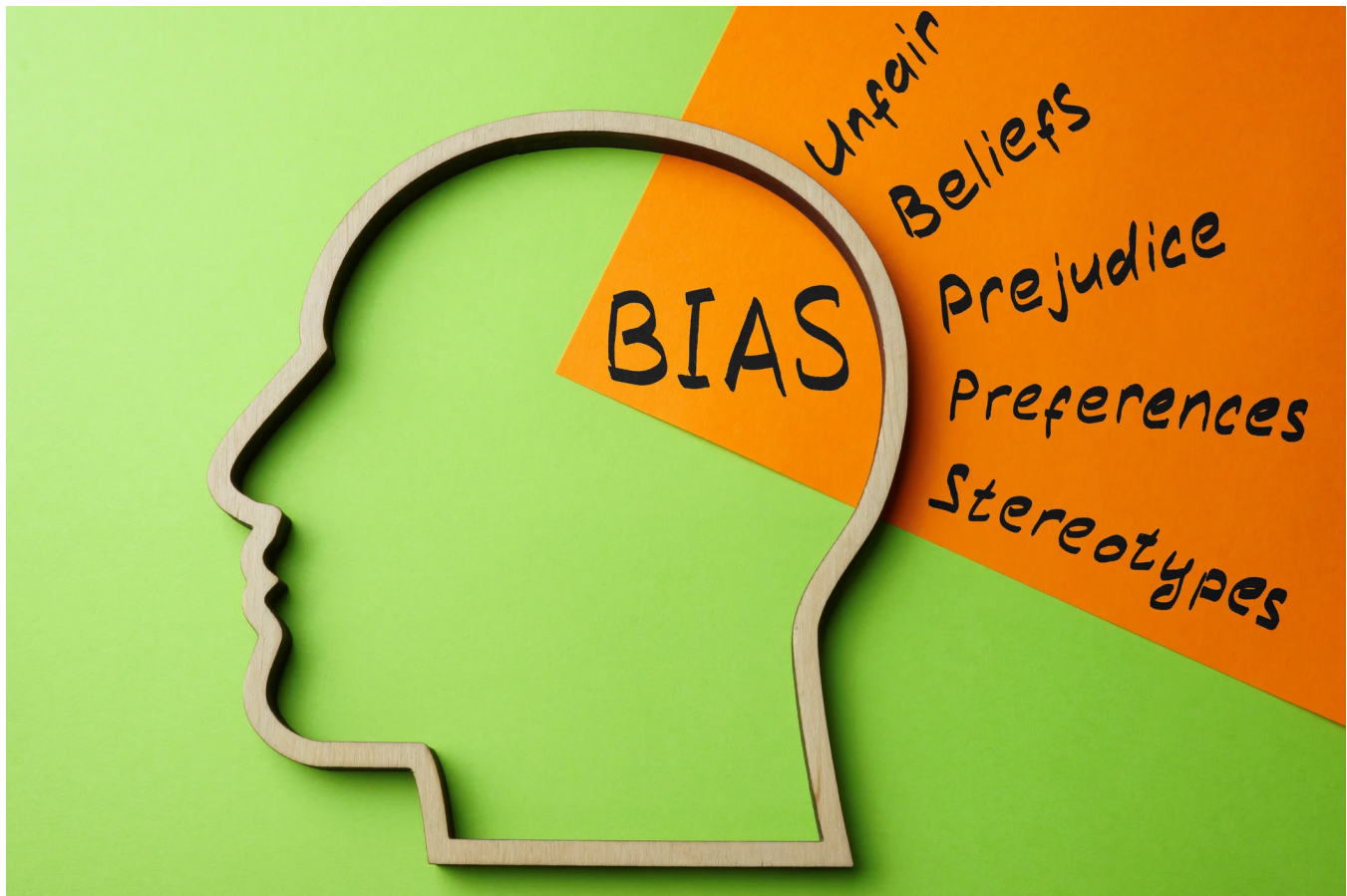
Confirmation bias only makes the misinformation problem worse. Confirmation bias, or the tendency to process information by looking for information that is consistent with one's existing beliefs, allows consumers to believe fake news at first glance. For one, people tend to seek out information that aligns with their

that aligns with their beliefs.

Social media is currently worsening the misinformation problem. By establishing Section 230 of the Communications Decency Act, the government essentially immunizes social media companies from moderating any form of misinformation, allowing users to publicize and spread misinformation. Even worse, shocking content gets more attention, allowing social media platforms to make more money off the content. This means that social media companies often fund fake news intentionally.

Fake news also can have greater implications on individuals who are likely to fall for more of the content or are more susceptible to getting misled. Martel et. al in 2020 observed that people who tended to believe more in fake news also had high levels of emotional dependence. Similarly, Pennycook et. al in 2020 reported that fake news was related to thinking styles; levels of analytical style were lower in those who endorsed fake news, according to Swami et al. in 2014.

So, how do we combat the fake news problem? Governments should support independent journalism to combat misinformation. Professional journalists should strive to provide accurate coverage, and major news outlets should actively debunk fake



existing beliefs or opinions, leading individuals to consume news sources or information that confirm what they already believe, reinforcing their biases. Additionally, confirmation bias affects how people interpret information. When individuals encounter news that contradicts their beliefs, they may unconsciously downplay its credibility or scrutinize it more critically compared to information

news to inform the public. Most importantly, readers and consumers should read online news with caution and apply analytical thinking to ensure that they don't believe everything at face value. Applying analytical thinking can allow for a more informed public and less misinformation being spread throughout society.

TYPES OF THERAPIES

By Brie Wells

What is therapy?

What is “therapy”? Is there a difference between psychotherapy and talk therapy? When talking about therapy, we often picture the stereotypical office with a couch and the experience of entrusting our feelings to a professional. However, therapy is not one-size-fits-all—there are many different types of therapies used to target maladaptive behaviors.

The terms “psychotherapy” and “talk therapy” refer to the same type of treatment, where a client and professional work together to improve the client’s struggle with mental health or distress. The ultimate goal is to have a measurable, positive change in the quality of life of the client. Psychotherapy comes in many different forms from multiple types of professionals: psychologists, psychiatrists, social workers, and counselors (Psychology Today).

Types of Psychotherapy

There are multiple different types of psychotherapy, each with different values and goals to address a variety of struggles. In addition to psychotherapy, based on the premise of talk therapy techniques, there are other types of therapy with different procedures, such as somatic therapy, hypnotherapy (the use of hypnosis to encourage behavioral changes), holistic therapy (the use of traditional practices to address the entire body), and music or art therapy (the use of music and art for reflection and self-expression). Of other types of therapies, this article will only discuss somatic therapy because it incorporates talk therapy strategies (Psychology Today).

Cognitive Behavioral Therapy (CBT) is typically the first approach to treating anxiety disorders, depression, and other similar mental health disorders. CBT is used to critically analyze irrational and damaging thoughts to evaluate their truthfulness and ultimately disprove them to find a solution.

CBT treatment will begin by examining a negative thought, typically an exaggeration, such as “all of my friends hate me.” A CBT therapist will then encourage their client to evaluate the truth of the statement and consider disproving the thought with evidence if it seems unreasonable: “How can I be sure that this is the case?” Then, because CBT is considered a “solution-focused” form of therapy, a therapist will encourage their client to consider solutions to the evidence that is causing this belief. For example, if their friend has not reached out in the past week, a therapist might suggest having a conversation with the friend to encourage more communication in the future. By encouraging this behavior, the therapist can reduce the anxiety caused by a lack of reaching out. Eventually, a client will begin to understand that their thoughts may not be rational and develop the skills to analyze them on their own, without the help of a therapist (Psychology Today).

To touch on the neurobiology of CBT, it works by strengthening the pathway between the prefrontal cortex and amygdala. The amygdala is responsible for emotion and fear, whereas the medial prefrontal cortex (mPFC) is responsible for logical reasoning. The amygdala and mPFC work against each

other; in moments of heightened emotion and fear, the amygdala suppresses the activation of the mPFC. When individuals are able to activate their mPFC and think logically, activity within the amygdala decreases (and fear levels decrease). In cases of anxiety disorders or similar mental health disorders, someone might have an overactive amygdala, which responds excessively to unthreatening stimuli. Thus, the goal of psychotherapy is to improve an individual’s ability to activate their prefrontal cortex to amygdala pathway to decrease the activity of the amygdala. Essentially, psychotherapy empowers individuals to think logically—and activate the mPFC—even when their amygdala is discouraging rational responses (Gorman & Gorman, 2018).



Exposure and Response Prevention (ERP) is a CBT technique especially effective for treating obsessive compulsive disorder, but it is also used to treat eating disorders, phobias, and anxiety. During ERP treatment, a person is exposed to triggering or anxiety-inducing stimuli, but they practice resisting the urge to perform a compulsion afterward. ERP uses habituation—the continuous, but safe, exposure to triggers—to decrease a person’s response to the stimuli. The goal is to disprove the need for compulsions by learning that exposure to the trigger does not result in the fear caused by obsession (Psychology Today).

Dialectical Behavioral Therapy (DBT) is most often used to treat mental health disorders and symptoms that require more immediate intervention, such as borderline personality disorder, other personality disorders, and chronic suicidal ideation or self-injury. However, DBT can also be used to treat other disorders like emotional dysregulation. The word “dialectic” is a philosophical term meaning analytical or logical, and, much like CBT, describes an evaluation of the truth of extreme feelings and opinions. Compared to other types of psychotherapy, DBT is more educational and focuses on equipping the client with more tools to handle intense emotions. DBT practices understanding and accepting feelings while still aiming to change the outcome and response they cause (Psychology Today).

Similarly to the action-focused techniques of CBT, DBT typically combines long group and individual therapy sessions to develop the skills required to solve current problems. There are four

main skills that a client will focus on during the course of their DBT treatment: mindfulness (weakening the power of emotions over one's actions by observing and acknowledging the impermanence of current emotions); distress tolerance (confronting and experiencing negative emotions without avoidance); emotion regulation (improving the client's ability to cope with intense emotions); and interpersonal effectiveness (improving open communication and asking for their needs in relationships). Clients begin by practicing identifying and labeling their emotions and then using the emotional regulation tools they learn in therapy to minimize their emotional reactivity. In between sessions, clients use an app like a diary to track their moods, behaviors, and responses to interpersonal challenges, which they will discuss with their therapist during individual sessions later. During therapy, a client will consider why they acted in the way they did and what actions they could take instead to create a more positive result. DBT therapists differ from CBT therapists in that they are available to their clients in between sessions. Additionally, DBT therapists typically work in teams; treatment is more intensive and requires the collaboration of multiple therapists to reach decisions at the frequency that DBT demands (Psychology Today).

Eye Movement Desensitization and Reprocessing Therapy (EMDR) is a controversial form of therapy primarily used in the treatment of post-traumatic stress disorder (PTSD) and other trauma disorders. EMDR uses light stimuli to make it easier to process traumatic or distressing memories. EMDR treatment is much shorter than CBT or DBT; some studies even demonstrate the successful reprocessing of emotions after just three sessions. Most treatments last anywhere between six to twelve sessions (Psychology Today).

During EMDR, a patient will recall traumatic or distressing memories while watching a light move side-to-side. Before beginning the light stimulation, the client and therapist will measure the negative beliefs the client holds about the memory and the positive beliefs the client hopes to achieve. This measurement occurs at the start of every session, allowing the therapist and client to monitor gradual changes in positive and negative beliefs throughout treatment. During the light stimulation, the client and therapist will continue to discuss the feelings of the client; once the client feels less disturbed by the memory, the session will end (Psychology Today).

The Adaptive Information Processing (AIP) model asserts that traumatic memories were never processed sufficiently. During recall, the memory feels as if it is occurring in the present, recreating the same sensory experience and response as the original event. In theory, EMDR uses the AIP model to more successfully reprocess disturbing memories from the past. In practice, EMDR works, but there is no concrete evidence explaining why or supporting the need for eye movement or light stimulation. It is entirely possible that EMDR works because the individual works through traumatic memories with a professional. The uncertainty of what exactly makes EMDR so effective is what created the controversy surrounding the treatment. At Stanford University, Andrew Huberman is researching why EMDR is so effective. According to Huberman, the eye movement recreates "optic flow," which refers to the natural movement of eyes that occurs when we experience visual stimulation while, for example, walking. This reproduction of natural eye movement (re)activates the parasympathetic nervous system to calm the body down after experiencing a fear state (the activation of the sympathetic nervous system). The simultaneous eye movement and recall of the memory reduces the

effect the memory has on the nervous system. According to a report from Dutch researchers in the *Journal of Neuroscience*, lateral eye movements decrease activity in the amygdala (Psychology Today).

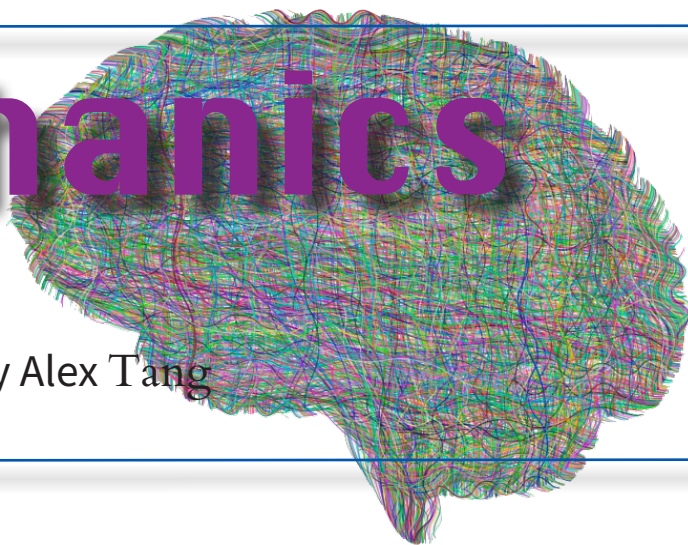
Finally, **Somatic Therapy** combines holistic therapy and talk therapy to target both a client's mental and physical wellbeing. Somatic therapy can be used to treat multiple mental health disorders or help cope with difficult emotions, such as traumatic memories, grief, addiction, depression, and anxiety. There are multiple approaches to somatic therapy: somatics, the Hakomi method, sensorimotor therapy, and multiple others. Overall, somatic therapy is highly individualized and practiced differently by each professional, but each type fundamentally believes that the body is connected to the mind and can be used as another tool to address emotional and mental challenges. Somatics focuses on physical therapy: using body movement as a way to alleviate stress. Yoga, pilates, and martial arts can all be considered somatics. The Hakomi method focuses on mindfulness, often without real body movement. Finally, sensorimotor therapy combines CBT and neuroscience to examine the bodily sensations accompanying feelings or traumatic memories. Somatic therapy relies on the utilization of the body to feel emotions and bodily sensations to regulate emotions, release tension, and move beyond negative experiences. A somatic therapist might implement strategies like breathing exercises, meditation, dance, movement, or massaging from multiple approaches, as there is no one way to administer somatic therapy (Psychology Today).



To conclude, there are different types of therapies and psychotherapies best suited to treat disorders and dysfunctional behaviors. Each type of therapy employs distinct tactics depending on several factors, such as the severity and urgency of the disorder, the beliefs of the client, and challenges unique to the disorder. However, therapists can also use a combination of techniques and approaches based on their personal expertise and preference. Regardless of the name or aspects of each therapy, they all share similar values and goals of improving the client's quality of life based on their individual needs.

The Mechanics of ADHD

By Alex Tang



Attention-deficit/hyperactivity disorder (ADHD) is an extremely common and multi-faceted neuropsychiatric disorder. It is very important to understand ADHD, given the high level of stigma and misunderstandings associated with it. ADHD presents itself in multiple ways; symptoms include difficulty with concentration, attention and focus, organization, impulsivity, and emotion regulation (APA, 2013). Because ADHD has a diverse and complex set of symptoms, we cannot generalize the experience of people with ADHD.

Misconceptions and Stigma

Studies show that people with ADHD often feel misunderstood by others who do not have ADHD. They report feeling like their caretakers do not believe them or take their diagnosis seriously (Mueller et al., 2012). Instead, we should raise awareness of these misconceptions and encourage parents of those with ADHD to listen to their child's needs and give them autonomy.

Parents or other caretakers often misinterpret the symptoms of ADHD as a “mental block,” laziness, or a made up excuse, because they do not believe in the validity of the disorder (Mueller et al., 2012). These misconceptions may exacerbate existing feelings of worthlessness in the individual, especially if the misconceptions come from a trusted adult. These feelings may stem from a personal belief that there is something wrong with themselves or that they are a failure, instead of having a manageable disorder.

It is also common for people to treat individuals with ADHD poorly or associate them with traits that have negative connotations, even unintentionally (Mueller et al., 2012). These misconceptions and negative perceptions of individuals with ADHD can be extremely detrimental to the spirit and mental health of the individual and may cause symptoms of depression and anxiety (Mueller et al., 2012). The term ADHD can also be used negatively in a colloquial sense. Common misconceptions include the idea that everyone with ADHD is “hyper” and moves a lot or is unable to sit still (Mueller et al., 2012). Some may believe that ADHD is caused by poor discipline or parenting during childhood (Mueller et al., 2012). These misconceptions of ADHD are extremely inaccurate because of the diversity of symptoms and differences in each individual with ADHD. Additionally, popular media may distort the perception of ADHD, leading to added misconceptions including fake symptoms or diagnoses (Graham, 2008).

General Information and Psychology

ADHD is more than just a lack of self-control and an inability to focus. There are three main types of ADHD: inattentive ADHD, hyperactive ADHD, and combined ADHD. The latter is the combination of the former two and the most common (APA, 2013).

In inattentive ADHD, it is common to lose focus, become distracted, make small mistakes, lose things, forget important tasks, etc. These symptoms can cause many learning difficulties for the individual. Oftentimes, people with ADHD feel a sense of shame or self-judgment, which can be associated with deficits in learning (Whitman, 2019). Feelings of worthlessness due to these deficits can build up throughout the individual's lifetime, thus creating a lack of general motivation (Whitman, 2019). These feelings may cause the avoidance of certain tasks that induce feelings of worthlessness and failure such as homework. Even hobbies can become less enjoyable over time due to a buildup of pressure to achieve some goal (Whitman, 2019). Inattentive ADHD is particularly harmful to the mental state of the individual and can lead to severe procrastination,

anxiety, and depression if not identified and supported (Whitman, 2019).

Hyperactive ADHD is characterized by symptoms including constant moving around, fidgeting, acting impulsively, and interrupting conversations. Individuals with hyperactive ADHD may experience similar learning deficits as in inattentive ADHD, such as problems focusing in class (Barkley, 2004). Young adults with hyperactive ADHD may become antisocial and are also at a greater risk for substance use disorders, which are often caused by mistreatment in childhood if the surrounding environment does not understand hyperactive ADHD. For example, caretakers and teachers may condemn impulsive behavior caused by hyperactive ADHD (Barkley et al., 2004).

Neuroscience

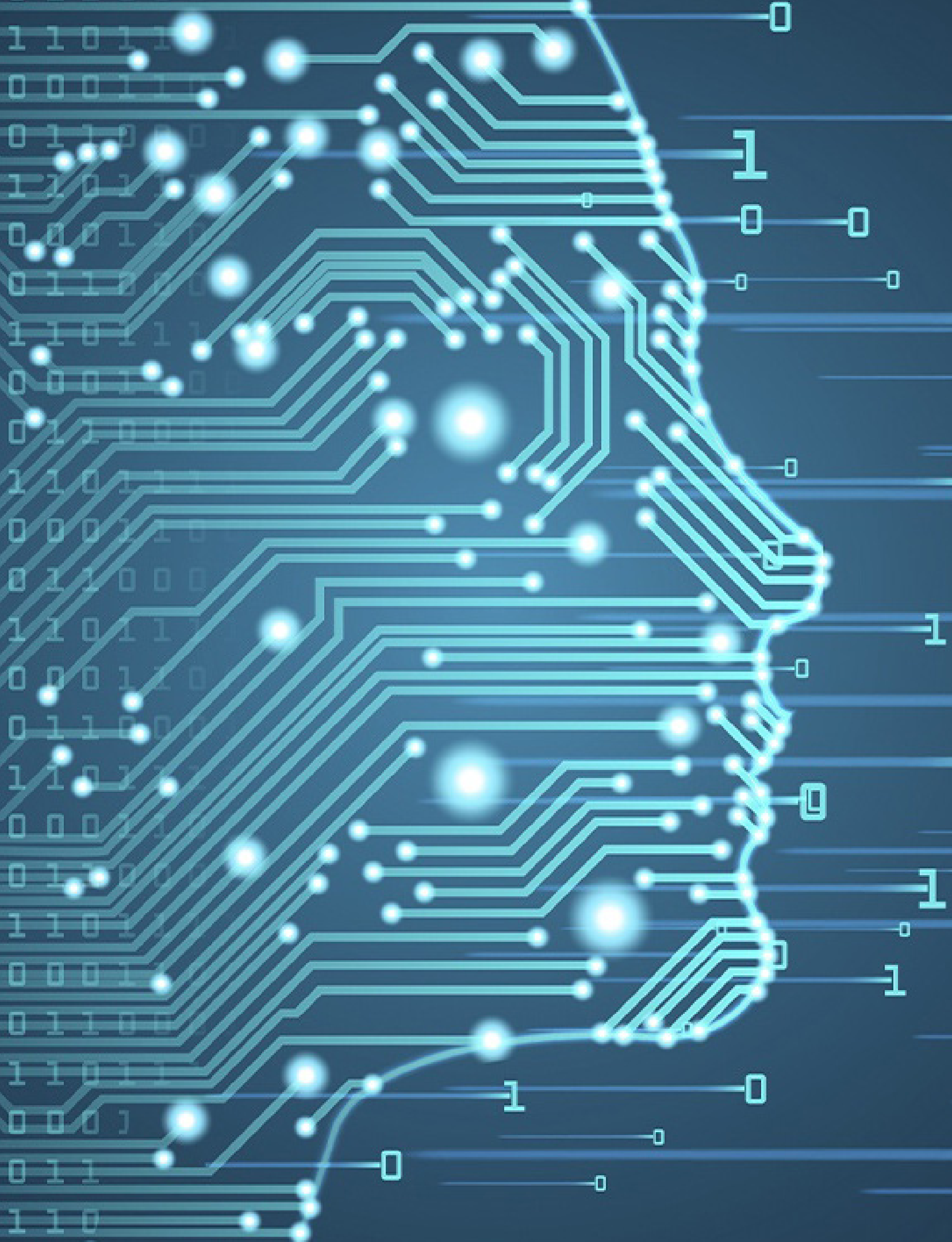
Although professionals have many theories about how ADHD works, the neuroscience is not yet clear. In the past, neuroscientists believed that ADHD symptoms were related to dopamine, in which abnormalities within the brain's dopamine networks and reward systems caused self-regulation deficits (Graham, 2008). Self-regulation refers to how well the individual can take various actions, such as changing a behavior, to reach a goal (Barkley, 2010). This understanding of ADHD is plausible, but not complete. Research to better understand ADHD has shifted over the past couple of decades, with the primary focus now on understanding the effects of ADHD on executive functioning (Wasserstein, 2005). Executive functioning refers to skills that allow us to focus on, remember, and plan tasks successfully (Barkley, 2010).

Recent evidence suggests that individuals with ADHD have decreased inhibition (more activity) of the default mode network (DMN), a complex network of the brain associated with attention shifts. The system is active when the individual is not engaged in a demanding or focus-required task (Duffy et al., 2021). This system includes various cortices (specialized parts of the brain responsible for different functions) of the brain responsible for automatic functioning. However, for individuals with ADHD, when one attempts to focus on a task, this system is still active. In individuals without ADHD, the prefrontal cortex prefers long-term rewarding behavior as opposed to temporary rewarding behaviors (e.g. watching YouTube videos). The lack of inhibition of the DMN is thought to cause individuals with ADHD to more likely lose focus or become distracted from their plans.

Treatments

ADHD treatment is extremely politicized and often involves the influences of pharmaceutical companies. Stimulant drugs (a class of drugs that are thought to increase levels of excitation and energy) are usually the first medications to be prescribed to a person with ADHD—they increase dopamine levels and blood flow to areas of the brain associated with executive control. However, we still do not fully understand how these medications may impact the brain (Graham, 2008). A recent study suggests that such medications are not necessarily proven to help executive functioning and may even have a wide variety of drastic side effects (eg. heightened anxiety or increased blood pressure in Adderall) (Graham, 2008). For many people with ADHD, these medications are ineffective and do not change their lives (Graham, 2008). Such medications are often marketed as improving learning for children with ADHD; however, in many children, certain medications only prevent impulsivity and hyperactivity, without preventing some of the issues, like attention and focus, that cause learning deficits (Graham, 2008). This is not to say psychopharmaceutical drugs that assist in ADHD treatment are useless—in some individuals, these medications may improve short-term executive functioning that can impact attention and focus (Graham, 2008). However, it is important to note that when these medications wear off (primarily due to deactivation by the liver), many behavioral changes regress, without solving the root cause (Graham, 2008).

As research on the neurobiology of ADHD continues, we can expect improvements to this treatment landscape. A detailed plan for the use of a variety of medications tailored to individual needs would be one of the best treatment options. However, for some, the constant use of medications may become frustrating, and other treatment options exist (Whitman, 2019). For example, cognitive behavioral therapy (CBT) is one of the most promising outlooks in the treatment landscape and directly develops core skills that can be lacking in ADHD such as organization (Sprich, 2010). CBT may be used to navigate individuals through improving daily struggles such as issues with procrastination and time management. Additionally, there is much ongoing research on other treatments for the variety of ADHD symptoms. ADHD continues to be one of the most diagnosed disorders in the present day, it is very important for us to continue rigorous research that addresses the intricate neurobiology of ADHD, as well as some of the fundamental misconceptions that have been popularized throughout the world.



Uses of AI in Psychology

By Ann Karottu

By now, all of us have heard of Artificial Intelligence (AI). Whether through news articles about the increase in AI use, discussing HM's rules of AI use in school, or even experimenting with ChatGPT, AI is slowly integrating itself into our daily lives. Thoughtfully implementing AI into the field of psychology has the potential to help many people and make mental healthcare more accessible.

AI holds the potential to revolutionize mental healthcare through various forms of assistance. Its ability to provide accessible, scalable, and personalized support can help address the shortage of mental health care providers and improve the overall quality of care. Chatbots, for example, can make mental healthcare accessible from anywhere at any time. Although face to face therapy is irreplaceable, chatbots can provide care for those experiencing minor problems, such as sleep issues, allowing providers to devote their time to more critical cases. AI can be particularly helpful for those who are shy around human therapists, as it can help them get used to opening up and talking about their experiences.

There are many mobile apps such as Happify and Wysa which use AI chatbots to provide patients with someone to talk their problems through. These apps have helped people recover from mild depressive symptoms, emotional eating, and mild social anxiety (NBC New York, n.d.). Users say it is especially helpful to have a resource that is accessible to them whenever they need it. However, users must also realize that it is crucial for those experiencing serious symptoms to seek professional help. Although AI chatbots are trained to flag conversations that use the words "suicide," or "hurt myself," they don't have the capacity to thoroughly assess if a patient needs a higher level of care. When a patient is in a vulnerable state every interaction can impact their mental state. AI does not operate with a human level of sensitivity and thus Professor of psychiatry and Johns Hopkins School of Medicine, Dr. Paul Nestadt warns that AI chatbots should not be viewed as a replacement for professional care (NBC New York, n.d.).

AI is also very effective in performing administrative tasks such as note taking and keeping track of patient records. Moreover, AI can assist providers in patient care by analyzing assessments, tracking symptoms, and more, allowing providers to do their jobs more efficiently. Chatbots can also be used in training mental health professionals. They are able to track the number of times a trainee could have validated a patient or forgotten to ask key questions.

AI also facilitates passive monitoring of online activity which can be used to detect signs of suicide risk based on social media usage and can intervene by altering feeds to remove triggering content for vulnerable individuals. Additionally, researchers can utilize AI to access and analyze extensive datasets on human behavior, surpassing traditional methods like self-reports and lab experiments. AI's rapid data processing abilities speed up the formation

of new theories and discoveries, promising advancements in our understanding of human cognition and behavior. For instance, language processing models like GPT-3 have demonstrated the ability to predict dementia by analyzing speech patterns. Scientists have shown that the text-embedding feature of GPT-3 which converts words into numbers can detect dementia and predict cognitive testing scores based on speech data (Wan, 2021)



The relationship between AI and psychology is especially interesting because AI is trained to "think" like a person and psychology studies how people think by examining the human mind and behavior. Many researchers are interested in looking at how AI and humans are similar and what the outputs of AI reveal about human behavior.

Alongside the many potential benefits of AI in psychology, there are also many concerns that must be addressed before scientists can actually use AI in their day to day. Issues such as discrimination, misinformation, and breaches of privacy have been observed in AI applications, raising questions about safety, ethics, and accountability (Medical Xpress, 2023). However, experts are looking into improving AI's ability to navigate ethical and legal issues raised in clinical work. Another major concern is users giving consent for AI t. AI has access to a lot of data and without clear understanding and consent mechanisms in place, users may unknowingly place their data at risk. For example, mental health non-profit Koko provided care to thousands without informing patients that support was given by an AI (APA Monitor, 2023).

As AI continues to develop in many different spheres, collaboration between psychologists, computer scientists, and politicians is essential to ensure that AI is being used well. All in all, AI holds great promise for changing mental healthcare and advancing our understanding of human behavior as we know it as well as. However, it may be a while before AI can be regularly used in healthcare as it has many potential risks. AI is still relatively new and is continuing to be improved and built upon.

Gaslighting

By Nicole Au

What is Gaslighting and Where Did It Come From?

Gaslighting, a term that has gained notoriety through social media amongst the current generation, is a psychological manipulation technique used to make individuals question their experiences, beliefs, and perceptions of reality (Britannica). This covert form of manipulation leads to the victim struggling to determine right from wrong, feelings of insecurity and confusion, and even doubts of their own sanity.

The concept of gaslighting emerged from a movie called *Gaslight* where a husband gradually tries to convince his wife that she is crazy by manipulating her environment. He accomplishes this by dimming the gas lamps at night and telling her that the lights are not dimming, instead she is just imagining it. Additionally, he also plays other tricks such as convincing her that she is a kleptomaniac which eventually leads to her doubting her sanity. Ultimately, his goal is to gain control of her, eventually leading her to question her sanity and therefore manipulate her into being hospitalized and taking ownership of her house.

Why Do People Gaslight?

People often resort to gaslighting when they don't want to take accountability for their behavior. Gaslighting allows them to invalidate the feelings and experiences of others, effectively flipping the blame of the deceiver onto the victim. Gaslighting can be a common technique used by people who have a narcissistic personality, characterized by an inflated sense of self-importance, a constant desire for attention and admiration, and a lack of empathy for individuals (Psychology Today). Additionally, narcissists may believe they are entitled to special treatment because they are special and unique.

Moreover, gaslighting allows narcissists to increase their feelings of dominance, which continues to reinforce their sense of entitlement. They tend to control their interpersonal relationships, which allows them to feel invulnerable. Narcissists fear that facing wrongful behavior will change their inflated positive image, which is why they resort to gaslighting, furthering their sense of power and self-importance.

Gaslighting can be a gradual way of gaining power over someone in a relationship. A gaslighter might slowly start undermining a partner's reliability, memory, and sanity. Over time, this causes the victim to question if the gaslighter is correct which allows the gaslighter to gain more power over the victim. This gradual erosion of the victim's confidence and independence allows the victim to start to rely on the gaslighter to make decisions and remember events, leading the gaslighter to gain control over the victim and continuing the cycle of manipulation.



Techniques Used by Gaslighters

I. Repeating

Gaslighters will often repeat the same argument, even if it does not make any sense or if you already disputed their argument. When individuals hear something over and over, they are more susceptible to believing what they hear, which is why this is a common technique for gaslighters to manipulate their victims. For example, if someone tells a person they are selfish every day even though they already disproved the argument earlier in the week, that person is more likely to start to believe that what they are told is true.

II. Focusing on One Biased Element

Gaslighters will often zone in on a specific action or behavior that will portray the victim as the bad guy. However, this technique often omits context that could contribute to the whole story. For example, a gaslighter might have not answered someone's texts all week and acted distant, but then get upset at this person for not greeting them in the hall.

III. Blaming You for Things You Cannot Control

Gaslighters will treat events that are out of the victim's control as their own fault. For example, they might claim the reason a person is moving away is because they dislike them. They do this to lower self-esteem and thus make the victim question if what they are saying has any merit when in reality the events are not anyone's fault.

IV. Projection

Gaslighters will often falsely accuse people of a behavior that they are exhibiting. This is also known as projecting, which is when a person displaces their feelings onto another person. This allows the gaslighter to continue feeling "innocent" because they're projecting their negative qualities onto someone else. An example of this is when an individual might be in a situation confronting a peer for being mean, but then questioning themselves if they're actually the one who's being mean.

V. Blaming The Victim for Their Behavior

Gaslighters will claim that the victim brought the abusive treatment upon themselves or that they deserved it in some way. This technique is most common in psychological or domestic abuse as abusers will claim that the victim deserved to be hit or insulted. This often leads to victims believing that it's their fault for being abused and that the abuser is not doing anything wrong, a distorted type of thinking that is far from reality. If you or someone you know have experienced or are in an abusive relationship, reach out to a trusted adult, therapist, or hotline for help.

VI. Blatant Lying

Another way gaslighters avoid facing their behavior is by denying that they did it. They will hide or distort important information or lie. Gaslighters will claim they do not remember doing what they are being accused of doing. An example of this is a partner who denies cheating even after being caught in the act.



Overall, it is essential to understand the harmful long-term effects of gaslighting. Even though gaslighting has become a casual term used in everyday speech with Gen Z, it is still a serious form of psychological manipulation that people need to be cautious of. Suppose you feel that someone is gaslighting you. In that case, it might be wise to seek a mental health professional who can help you understand what you are experiencing and help you gain perspective as well as help you deal with how you are feeling and find ways to remove yourself from a toxic situation.

Understanding Anxiety Disorders



By Theo Gingras

Anxiety disorders are some of the most common mental disorders in the world; 4% of the global population (301 million people) suffer from some kind of anxiety disorder. (Anxiety Disorders, 2023) Within the category of anxiety disorders in the Diagnostic and Statistical Manual of the American Psychiatric Organization (DSM-5), the most common are generalized anxiety disorder (GAD), panic disorder, phobia-related disorders, and social anxiety disorder. ("4 Types," 2019, p. 1) Obsessive-compulsive disorder (OCD) was also categorized as an anxiety disorder in the DSM-5, but it was recently switched to a new category: Obsessive Compulsive and Related Disorders. Though some psychologists protest this switch, research shows that the mental mechanisms behind OCD differ from those behind anxiety disorders. Despite the differences between the causes of OCD and anxiety disorders, they share many similar characteristics in terms of treatment.

So, what is anxiety? Anxiety is defined by the American Psychological Association as “an emotion characterized by feelings of tension, worried thoughts, and physical changes like increased blood pressure.” (Anxiety, n.d.) It’s important to note, however, that anxiety presents differently in everyone. For some people experiencing anxiety, they might get super sweaty and their heart might race for hours on end; for others, they might get a very upset stomach and start feeling a sickness that only lasts for a few minutes. Some, on the other hand, might experience cognitive effects like brain fog, confusion, or racing thoughts. What’s more, not all anxiety is indicative of a disorder. Everyone experiences anxiety, and there are several benefits to having anxiety from time to time.

So, why do we get anxious, and where does anxiety come from? According to the Mayo Clinic, “experiencing occasional anxiety is a normal part of life.” In fact, anxiety is “a normal reaction to stress that often helps rather than hinders our daily functioning” (Feldman, 2019, p. 497). As such, we are all built to feel anxious at certain times, and normal levels of anxiety are a universal experience. Without some anxiety, many people would struggle to motivate themselves to study, work hard, etc. (Feldman, 2019). However, anxiety disorders are distinct from typical anxiety, as they hinder daily functioning, cause distress, and can be debilitating in many cases. For

example, it’s completely normal to get anxious about a math test you have in a week. It’s not necessarily rational to convince yourself that you’re going to fail that test, flunk out of school because of it, and immediately convince yourself that that math test is the one thing standing in between you and college.

If there is a biological reason for normal levels of anxiety, why do people develop anxiety disorders? The reason people develop anxiety disorders is not so clear, but psychologists have some theories. One possible cause of anxiety disorders is a chemical imbalance in the brain. According to this theory, symptoms of anxiety disorders such as panic disorder are caused by an imbalance of neurotransmitters in the brain, particularly serotonin and gamma-aminobutyric acid (GABA) (Star, 2024). Serotonin is a neurotransmitter that plays a large role in regulating mood, sleep, appetite, and more, while GABA is known for its calming properties and helps to control anxiety and stress (Gamma-Aminobutyric Acid, 2022). An imbalance of these neurotransmitters could be one of the root causes of anxiety, hence why antidepressants (SSRIs, such as Lexapro or Zoloft) are often prescribed to treat anxiety. To put it simply, these drugs work by increasing levels of serotonin in the brain; many people with anxiety find these medications helpful, but some don’t respond to these medications at all (Selective Serotonin, 2019). Another kind of medication used for anxiety disorders, though not typically on a long term basis, are benzodiazepines, which are central nervous system (CNS) depressants that affect GABA receptors. These medications are extremely effective at treating anxiety, but they are highly addictive, hence why they are not prescribed long term.

Other possible causes for anxiety disorders are environmental factors and genetics. Trauma, family composition, cultural background, and childhood experiences can all affect one’s likelihood of developing an anxiety disorder. Furthermore, “genetic factors clearly are part of the picture” (Feldman, 2019, p. 501). Genetics have significant power over the expression of anxiety disorders. For example, “if one member of a pair of identical twins has panic disorder, there is a 30% chance the other twin will have it also” (Feldman, 2019, p. 501). What’s more, a person’s level of anxiety is related to a gene that aids in the production of serotonin; genes are a factor in the

chemical imbalance theory as well, as they are a possible cause for this imbalance in neurotransmitters. Finally, it is common for trauma to be linked to a plethora of mental disorders, such as post-traumatic stress disorder (PTSD), dissociative identity disorder (DID), and anxiety disorders, to name a few (Trauma, n.d.).

So, what is panic disorder? Panic disorder is an anxiety disorder that is characterized by panic attacks that “last from a few seconds to several hours” (Feldman, 2019, p. 498). People with panic disorders often do not have specific triggers they can point to; during a panic attack, they experience a sudden, often inexplicable rise in anxiety, and they feel a sense of impending doom. They may experience heart palpitations, an upset stomach, shortness of breath, sweating, dizziness, lightheadedness, and a sense that they will die soon. Panic attacks are very serious and often debilitating (Feldman, 2019).



What is generalized anxiety disorder? GAD is characterized by experiencing “long-term, persistent anxiety,” which does not always have an identifiable cause. This persistent anxiety hinders one's ability to function normally, and the lives of people with this disorder often become centered around anxiety and worry (Feldman, 2019, p. 499). People with this disorder may overthink, have difficulty with uncertainty, disproportionately worry about things, be indecisive, and be unable to properly relax. Physical symptoms often associated with this disorder include fatigue, trouble sleeping, irritability, and more (Generalized Anxiety, 2017).

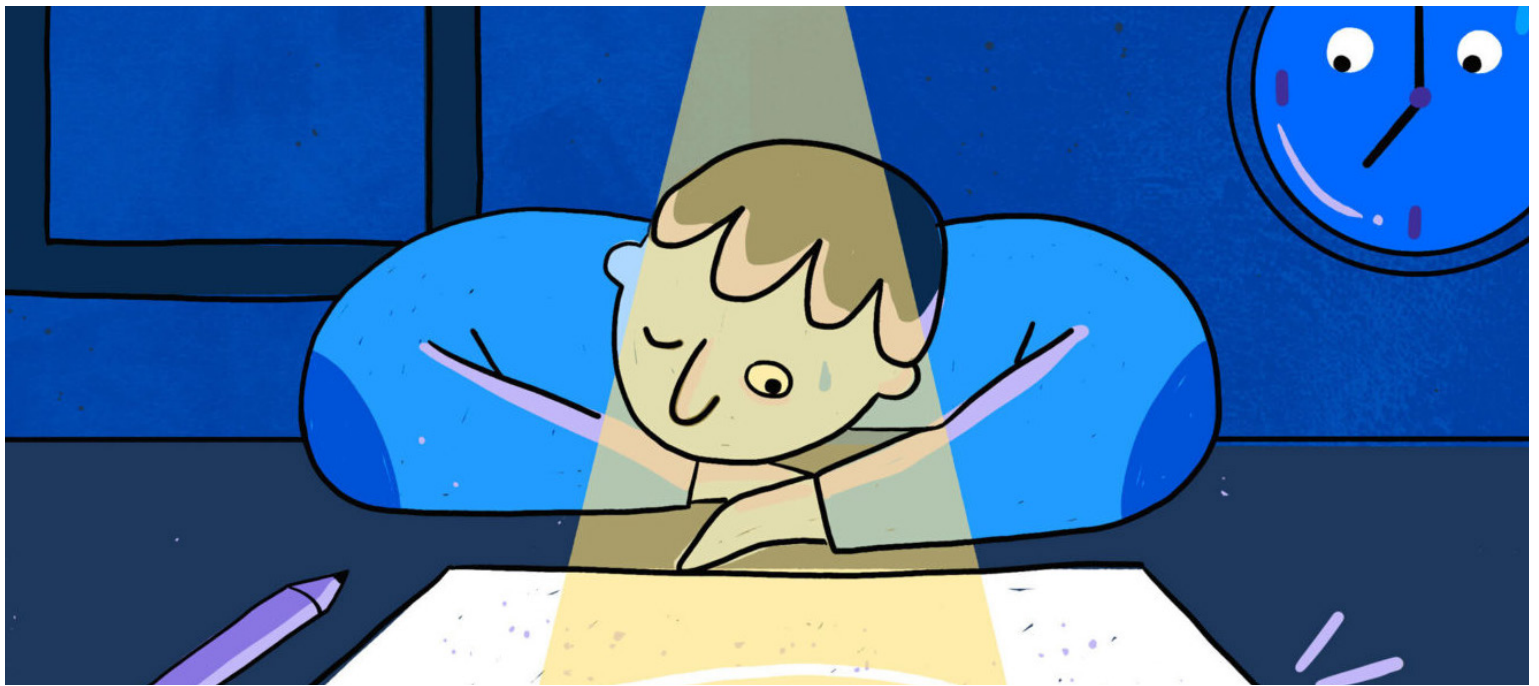
What are phobic disorders? Unlike generalized anxiety disorder and panic disorder, phobic disorders are characterized by fear of something specific (Feldman, 2019, p. 497). Phobic

disorders include agoraphobia (panic inducing/triggering places or situations), specific phobias (fear of specific objects or situations), animal type (fear of specific animals or insects), and more. People suffering from specific phobias experience “an extreme fear of objects or situations that pose little or no danger but make you highly anxious” (Specific Phobias, 2023). The actual danger posed by the subject of one's phobia is usually highly unlikely, but to the person with the phobia, the danger is real and may result in a panic attack. Some phobias minimally affect people's lives, while others are unavoidable and completely debilitating.

What is social anxiety disorder? Also known as social anxiety or social phobia, people with social anxiety disorder suffer from a fear of specific social situations, such as talking to strangers or worrying that they will embarrass themselves. Most people experience some level of social anxiety at some point in their lives, but people who have this disorder often are so severely affected that they avoid certain interactions, going out, going to work, presenting at school or work, etc. (Social Anxiety, 2021).

How are anxiety disorders treated? The two most common treatments for most anxiety disorders are therapy (typically cognitive behavioral therapy) and medication, like SSRIs, benzodiazepines, and others. Cognitive behavioral therapy (CBT) “is highly effective at treating anxiety disorders,” (Sauer-Zavala et al., 2016) which often entails learning skills to improve symptoms. In some cases, CBT includes exposure therapy—one of the main treatments for OCD—which is a treatment in which you gradually expose yourself more and more to an anxiety-inducing stimulus until you can better manage your symptoms.

Clearly, anxiety is a complex phenomenon that is not fully understood, and “normal” anxiety is distinct from anxiety that could be the result of a disorder. There are various anxiety disorders that are very different but share similar causes, treatments, and symptoms.



By Alex Tang

Why do we procrastinate? Why spend so long creating problems for yourself that will only worsen as time goes by? Why do our brains allow something that is surely disadvantageous?

WHY Do We PROCRASTINATE?

First off, it is extremely important to address the misconceptions and stigma that come with the term procrastination. Procrastinating is not a sign of laziness. In fact, it is the distraction of oneself with other tasks that are not a priority, due to insecurity and lack of self-esteem related to certain tasks (TED-Ed, 2022). Procrastinators often feel scared to start a task or not achieve and perform the task to the highest level. This is one reason why high standards and perfectionism are linked to procrastination. Psychologists believe that humans tend to have a propensity for perfectionism, but it is the differentiation between healthy and maladaptive perfectionism that increases the risk of frequent procrastination and obsessive disorders (Ashraf et al., 2023). Thus, many models suggest this dread of the failure to reach one's goals and standards greatly increases the risk of procrastination (Duru et al., 2023). Dread also increases as time goes on as the deadline or limit approaches - which can contribute to anxiety and depression, conditions that are not uncommon with frequent procrastinators (TED-Ed, 2022). When someone regularly procrastinates, there can be a lack of trust in oneself and a greater lack of self-understanding (Ashraf et al., 2023). Studies have also found a significant difference between people with high and low levels of self-compassion when dealing with procrastination (Sirois, 2023). A low level of self-compassion can mean a general tendency to blame and criticize oneself. This cycle of blame and self-distrust may be constantly strengthened by frequent procrastination and can be psychologically harmful and mentally debilitating, perpetuating stress throughout everyday life.

So, what are the neuroanatomical and physiological reasons for procrastination? Well, evolutionarily, our mammalian brains want to protect us at all costs. People may experience unregulated and irrational wisps of

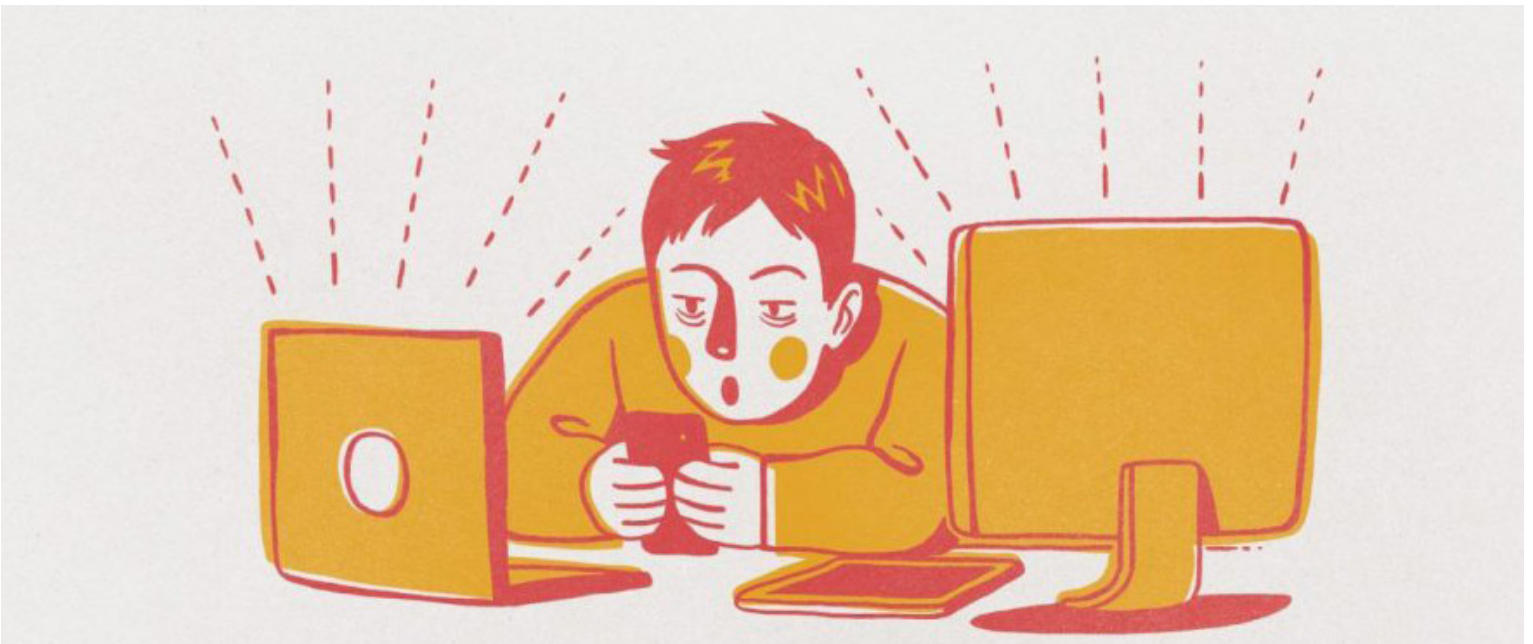
procrastination associated with high stress levels. Our brains adapt over time depending on the stimuli we receive throughout our lifetimes, a process called neuroplasticity. Neuroplasticity is incredible - one of its main benefits is that it protects us from certain threats that are not immediately apparent. But sometimes, it can harm us, like in the case of procrastination. For example, when someone gets a bad grade on an essay in their childhood, a connection may be formed between the essay and the bad grade. A similar assignment that approaches afterward may induce stress levels from hormones such as cortisol and adrenaline. When we think of a certain task that evokes stress, these hormones not only produce effects such as heightened blood pressure, heart rate, and anxiety but may also interfere with the dispersion of neural activity across the brain. For example, the limbic system of our brain—one of the most primordial and brute-force components within our brain that is responsible for emotion and mood regulation—overtakes the brain and some of its executive and logic-based functioning (TED-Ed, 2022). Planning and focusing are executive functioning processes that are primarily linked with activity in the prefrontal cortex of the brain. In high stress environments that can increase procrastination, there may be a decrease in prefrontal cortex activity in favor of increased activity of the limbic system (Liu et al., 2023). One theory as to why this happens is that when met with immediate danger, it might be more beneficial to react with a quick emotional response, rather than a prolonged response based on executive functioning. The relief brought about by procrastination is temporary; it prevents the stress level from rising in the short term, using distractions to diminish the weight of the stress-inducing task, and provides a sense of false but secure comfort (TED-Ed, 2022).

As our society progresses with more emphasis on work culture, for example in the corporate world and also in schools, people are more likely to procrastinate due to feelings of anxiety and failure. It is becoming more important to understand the

mechanisms of procrastination and how to prevent it before it becomes a mental obstacle. One of the most practical and effective preventions of procrastination is to start a portion of your task right away, so you feel at ease and comfortable with the task. Another method is to break up the task into very small and manageable chunks, so it does not appear overwhelming; instead of thinking of



the task as something major, divide and conquer smaller portions at a time, taking breaks in between (TED-Ed, 2022). Another trick is to put aside all distractions, such as any devices, and tell yourself to finish at least something from the task. While these tactics can help relieve procrastination, it is important to address the root issues of procrastination that reside in self-compassion and self-understanding. It is important to care for yourself, forgive yourself for any past mistakes, and tell yourself that you've got it next time (TED-Ed, 2022). If you beat yourself up for procrastinating, you can worsen its cycle without allowing yourself to improve. Adding stress by telling yourself to do better without excusing your past mistakes, only hurts and adds fuel to the fire. The best advice is to let it go and plan for the future.





How Germanic Folklore has Influenced Developmental Psychology

By Dylan Montbach

Growing up, individuals learn various lessons regarding the world and how they should behave around others. For example, many people learn to respect their elders, keep eye contact when speaking, or speak with a lower tone when indoors. Many children learn these habits from a parental figure through stories or other forms of educational instruction. The passage of these lessons through stories and various other forms of verbal communication preserves these social norms as a form of oral tradition. However, the main question I ran into was the origin of these traditions. I wanted to learn where we created these social ideas as a society. Did these ideals arise from one culture and radiate outwards or form due to society's collective social standards?

To solve this question, I turned to the origins of developmental psychology and the study of human growth and mental development, attempting to trace the origins of these stories through oral and textual remains (American Psychological Association, 2014). Primarily, developmental psychology analyzes humans' physical, emotional, and cognitive changes throughout their social, intellectual, perceptual, personal, and emotional growth. Many scientists and psychologists focus their research on tracking how various stimuli throughout adolescence impact one's upbringing.

One study, performed by Dr. Yijie Wang, observed adolescents' social norms across different social settings, attempting to link these different profiles to various behavioral patterns (Wang & Chen, 2019). This research would provide substantial information on how teens and children retain social normative lessons through developmental psychology. Overall, this research showed how social norms change between social settings, indicating that adolescents' brains interpret the stories their parents expose them to and subconsciously apply these stories' morals when socially required: Dinner with relatives vs. Getting coffee with friends. When dining with relatives, adolescents would apply information learned from stories on familial bonds, stories which often encourage the child to respect their elders and a hierarchical manner. Contrarily, with friends, adolescents apply information from stories discussing free will and group dynamics, causing them to act independently within the predefined structure of their friend group. While both situations require social interaction with multiple people, the subtle differences in their contexts result in extremely different social atmospheres. Furthermore, this study shows that when parental figures engage in substance abuse or other forms of emotional or physical neglect, children adopt some of their parents' habits while substituting the role of the parents with another trusted source: trusted friends or teachers (Wang & Chen, 2019).

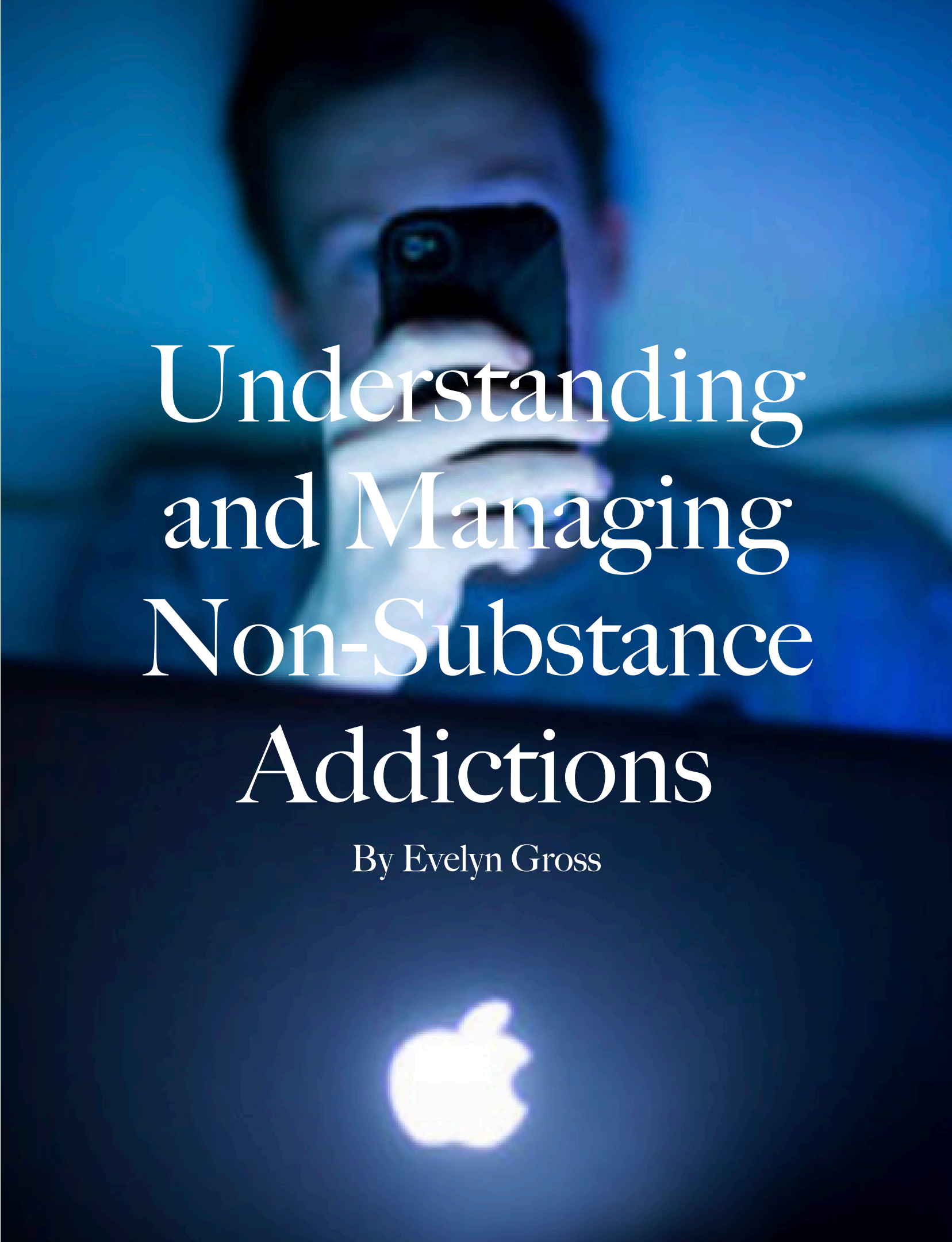
Once I confirmed that developmental psychology plays a crucial role in the upbringing of adolescents, with a natural inclination of teens and children to receive this information,

I wanted to look at the information passed onto them in their lessons. One culture that commonly preserves its history and cultural norms through oral traditions, with several published novels containing compilations of ancient oral folktales aimed at teaching kids, is German (Dundes, 1969). The Germanic language has deep roots in Europe, with its isolated and tribal nature calling for oral preservative methods. Specifically, Germanic tribes prided themselves on their strong wits and physical dominance when fighting foreign armies from the Roman Empire or surrounding kingdoms (De Vries, 1962). To foster children into these conditions, Germanic tribes needed to remain uniform in social and cultural practices, with German elders stepping up to create various folktales to easily transmit these lessons to their children (German Literature, 1).

During the medieval age, due to the ongoing conflicts and descent from traditional studies and sciences, many Germanic tribes destroyed or recycled these texts through fires, theft, and neglect, leaving little hope for surviving copies (Seven Lost, 2023). However, in the 19th century, the Grimm Brothers traveled across the Germanic States, compiling research on the shared German identity and consolidating fundamental stories to the German identity (Allen, n.d.). Their novel contains tens of hundreds of stories taught to the German youth, with each story conveying a unique social and cultural norm. For example, their story, "Hansel and Gretel," teaches children to use their wits to outsmart their enemies while remaining loyal and faithful to family (Grimm, 2011).

The complex and deeply-rooted history and social importance of Germanic folklore establishes it as a source of many folktales that teach adolescents crucial social and cultural norms. While other cultures might have developed similar social and cultural ideas, the importance of Germanic folktales remains indisputable. Furthermore, many modern-day entertainment industries utilize stories and tropes from Germanic folktales and the Grimm Brothers: Cinderella, Sleeping Beauty, Snow White, Little Red Riding Hood, and more (Allen, n.d.). Through the significance of Germanic folktales and their social lessons throughout history, these stories remain the most prevalent source of social adolescent instruction. These folktales relate to developmental psychology through their modern-day prevalence, with typical interactions containing subtextual references to the social and cultural work performed by these folktales.

So, the next time you think about why society acts uniformly, I want you to think about the stories and lessons you heard as a child and where those ideals originated from. I would not be surprised if Germany were the answer.



Understanding and Managing Non-Substance Addictions

By Evelyn Gross



Addiction to some behaviors, such as gambling, excessive use of mobile devices and the internet, overeating, and compulsive shopping, is more than bad habits; it is classified as a non-substance addiction, negatively impacting a person's personal and professional life. The broad definition of addiction extends beyond substance use and is the inability to regulate behavior that results in adverse outcomes (Boyd, 2015).

Addiction is managed by the brain's reward system, which is influenced by neurotransmitters such as dopamine. Dopamine is released when one partakes in survival or pleasure-promoting activities, like eating or winning a game—dopamine surges from addictive activities that can exceed the effects of natural rewards. Over time, people may become tolerant of the specific activity, needing to engage in more of it to produce the same amount of dopamine. These practices typically lead to addiction because they are habitual, acting more as a subconscious reaction than as a deliberate decision (Boyd, 2015).

Non-substance addictions can be used as a coping strategy by people who are depressed, anxious, or bored. They avoid dealing with their complicated feelings by engaging in these habits. It is important to learn how to control and manage non-substance addictions since some of these behaviors are necessary for daily functioning. Food addiction and Internet addiction disorder are two notable examples of such addictive behaviors (Boyd, 2015).

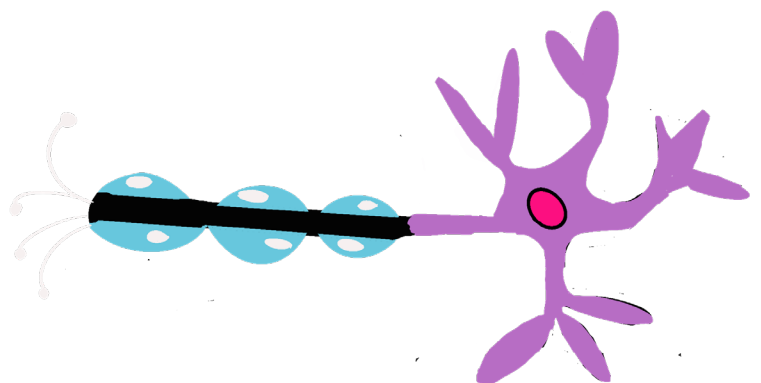
For example, take food addiction: food is an absolute necessity for living and cannot be entirely renounced. Managing eating habits can pose a challenge for individuals grappling with food addiction, as they may struggle to regulate their consumption, leading to episodes of overeating. The most effective cure for people struggling with food addictions is to practice mindful eating habits and manage their relationship with food (Kraska).

Internet addiction disorder (IAD) results in excessive internet use that can negatively impact a person's day-to-day functioning. Although the internet isn't a necessity like food, it might be difficult for those with IAD to control their consumption, given its recent necessity for schoolwork and employment. This addiction is more common among people ages 12-17 years old, especially in light of the increasing use of social networking sites like Facebook, Instagram, TikTok, and others (Kraska). Short attention spans, difficulties interacting with people in real life, and impatience when not using social media are some indicators of social media addiction. The primary cause of social media's addictiveness is the continuous barrage of fresh content and images that cause dopamine to be released in the brain. Negative outcomes for those with IAD might include poor performance in school or at work, social isolation, and sleep difficulties (Kraska).

Heredity, the social environment, and developmental factors all impact the likelihood of developing a behavioral addiction (Boyd, 2015). Heredity accounts for 75% of the risk of behavioral addiction development. Secondly, people are less likely to participate in addictive activities if the social environment offers encouragement or positive feedback via the brain's reward pathways. For example, consider a teenager surrounded by supportive family and friends participating in sports and other healthy activities. This teenager is likely praised and encouraged for engaging in physical activity in this supportive social setting. Teens who experience this kind of support and motivation to uphold a healthy lifestyle are less likely to resort to addictive behaviors as a coping mechanism for stress or boredom. Lastly, adolescence is a critical period for developing the prefrontal cortex, which is responsible for making decisions, controlling impulses, and assessing consequences. People with poorly developed prefrontal cortexes due to a traumatic brain injury or neurodevelopment disorders in their adolescent years may be more impulsive and engage in sensation-seeking activities (Kraska).

To build appropriate coping skills and address underlying issues that may contribute to their addiction, individuals must acknowledge their addictive behaviors and seek professional help (Boyd, 2015). A physician could recommend cognitive behavioral therapy, which involves discussing the addiction with mental health professionals and coming up with plans to control and avoid relapsing. If required, treatment for non-substance addictions may involve treating co-occurring disorders like depression or substance usage.

Addiction is a complicated condition that can negatively impact a person's personal and professional life. Behavioral addictions, like internet addiction disorder, can be equally as dangerous as drug addictions. People can learn to limit and control their addictive behaviors by having a better understanding of the fundamental mechanics of addiction and the variables that lead to its development.



What Are *Dreams*?

By Eva Onur

What Are Dreams?

Dreams are vivid mental imagery that appear most commonly during REM (rapid-eye movement) sleep. In more complicated terms, they are the firing of neurons in the brain, creating the “impression of sensory perception” (Lewis, 2014). These neurons can recall various aspects of one's memories, recent and past. Your dream may be based on your day-to-day activities. You may recall previous sensory experiences, such as a nice scent, but also recall various challenges you were solving during the day. For example, when facing the challenge of learning new material, studying forces your brain to understand and repeat a process until it is streamlined. The brain will repeat this while you are asleep or dreaming, and you'll actually wake up better prepared than when you went to bed the night before (Lewis, 2014). The meaning and existence of dreams have been heavily contemplated for centuries because not many people remember them. Not only that but dreams don't have any physical manifestations in the brain, meaning you'll never know what the dreamer saw. Dreams and their potential meaning have puzzled the human race for centuries, and we won't understand them properly for years to come. Below are various dream theories, spanning from the early ages to modern-day research.

Early Civilizations (2000 B.C ~ 300 C.E)

The first written record of a dream was discovered in Ancient Mesopotamia and Egypt in the year 2000 BC. In Ancient Egyptian scriptures, dreams were regarded as divine messages from the Gods and were deeply investigated by prophets for their meaning. Early civilizations observed two types of dreams: clear and symbolic dreams. Clear dreams were when the dreamer was given the information in plain text by a person in the dream. Symbolic dreams, unlike clear dreams, were when the message was more convoluted and observed in imagery. Ancient Egyptians believed that they could decode this imagery using a dreambook, or a list of symbols and their associations. In the event of a dream, only trained individuals such as prophets, dream interpreters, and oracles could utilize the dreambook and derive the dream's meaning. Later scriptures, such as the Abrahamic texts or records of Asiatic cultures also decoded dreams in a similar fashion. Many scientists today disagree with this theory due to recent discoveries about why dreams happen: unlike what those 2000 years ago believed, dreams come from neural communication, not divine interference with the mortal realm. In fact, today, the idea of being able to predict the future or receive divine advice is a pseudoscience called precognition (Schwarzkopf, 2014).

Sigmund Freud - The *Interpretation of Dreams* (1899)

Sigmund Freud, an Austrian neurologist, was widely regarded as the first modern researcher of dreams. His principles have paved the way for dream research and our modern theories today. In his famous text *Interpretation of Dreams* (1899), Freud begins by distinguishing between manifest content and latent content of a dream. Manifest content is literal events of the dream, while latent content is what the dream is trying to tell us, or the meaning of the dream. Unlike the dream books of ancient times, Freud argues that the latent content of a dream can only be decoded through a process called “Free association”. In free association, personal associations with the imagery that appears in a dream eliminate the censorship of the manifest content, allowing the patient to understand what their dream means (Freud's Method). Freud's theory of dreams, though used as the base model for some modern dream theories today, is disregarded by many in the scientific community for being too personal and not grounded in scientific evidence. Later theories, in contrast with Freud, will attempt to derive the reasoning behind dreams through physiological and chemical study of the brain during rest.

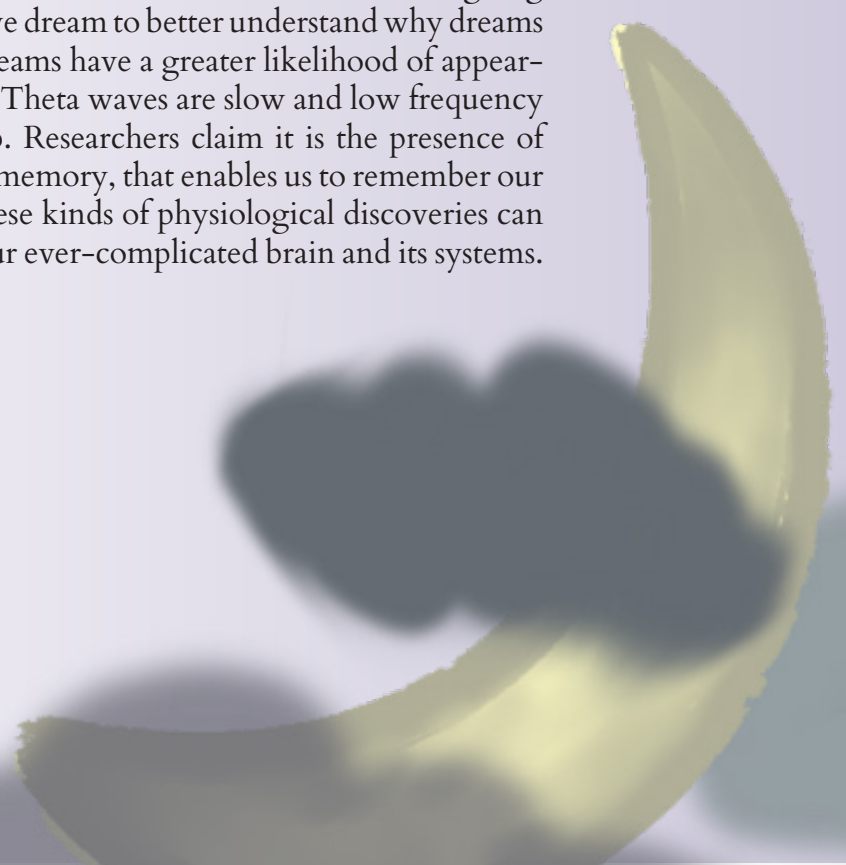
Hobson and McCartney's Activation - Synthesis Theory (1977)

Another prominent dream theory is Hobson and McCartney's activation-synthesis model. First reported in 1977, the model argues that dreams are the result of the brain's attempt to make sense of imagery. However, activation-synthesis claims dreams occur not as the manifestation of suppressed desire, but because of random electrical impulses sent to the brain that recall various parts of our memory. As the name of the theory implies, activation synthesis has two key components: activation and synthesis. During REM sleep, the brain activates, "sort[ing] through the limbic system" (AP Psychology). The limbic system, which holds our memories and desires, recalls certain memories and displays them as dreams. The second component, synthesis, is the brain attempting to make sense of these memories. Since the memories from the limbic system were chosen at random, dreams may be the brain attempting to make sense of nonsense. The reason these electrical impulses occur is because the physiological body is shut down, leaving the brain with extra free energy to recall memories. Though many agree with this model to this day, some researchers claim that the theory is too generalized, as it assumes that all activity during REM sleep begins in the brain stem, which new research has revealed is not the case (Domhoff, 2017).

Zhang - Continual Activation Theory (2004)

Finally, Zhang's 2004 continual-activation theory is built upon Hobson and McCarley's Activation-Synthesis theory but is more grounded in scientific evidence. Zhang agrees with Hobson and McCartney that dreams are based on physiological events that occur during sleep, and disagrees with Freud and the Ancients - in contrast, they think that dreams are psychic manifestations. The theory claims that there exist two subsidiaries used in dreaming: the conscious and the unconscious. Both of these subsidiaries are continually activated because of the high amounts of energy given to the brain: to consume this energy, it must always be in operation. This continual activation is usually manifested through motor functions, such as walking or talking, during waking hours. However, when sleeping, motor functions are blocked. Since the brain needs a way to spend the energy it's given, it processes information and displays it as dreams instead of motor output.

These aren't the only dream theories out there: in fact, research is still ongoing about the chemical processes that occur while we dream to better understand why dreams occur. Most recently, it was discovered that dreams have a greater likelihood of appearing when theta waves exist in the frontal lobe. Theta waves are slow and low frequency and occur most frequently during REM sleep. Researchers claim it is the presence of these waves in the frontal lobe, which encodes memory, that enables us to remember our dreams (Van der Linden, 2011). Hopefully, these kinds of physiological discoveries can eventually lead to a clearer understanding of our ever-complicated brain and its systems.





The Sunk Cost Fallacy

By Clarie Tsai

Have you ever found yourself spending time doing a project when you know it will not succeed, or doing an activity that you do not enjoy, simply because of the amount of time, effort, and money you have already poured into it? This phenomenon is known as the sunk cost fallacy, where individuals let unrecoverable costs influence their decision-making, often leading to poor choices.

A sunk cost is the money that has already been incurred and cannot be recovered. This includes equipment that can not be resold or returned at the purchase price (Bondarenko, 2024). The sunk cost fallacy is the phenomenon where a person continues with an endeavor or plan that they have already invested resources into, even when it is not beneficial. In other words, the person commits the sunk cost fallacy when they let unrecoverable costs (sunk costs) influence their decision-making instead of focusing on future potential benefits, which can often lead to bad and irrational decisions.

Despite the possibility for irrational outcomes to result from succumbing to the sunk cost fallacy, what motivates individuals to persist in this behavior? There are three explanations for the existence of the sunk cost fallacy: loss aversion, commitment bias, and plausible deniability.

Loss aversion is the principle that real or potential loss is perceived as more emotionally or psychologically damaging than a gain (Liberto, 2022). The pain of losing \$500 would be greater than that of winning the same amount. Applying this principle, because individuals do not want to lose or experience the pain of losing, they will be caught in the sunk cost fallacy and continue to persevere, sticking with their original decision to try to recover the sunk cost.

Commitment bias is the human tendency to adhere to past behaviors even if the behaviors do not have desirable outcomes (The Decision Lab, 2021). Making plans and creating habits is ingrained in human behavior as it is essential to achieving long term goals. Yet, at the same time, refusing to change one's behavior can lead to undesirable results, poor decision making, and restricted personal growth. The commitment bias may also be a reason why individuals honor the sunk cost and keep engaging in behaviors or projects regardless of their outcome (Tuovila, 2024).

Finally, plausible deniability is the ability of individuals who suffered a misfortune to deny knowledge or responsibility of actions that caused the misfortune. This includes the desire of individuals to spin stories to cast themselves in a good light and to construct a narrative about their behavior. A fair amount of empirical evidence suggests that humans care strongly about self-presentation. Kurzban and Aktipis argue that humans have internalized a set of mechanisms that are "designed for strategic manipulation of others' representations of one's traits, abilities, and prospects" with the aim of demonstrating one's social value to others (Doody, 2020). Hence, individuals may employ plausible deniability to justify persisting with a failing project or investment, thereby evading accountability for sunk costs by crafting narratives that portray them as unaware of the risks involved beforehand. For example, a company may justify spending resources developing, producing, and marketing a product by creating a plausible narrative that they did not know about their product's shortcomings. This would cause the company to continue to invest in the product even if it is not performing well in the market or

meeting the company's expectations.

Taking these factors into account, avoiding the sunk cost fallacy is difficult, but important, as they impact real world decision making. This article will discuss two examples of the sunk cost fallacy in the fields of finance and foreign policy.

Investment firms often continue to invest in losing ventures hoping that they will somehow turn around to profit after the initial investment. Wharton finance professor Marius Guenzel, whose research covered acquisitions at publicly held firms between 1980 and 2016, concluded that firms "systematically fail to ignore sunk costs," which "leads to significant distortions in investment decisions" (2023). The study found that attachment to sunk cost decreases divestiture rates by between 8% and 9% (Parameshwaran, 2023). In other words, firms that are more attached to the sunk costs are less likely to divest or sell off acquired assets, even when it might be economically beneficial to do so. However, sunk costs should not matter in investment decisions because those decisions should be forward-looking, not based on something that cannot be changed.

Another example of the sunk cost fallacy is Russia's war in Ukraine. When the war in Ukraine began, Russia expected quick success. When that failed, Russia's military resorted to brute force and repetitive attacks, resulting in huge casualties. However, Putin's commitment is unwavering even in the face of thousands of dead Russians. At a press conference at the end of 2023, Putin said, "There will be peace when we achieve our goals. As for the goals, they are unchanged," highlighting his commitment to the war (Simmons, 2023). This exemplifies the sunk cost fallacy as it implies that regardless of the current feasibility of his goals, his investment into the war effort will eventually pay off in the form of "peace." Russia's military offensive is limited, where they have lost a significant number of troops and equipment, and Russia is unable to make substantial territorial gains. Thus, like countless leaders before him who have entered doomed conflicts, Putin is caught in the sunk cost fallacy as he chooses to continue fighting at an even greater cost, with more casualties, rather than admit to the people that the previous sacrifices were in vain (Windsor, 2023).

The sunk cost fallacy presents a challenge in decision-making across a plethora of domains. Understanding its underlying mechanisms and consequences is crucial for making rational and effective choices. By adopting forward-looking perspectives, maintaining objectivity, and embracing flexibility, individuals and organizations can navigate away from the sunk cost fallacy, leading to better outcomes and resource allocation in the long term.

REFERENCES

Perfectionism and Mental Health

Cox, J. (2022, November 15). 7 Steps to Overcome Perfectionism. Psych Central. <https://psychcentral.com/health/steps-to-conquer-perfectionism>

Flaticon. (n.d.). Target free icon. https://www.flaticon.com/free-icon/target_60481

Newman, T., & French, M. (2023, December 20). What to know about bipolar disorder. Medical News Today. <https://www.medicalnewstoday.com/articles/37010#overview>

Psychology Today. (n.d.). Perfectionism. Psychology Today. <https://www.psychologytoday.com/us/basics/perfectionism>

Sandoiu, A. (2018, October 12). How perfectionism affects your (mental) health. Medical News Today. <https://www.medicalnewstoday.com/articles/323323>

A Desire to be in Harmony

American Journal of Psychology, 128(3), 281-304. <https://doi.org/10.5406/amerjpsyc.128.3.0281>

Annual Review of Psychology, 69(1), 51-75. <https://doi.org/10.1146/annurev-psych-122216-011740>

Cirelli, L. K., Einarson, K. M., & Trainor, L. J. (2014). Interpersonal synchrony increases prosocial behavior in infants. *Developmental Science*, 17(6), 1003-1011. <https://doi.org/10.1111/desc.12193>

Foster Vander Elst, O., Foster, N. H., Vuust, P., Keller, P. E., & Kringelbach, M. L. (2023). The neuroscience of dance: A conceptual framework and systematic review. *Neuroscience & Biobehavioral Reviews*, 150, 105197. <https://doi.org/10.1016/j.neubiorev.2023.105197>

Grau, A. (2015). Why people dance - evolution, sociality, and dance. In *Dance, Movement & Spirituality* (pp. 233-254). https://doi.org/10.1386/dmas.2.3.233_1

Juslin, P. N., Barradas, G., & Eerola, T. (2015). From sound to significance: Exploring the mechanisms underlying emotional reactions to music.

Levitin, D. J., Grahn, J. A., & London, J. (2018). The psychology of music: Rhythm and movement. Nasir,

M. S. (2020, July 3). Unsplash. <https://unsplash.com/photos/white-leather-shoulder-bag-on-white-textile-ffgHZwXxtIM>

Margulis, E. H. (2018). *The Psychology of Music*. Oxford University Press. <https://global.oup.com/academic/product/the-psychology-of-music-a-very-short-introduction-9780190640156?cc=us&lang=en&>

Pexels. (n.d.). women dancing ballet. Pexels. <https://www.pexels.com/photo/women-s-dancing-ballet-358010/>

The Psychology Being Fake News

Cambridge Dictionary. (2024, March 13). fake news. @ CambridgeWords. <https://dictionary.cambridge.org/us/dictionary/english/fake-news>

Carlos Diaz Ruiz. (2023, November 23). Disinformation is part and parcel of social media's business model, new research shows. *The Conversation*.

<https://theconversation.com/disinformation-is-part-and-parcel-of-social-medias-business-model-new-research-shows-217842>

Confirmation bias | Definition, Examples, Psychology, & Facts | Britannica. (2024). In *Encyclopædia Britannica*. <https://www.britannica.com/science/confirmation-bias>

LibertiesEU. (2018, October 15). Facebook Removes 800 Politics Pages seen as Fake News. LibertiesEU. <https://www.liberties.eu/en/stories/facebook-removes-800-politics-pages-seen-as-fake-news-sn-22130/40661>

Misinformation and disinformation. (2022, July 6). Misinformation and disinformation. <https://www.apa.org>. <https://www.apa.org/topics/journalism-facts/misinformation-disinformation>

Perez, C. (2024, April 2). Tips for Assessing Your Unconscious Biases. <https://blog.diversitynursing.com/blog/tips-for-assessing-your-unconscious-biases>

Segal, D. (2021, September 2). What is Confirmation Bias? WebMD; WebMD. <https://www.webmd.com/balance/what-is-confirmation-bias>

Topic: False news in the U.S. (2024). Statista; Statista. <https://www.statista.com/topics/3251/fake-news/#statisticChapter>

West, D. M. (2017, December 18). How to combat fake news and disinformation. Brookings. <https://www.brookings.edu/articles/how-to-combat-fake-news-and-disinformation/>

Why We Fall for Fake News | Center for Information Technology and Society - UC Santa Barbara. (2016). Ucsb.edu. <https://cits.ucsb.edu/fake-news/why-we-fall>

Types of Therapies

Art Therapy. (n.d.). Psychology Today. <https://www.psychologytoday.com/us/therapy-types/art-therapy#how-it-works>

Cognitive Behavioral Therapy. (n.d.). Psychology Today. <https://www.psychologytoday.com/us/basics/cognitive-behavioral-therapy>

Dialectical Behavioral Therapy. (n.d.). Psychology Today. <https://www.psychologytoday.com/us/therapy-types/dialectical-behavior-therapy>

EMDR. (n.d.). Psychology Today. <https://www.psychologytoday.com/us/therapy-types/emdr>

Exposure and Response Prevention. (n.d.). Psychology Today. <https://www.psychologytoday.com/us/therapy-types/exposure-and-response-prevention-chotherapy>

Gorman, S., & Gorman, J. M. (n.d.). Is There a Science to Psychotherapy? Psychology Today. <https://www.psychologytoday.com/us/blog/denying-the-grave/201811/is-there-science-psychotherapy>

Hypnotherapy. (n.d.). Psychology Today. <https://www.psychologytoday.com/us/therapy-types/hypnotherapy>

Somatic Therapy. (n.d.). Psychology Today. <https://www.psychologytoday.com/us/therapy-types/somatic-therapy>

What is therapy? (n.d.). Psychology Today. <https://www.psychologytoday.com/us/basics/therapy>

The Mechanics of ADHD

- American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). American Psychiatric Association. <https://doi.org/10.1176/appi.books.9780890425596>
- Barkley, R. A., Fischer, M., Smallish, L., & Fletcher, K. (2004). Young adult follow-up of hyperactive children: Antisocial activities and drug use. *Journal of Child Psychology & Psychiatry*, 45(2), 195-211. <https://doi.org/10.1111/j.1469-7610.2004.00214.x>
- Barkley, R. A., Ph.D. (2010). The Important Role of Executive Functioning and Self-Regulation in ADHD. https://www.russellbarkley.org/factsheets/ADHD_EF_and_SR.pdf
- Barkley, R. A., Ph.D. (2017). What Causes ADHD? <https://www.russellbarkley.org/factsheets/WhatCausesADHD2017.pdf>
- Duffy, K. A., Rosch, K. S., Nebel, M. B., Seymour, K. E., Lindquist, M. A., Pekar, J. J., Mostofsky, S. H., & Cohen, J. R. (2021). Increased integration between default mode and task-relevant networks in children with ADHD is associated with impaired response control. *Developmental Cognitive Neuroscience*, 50, 100980. <https://doi.org/10.1016/j.dcn.2021.100980>
- Enid. (2023, February 3). Neuro-divergent Behavior: Understanding and Accepting Differences [Image]. Medium. https://medium.com/@enidstrydom_69104/neuro-divergent-behavior-understanding-and-accepting-differences-f499ab181eab
- Graham, L. (2008). Drugs, labels and (p)ill-fitting boxes: ADHD and children who are hard to teach. *Discourse: Studies in the Cultural Politics of Education*, 29(1), 85-106. <https://doi.org/10.1080/01596300701801377>
- Mueller, A. K., Fuermaier, A. B. M., Koerts, J., & Tucha, L. (2012). Stigma in attention deficit hyperactivity disorder. *ADHD Attention Deficit and Hyperactivity Disorders*, 4(3), 101-114. <https://doi.org/10.1007/s12402-012-0085-3>
- Rawpixel. (n.d.). Abstract anxiety brain sticker. Rawpixel. <https://www.rawpixel.com/image/6283191/png-sticker-public-domain>
- Sprich, S. E., Knouse, L. E., Cooper-Vince, C., Burbridge, J., & Safren, S. A. (2010). Description and demonstration of CBT for ADHD in adults. *Cognitive and Behavioral Practice*, 17(1), 9-15. <https://doi.org/10.1016/j.cbpra.2009.09.002>
- Wasserstein, J. (2005). Diagnostic issues for adolescents and adults with ADHD. *Journal of Clinical Psychology*, 61(5), 535-547. <https://doi.org/10.1002/jclp.20118>
- Whitman, L. (2019). "Using a spoon to claw your way out of a steel cage": A candidate works with the frustration and defeatism of a college student with inattentive ADHD and depression. *The*

Psychoanalytic Study of the Child, 72(1), 71-87.

<https://doi.org/10.1080/00797308.2019.1557484>

How is AI Being Used in Psychology?

- American Psychological Association. (2023, July). Psychology embracing AI. *APA Monitor*. <https://www.apa.org/monitor/2023/07/psychology-embracing-ai>
- Collaboris. (n.d.). The impact of AI on compliance and risk management. Collaboris. <https://www.collaboris.com/ai-impact-compliance-risk-management/>
- MedicalXpress. (2023, October). AI the future of psychology. *MedicalXpress*. <https://medicalxpress.com/news/2023-10-ai-future-psychology.html>
- NBC New York. (n.d.). Who is using AI chatbot therapists? Here's what to know. *NBC New York*. <https://www.nbcnewyork.com/news/national-international/who-is-using-ai-chatbot-therapists-heres-what-to-know/4820964/>
- Psychological Science Observer. (n.d.). Machine learning: Transforming psychological science. Association for Psychological Science. <https://www.psychologicalscience.org/observer/machine-learning-transforming-psychological-science>
- Wan, J., Idriss, M. A., & Sheeber, L. B. (2021). Detection of cognitive impairments from speech using large language models: Predicting dementia from speech. *PLoS Digital Health*, 1(4), e0000168. <https://doi.org/10.1371/journal.pdig.0000168>
- ### **Gaslighting**
- Duignan, B. (2024, March 25). gaslighting. *Encyclopedia Britannica*. <https://www.britannica.com/topic/gaslighting>
- Gordon, S. (2023, November 21). Is Someone Gaslighting You? Learn the Warning Signs. *Verywellmind*. <https://www.verywellmind.com/is-someone-gaslighting-you-4147470>
- Greenberg, M. (2021, June 30). 5 Go-To Tactics of Gaslighters, and How to Resist Them. *Psychology Today*. <https://www.psychologytoday.com/us/blog/the-mindful-self-express/202106/5-go-tactics-gaslighters-and-how-resist-them>
- Greenberg, M. (2024, March 12). How Gaslighters May Manipulate You Into Taking the Blame. *Psychology Today*. <https://www.psychologytoday.com/us/blog/the-mindful-self-express/202403/how-gaslighters-may-manipulate-you-into-taking-the-blame>
- Huizen, J. (n.d.). Examples and signs of gaslighting and how to respond (M. Boland, Ed.). *MedicalNewsToday*. <https://www.medicalnewstoday.com/articles/gaslighting>
- Meyers, S. (2023, March 26). Do Gaslighters Accuse Others of Gaslighting? *Psychology Today*. <https://www.psychologytoday.com/us/blog/insight-is-2020/202303/do-gaslighters-accuse-others-of-gaslighting>
- PsychologyToday. (n.d.). Narcissism. <https://www.psychologytoday.com/us/basics/narcissism>

Weisner, M. (2024, February 21). Supervisors less likely to be disciplined at Homeland Security: report. Federal Times. <https://www.federaltimes.com/management/hr/2024/02/21/supervisors-less-likely-to-be-disciplined-at-homeland-security-report/>

Understanding Anxiety Disorders

Anxiety. (n.d.). American Psychological Association. Retrieved May 5, 2024, from <https://www.apa.org/topics/anxiety>

Anxiety disorders. (2023, September 27). World Health Organization. Retrieved May 5, 2024, from <https://www.who.int/news-room/fact-sheets/detail/anxiety-disorders#:~:text=An%20estimated%204%25%20of%20the,all%20mental%20disorders%20>

Feldman, R. S. (2019). *Understanding Psychology* (Vol. 14e). McGraw Hill.

4 types of common anxiety disorders. (2019, November). NIH MedlinePlus Magazine. <https://magazine.medlineplus.gov/article/4-types-of-common-anxiety-disorders>

Gamma-Aminobutyric Acid (GABA). (2022, April 25). Cleveland Clinic. Retrieved May 5, 2024, from <https://my.clevelandclinic.org/health/articles/22857-gamma-aminobutyric-acid-gaba>

Generalized anxiety disorder. (2017, October 13). Mayo Clinic. Retrieved May 5, 2024, from <https://www.mayoclinic.org/diseases-conditions/generalized-anxiety-disorder/symptoms-causes/syc-20360803>

Sauer-Zavala, S., Bufka, L., & Wright, C. V. (2016, October 1). How psychologists help with anxiety disorders [Fact sheet]. American Psychological Association. Retrieved May 5, 2024, from <https://www.apa.org/topics/anxiety/disorders#:~:text=A%20form%20of%20psychotherapy%20known,that%20contribute%20to%20their%20anxiety.>

Selective serotonin reuptake inhibitors (SSRIs). (2019, September 17). Mayo Clinic. [https://www.mayoclinic.org/diseases-conditions/depression/in-depth/ssris/art-20044825#:~:text=SSRIs%20treat%20depression%20by%20increasing,reuptake\)%20of%20serotonin%20into%20neurons.](https://www.mayoclinic.org/diseases-conditions/depression/in-depth/ssris/art-20044825#:~:text=SSRIs%20treat%20depression%20by%20increasing,reuptake)%20of%20serotonin%20into%20neurons.)

Social anxiety disorder (social phobia). (2021, June 19). Mayo Clinic. <https://www.mayoclinic.org/diseases-conditions/social-anxiety-disorder/symptoms-causes/syc-20353561>

Specific phobias. (2023, June 9). Mayo Clinic. Retrieved May 5, 2024, from <https://www.mayoclinic.org/diseases-conditions/specific-phobias/symptoms-causes/syc-20355156>

Star, K. (2024, February 11). Is Panic Disorder Caused by a Chemical Imbalance? VeryWell Mind. Retrieved May 5, 2024, from <https://www.verywellmind.com/is-panic-disorder-caused-by-a-chemical-imbalance-2583984#:~:text=The%20%E2%80%9CChemical%20Imbalance%E2%80%9D%20Theory,-According%20to%20chemical&text=The%20neurotransmitters%20serotonin%20dopamine%20norepinephrine,various%20bodily%20and%20mental%20functions.>

t=The%20neurotransmitters%20serotonin%20dopamine%20norepinephrine,various%20bodily%20and%20mental%20functions.

Trauma. (n.d.). Anxiety and Depression Association of America. Retrieved May 5, 2024, from <https://adaa.org/understanding-anxiety/trauma>

Why Do We Procrastinate?

Ashraf, M. A., Sahar, N.-E., Kamran, M., & Alam, J. (2023). Impact of self-efficacy and perfectionism on academic procrastination among university students in Pakistan. *Behavioral Sciences*, 13(7), 537. <https://doi.org/10.3390/bs13070537>

Duru, E., Balkis, M., & Duru, S. (2023). Procrastination among adults: The role of self-doubt, fear of the negative evaluation, and irrational/rational beliefs. *Journal of Evidence-Based Psychotherapies*, 23(2), 79-97. <https://doi.org/10.24193/jebp.2023.2.11>

Goff-Dupont, S. (2022, June 14). The real reasons you procrastinate at work. *Work Life*. <https://www.atlassian.com/blog/productivity/real-causes-procrastination-at-work>

Liu, Y., Zhao, X., Hu, W., Ren, Y., Wei, Z., Ren, X., Tang, Z., Wang, N., Chen, H., Li, Y., Shi, Z., Qin, S., & Yang, J. (2023). Neural habituation during acute stress signals a blunted endocrine response and poor resilience. *Psychological Medicine*, 53(16), 7735-7745. <https://doi.org/10.1017/s0033291723001666>

Milstein, A. (2018, December 16). Why You Should Procrastinate. Hanabi. <https://hanabi.asij.ac.jp/opinion/why-you-should-procrastinate/>

Sirois, F. M. (2013). Procrastination and stress: Exploring the role of self-compassion. *Self and Identity*, 13(2), 128-145. <https://doi.org/10.1080/15298868.2013.763404>

TED-Ed. (2022, October 27). Why you procrastinate even when it feels bad [Video]. YouTube. <https://www.youtube.com/watch?v=FWTNMzK9vG4>

How Germanic Folklore has Influenced Developmental Psychology

Allen, B. (n.d.). The Brothers Grimm. The Cultural Impact of the Grimm Brothers and Their Stories. <https://homepages.uc.edu/~bwxa/final%20project%20website/culture.html>

American Psychological Association. (2014). Developmental psychology studies human development across the lifespan. American Psychological Association. <https://www.apa.org/education-career/guide/subfields/developmental#:~:text=Developmental%20psychologists%20study%20human%20growth,primarily%20on%20research%20or%20teaching.>

Devries, J. (1962). CELTIC AND GERMANIC RELIGION. *Saga-Book*, 16, 109-123. <https://www.jstor.org/stable/48612269>

Dundes, A. (1969). The Devolutionary Premise in Folklore Theory. *Journal of the Folklore Institute*, 6(1), 5-19. <https://doi.org/10.2307/3814118>

- German literature. (1 C.E.). Facts On File. online.info base.com/Auth/Index
- Zick, A. (n.d.). Schneewittchen. https://en.wikipedia.org/wiki/Snow_White?aid=15322&itemid=WE54&articleId=46198
- Grimm, J., & Grimm, W. (2011, September 7). Hansel and Gretel. Grimm 015: Hansel and Gretel. <https://sites.pitt.edu/~dash/grimm015.html>
- Seven Lost Medieval Texts. Medievalists.net. (2023, December 18). <https://www.medievalists.net/2023/12/lost-medieval-texts/#:~:text=Throughout%20the%20medieval%20period%20manuscripts,hope%20that%20any%20copies%20survive.>
- Wang, Y., Chen, M., & Lee, J. H. (2019). Adolescents' Social Norms across Family, Peer, and School Settings: Linking Social Norm Profiles to Adolescent Risky Health Behaviors. *Journal of youth and adolescence*, 48(5), 935–948. <https://doi.org/10.1007/s10964-019-00984-6>

Non-Substance Addictions

- Boyd, D. (2015, July 16). Is Internet Addiction a Health Threat for Teenagers? *The New York Times*. <https://www.nytimes.com/roomfordebate/2015/07/16/is-internet-addiction-a-health-threat-for-teenagers>
- familydoctor.org editorial staff. (2023, May 3). Non-substance Addiction. Familydoctor.org. Retrieved April 27, 2024, from <https://familydoctor.org/condition/non-substance-addiction/>
- Kraska, A. (n.d.). [Most Common Non-Drug Addictions]. South Coast Behavioral Health. <https://www.scbh.com/process-addiction-most-common-non-drug-addictions/>
- Nash, L. (2018, April 16). The Blindness of Social Wealth. *The New York Times*. <https://www.nytimes.com/2018/04/16/opinion/facebook-social-wealth.html>

What Are Dreams?

- "AP Psychology Study Resource: Definition Of Activation Synthesis Theory." (n.d.). Apppsychology.org, Word Press, apppsychology.com/activation-synthesis-theory/.
- Domhoff, G. William. (2017, September) *The Activation-Synthesis Theory of Dreaming*. Oxford, Oxford UP .Oxford Scholarship Online. Oxford Academic, <https://doi.org/10.1093/oso/9780190673420.003.0007>. Accessed 23 Apr. 2024.
- "Freud's Method for Interpreting Dreams." (n.d.). Freud.org.uk, Freud Museum London, www.freud.org.uk/education/resources/the-interpretation-of-dreams/freuds-method-for-interpreting-dreams/. Accessed 23 Apr. 2024.
- Hendrickson, John. (2021, November 1). "Why Is it Impossible to Stop Thinking, to Render the Mind a Complete Blank?" *Scientific American*, Springer Nature, [www.scientificamerican.com/article/ask-the-brains-why-impossible-to-stop-thinking/#:~:text=\(To%20put%20this%20in%20context,to%20a%20constant%20high%20rate.](http://www.scientificamerican.com/article/ask-the-brains-why-impossible-to-stop-thinking/#:~:text=(To%20put%20this%20in%20context,to%20a%20constant%20high%20rate.) Accessed 23 Apr. 2024.

Hughes, J. Donald. (2000, March) "Dream Interpretation in Ancient Civilizations." *ResearchGate.net*, Research Gate, Mar. 2000, Dream Interpretation in Ancient Civilizations. Accessed 23 Apr. 2024.

Lewis, Penelope A. (2014, July 18) "What Is Dreaming and What Does It Tell Us about Memory? [Excerpt]." *Scientific American*, Springer Nature, , www.scientificamerican.com/article/what-is-dreaming-and-what-does-it-tell-us-about-memory-excerpt/. Accessed 12 May 2024.

Schwarzkopf, D. Samuel. (2014, May 27) "We should have seen this coming." *National Institute of Health*. National Institute of Health, *Frontiers in Human Neuroscience*, www.ncbi.nlm.nih.gov/pmc/articles/PMC4034337/. Accessed 12 May 2024.

Van Der Linden, Sander. (2011, July 26) "The Science Behind Dreaming." *Scientific American*, Springer Nature, www.scientificamerican.com/article/the-science-behind-dreaming/. Accessed 23 Apr. 2024.

"What Do Dreams Mean?" (2022, June 14) *Cleveland Clinic*, health.clevelandclinic.org/dreams-and-dreaming. Accessed 23 Apr. 2024.

The Sunk Cost Fallacy

- Bondarenko, P. (2024, February 1). sunk cost. *Encyclopedia Britannica*.<https://www.britannica.com/money/sunk-cost>
- Doody, R. (2019–2020). The Sunk Cost "Fallacy" Is Not a Fallacy. *Ergo Journal of Philosophy*, 6. <https://doi.org/10.3998/ergo.12405314.0006.040>
- Liberto, D. (2022, June 27). Loss Aversion: Definition, Risks in Trading, and How to Minimize. *Investopedia*. Retrieved April 10, 2024, from <https://www.investopedia.com/terms/l/loss-psychology.asp#:~:text=our%20editorial%20policies-,What%20Is%20Loss%20Aversion%3F,in%20finding%20the%20same%20amount>
- Parameshwaran, S. (2023, January 23). How Sunk Costs Affect Firms' Investment Decisions. *Knowledge at Wharton*. Retrieved April 10, 2024, from <https://knowledge.wharton.upenn.edu/article/how-sunk-costs-affect-firms-investment-decisions/>
- Pexels. (n.d.). Yellow green and red buoys. Pexels. <https://www.pexels.com/photo/yellow-green-and-red-buoys-39009/>
- Simmons, A. M. (2023, December 14). Putin Vows to Push On With Ukraine War. *The Wall Street Journal*. Retrieved May 3, 2024, from <https://www.wsj.com/world/russia/putin-vows-to-push-on-with-ukraine-war-d3e5be30>
- The Decision Lab. (2021). Commitment Bias (Escalation of commitment). *The Decision Lab*. Retrieved April 9, 2024, from <https://thedecisionlab.com/biases/commitment-bias>
- Tuovila, A. (2024, February 13). What Is a Sunk Cost—and the Sunk Cost Fallacy? *Investopedia*. Retrieved April 10, 2024, from <https://www.investopedia.com/terms/s/sunkcost.asp>
- Windsor, R. (2023, March 15). Why won't Vladimir Putin cut his losses in Ukraine? *The Week*. Retrieved April 10, 2024, from <https://theweek.com/news/world-news/960061/why-wont-vladimir-putin-cut-his-losses-in-ukraine>

