

Contemporary Perspectives in Psychology

Edited by

Dr. Nilanjana Mitra



Swami Vivekananda University

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We hope that this book serves as a valuable resource for students, researchers, and professionals in the field of psychology.

Dr. Nilanjana Mitra

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**Beyond the classroom walls: Emotional Burnout of
Adolescent students in the Context of Teacher Burnout,
School Climate and Parental Stress – A Systematic Review**

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Abstract

Student's psychological growth and development in terms of mental, physical, and intellectual ability is significantly influenced by teacher burnout, parental stress, and school climate. The research report has provided an overview of the major factors and overall effects of the unfavourable environment that hinders students' advancement. In addition to that, the professional strain of teachers placed on students most of the time, moreover, teachers' personal stress-reduction styles also can lead to major emotional burnout, psychological tiredness, and unfavourable interaction patterns among students. Not only are parents' mental health drastically declining due to financial strain, work-life imbalance, and fear over their child's future, but these factors also create a stressful home atmosphere. The aim of the present review is to draw an insight into how teacher burnout, school climate and parental stress affects students' mental health, especially on emotional burnout.

Keywords: *Teacher burnout, School climate, Parental stress, Student mental health, Interplay*

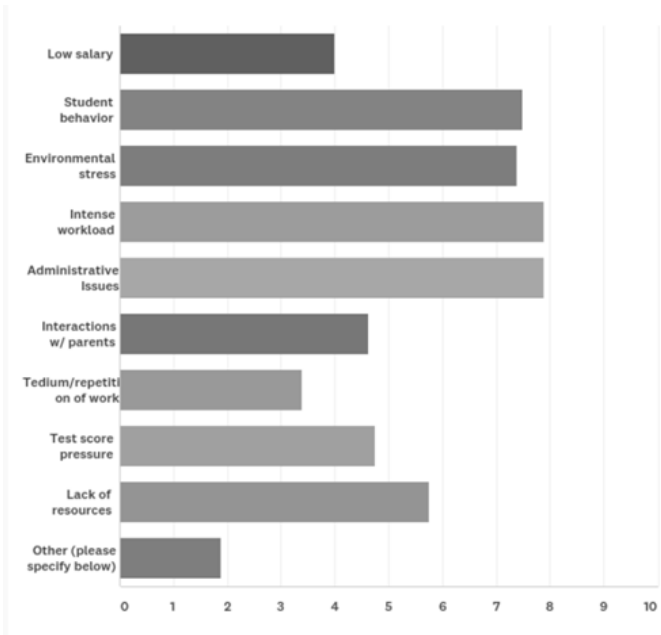
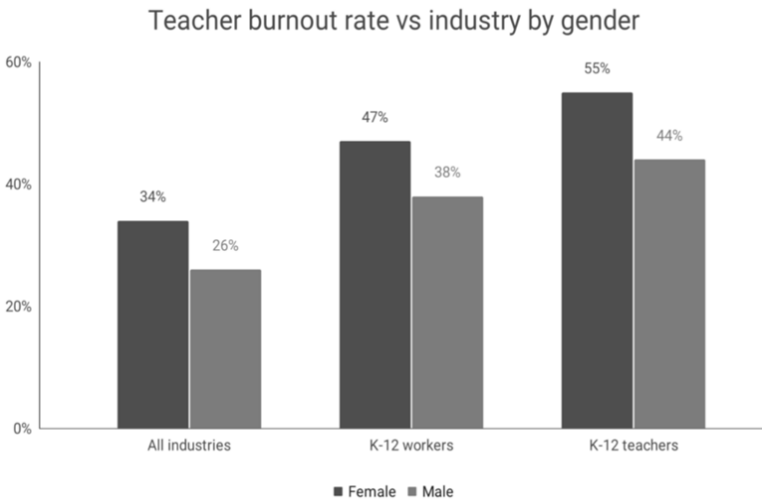


Figure: Reasons for teacher burnout
Source: Trainin, 2024

The study on student mental health has revealed a strong connection between student outcomes and teachers’ burnout, school climate, and parental stress. These studies show that 40% of students are notified of emotional burnout resulting from such facts (Liu et al. 2023). Therefore, knowledge of these factors is vital if the implementation of interventions is to be successful. The purpose of this review is twofold: first, to understand the relationship between teacher burnout, school climate, and parental stress as to how they affect the process leading to emotional burnout of students and second, to offer implications for educators and policymakers. Students in the adolescent age group which is a developmental period of vulnerability, are susceptible to environmental stressors as occurs in their educational and home environment,

influencing their mental health disposition. Specifically, a recent study established that youths experiencing a negative school climate coupled with higher parental stress levels are three times more likely to present with depressive symptoms during ambulatory visits than youths in supportive environments only (Ferschmann et al. 2022).

Conceptualizing Teacher Burnout



Skaalvik and Skaalvik (2017) defined teacher burnout as a level of emotional exhaustion, depersonalization as well as the reduction in perceived accomplishments of the teachers. The prior research by Male and May (2018), revealed that burnout is caused by factors such as presidents, lack of support from colleagues and students' behaviour. This has consequences on the part of students, where burnout reduces student performance and intent to be engaged in learning tasks, as well as exacerbating students' psychological distress. These problems should thus be addressed to eliminate barriers to a positive educational experience among students. As mentioned by Tang, Upadyaya and Salmela-Aro (2021), burnout has two components and one of them is emotional burnout characterised by fatigue, lack of motivation and

feeling helpless, especially among adolescents, which hinders them socially as well as academically. Cognitive pressures in school and social interactions are daily routines for children at this age, increasing psychological wear and tear and creating a cycle of exhaustion that becomes hard to interrupt without proper programs.

School Climate: Definitions and Components

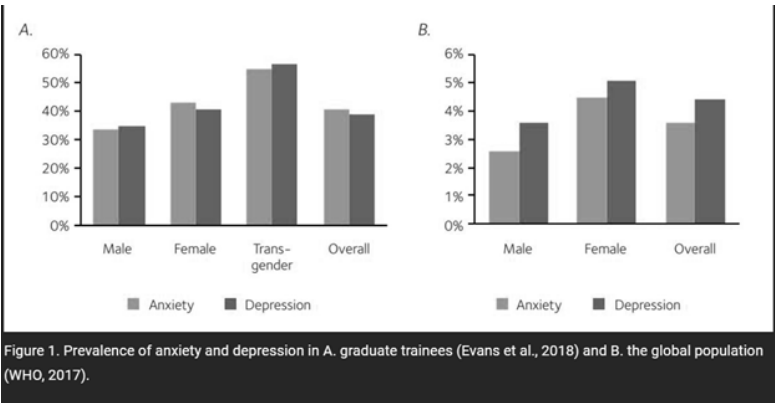


Figure: Mental Stress among Students

Source: The Physiological Society, 2021

The study conducted by Grazia and Molinari (2021), suggests that school climate pertains to the positive or otherwise quality of school experience, safety, interpersonal connection or relations and teaching-learning situation. These are basic safety needs, safety needs related to one’s feelings, a positive academic environment, and positive interpersonal relationships. Exogenous theories emphasize the ability of the school to influence, particularly, the students. Leurent et al. (2021), note, that the school climate plays a strong positive correlation with learning well-being because the existing research mentions that student anxiety and depression have reduced by twenty-five per cent in schools with a positive climate. The importance of addressing school climate is evidenced in improving student’s mental health outcomes.

Parental Stress and Its Determinants

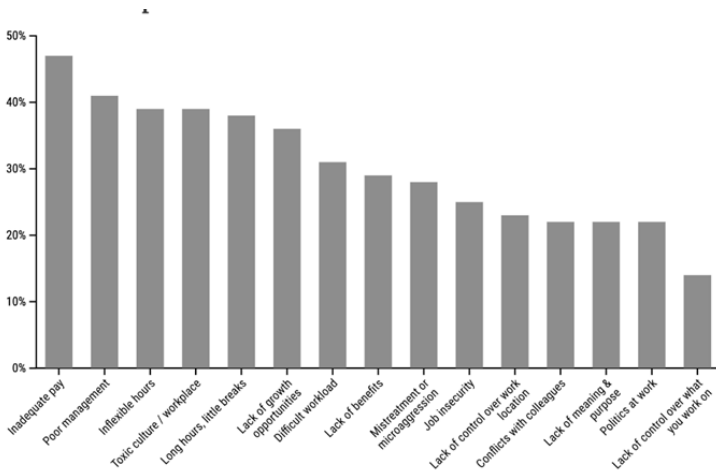


Figure: Parent's mental health issues and reasons

Source: Eatough, 2022

The study conducted by Robeson and Lucas, (2022) defines Parental stress as the distress experienced when taking care of children and it arises from the financial demands of jobs and the foreseeable future of children. According to theoretical models of stress, high stress levels potentially alter the family environments which affects parental care. Păsărelu et al. (2023) reveal that for parents with high levels of stress, the developmental changes are associated with negative effects that are reflected in 60% of children's emotional health. This stress is a major problem and greatly impacts students' overall health by raising their rates of emotional burnout and other psychological disorders.

This is not only a question of financial pressure because stress among parents can result from other factors that include social influence and support to specific means adopted by the parents to cope with pressure. Studies by Johnson et al. (2021), show how cultural and gender expectations directly influence parents' stress. Furthermore, Brown and Clark (2017), reveal that the great pressure of work and family demands leaves

each parent with little energy and less time to attend to their children’s emotional needs with not enough social support to counter their stress. For this reason, it is important to analyse the mentioned determinants to create measures, which would not just treat but prevent stress in parents, therefore improving family relations and further the child’s well-being.

Interrelationships Among Teacher Burnout, School Climate, and Parental Stress

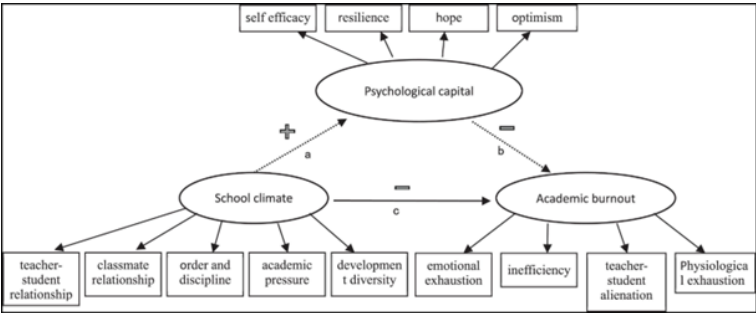


Figure: A framework for Teacher burnout

Source: Tang, 2024

Teacher burnout increases stress-related reactions at schools; unfavourable school climate and parental stress work in the same manner and amplify the consequences for students’ mental health. According to El Zaatari and Maalouf (2022), such conceptually sound models as Bronfenbrenner’s Ecological Systems Theory depict such interrelations and denote how stressors within various levels impact students’ outcomes. As indicated by Sipahioğlu et al. (2023) the findings show that in schools with high teacher and poor school climate burnout, the level of increased student emotional burnout is 30 % in high parental stress. These two factors can be addressed as the key factors which affect students and their learning outcomes, and this is why the solution for all the mentioned issues is necessary to help students be healthy, happy, and productive learners.

Therefore, the interaction of teacher burnout, school climate and the stress experienced by parents makes it multifaceted in determining students' well-being and performance. As highlighted by Chusid (2020), study, these factors are not independent of one another but compound the difficulties felt by the students. Practicable interventions require taking into specified interactions between these variables as dynamic. As mentioned by Capp Astor and Gilreath (2020), we also have to consider that addressing teacher burnout has to involve interventions that enhance school climate and bolster support for parents because all of those aspects are intertwined in forming students' overall health and learning outcomes. Such approaches are useful significant measures that make it possible for institutions to create a good learning environment that enhances the students' well-being and achievement.

Empirical Evidence on the Impact on Students

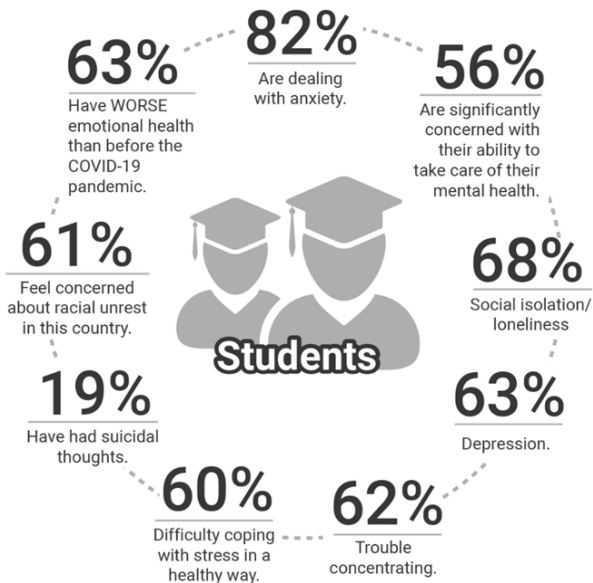


Figure: Student's Mental health Statistics

Source: Command Education

The findings of researchers examining the antecedents of emotional burnout have revealed that it is strongly influenced by teacher burnout, negative school climate and parental stress. For example, Herman, Hickmon-Rosa and Reinke (2018) assessed students in high-burnout classrooms and observed higher stress and emotional exhaustion among them. Similarly, when Gong, Li and Jiao (2021) suggested that students were used by their parents to test stress-reduction techniques, it was shown that students whose parents were stressed scored lower in their emotional well-being. The known literature shows that the interaction of the above-proposed factors doubles the student's emotional burnout more than simple stress factors.

Research findings amplify the effects of teacher stress, misery, or demoralization; negative school environment; and parental pressure or depression on learners' psychosocial health and achievement. This makes the students to be under additional pressure which results in stress and emotional exhaustion. In addition, a study conducted by Sipahioğlu et al. (2023), shows that students from the environments revealed to be high levels of teacher burnout; poor school climate; and parental stress significantly demonstrate low learning activity engagement and higher levels of psychological distress. The deep analysis by Gaston-Hawkins et al. (2020), revealed that understanding how all these variables are connected is vital for developing interventions that would aim at the root causes of emotional burnout in learners, as well as other psychosocial aspects that may hinder their wellness and achievement.

Implications for Educational Practice and Policy



Figure: Mitigating Teacher Burnout

Source: Avanti, 2023

In a recent study by Agyapong *et al.* (2022), the authors postulated that to support student wellness, efforts should be put in to erase teacher burnout, enhance school climate, and most critically reduce parental stress. A practical approach should call for offering professional development and emotional support to teachers to reduce burnout among them. Also, Darling-Hammond, and Cook-Harvey (2018), posited that school administrators who embraced the concept of school climate as a part of school improvement can improve the climate by modelling cultural acceptance and offering appropriate resources. The policies should encourage both the formation of parent-teacher associations and the availability of mental health services for the parenting figures in a child's life. Interventions that are most successful for students and that can reduce the levels of emotional exhaustion in students are those that have the potential to improve general mental health.

Conclusion

Thus, it is crucial to direct efforts towards combating teacher burnout, promoting a positive school climate, as well as reducing parental stress in the given context of enhancing students' mental health. As indicated by our review, all these factors are interrelated, and each of them has a strong influence on emotional burnout regarding students. The community including teachers, educational managers, policy makers and parents should ensure that there is integration of these supportive mechanisms. Thus, shifting focus on mental health programs and creating an appropriate supportive atmosphere within the school promotes more favourable treatments for students and improved full well-being in the educational environments.

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Understanding Pica: An Exploration of an Uncommon Eating Disorder

Ms. Lina Sarkar

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Introduction

Pica is an eating disorder characterized by the compulsive consumption of non-food items that lack nutritional value. While it is common for young children to explore their environment by putting various objects in their mouths, pica extends beyond this natural curiosity. In some cases, it can lead to significant health issues, particularly when hazardous substances are ingested.

Pica is an eating disorder where individuals crave or consume non-foods items which can be natural, biological, or man-made. The name comes from the Latin word for magpie—a bird known for eating a wide variety of things. According to the DSM-5 to be diagnosed with pica, the behavior must last for more than a month and be considered inappropriate for the person's developmental stage. It should not be part of a cultural practice and be serious enough to require clinical attention. Pica poisoning can occur, especially in children, affecting their physical and mental development. It can also cause serious health issues like intestinal blockages, nutritional deficiencies and infections from parasites.



Classification of Pica

Different types of Pica include-

- Geophagia: Including dirt, soil, clay or sand eating.
- Pagophagia: Including eating ice, frosty, or uncontrollably drinking cooled beverage –frequently observed in individuals with anemia.
- Amylophagia: Including uncooked rice or pasta, laundry starch etc.

Who is Affected by Pica?

Pica can affect individuals of any age, but it is most prevalent in three groups:

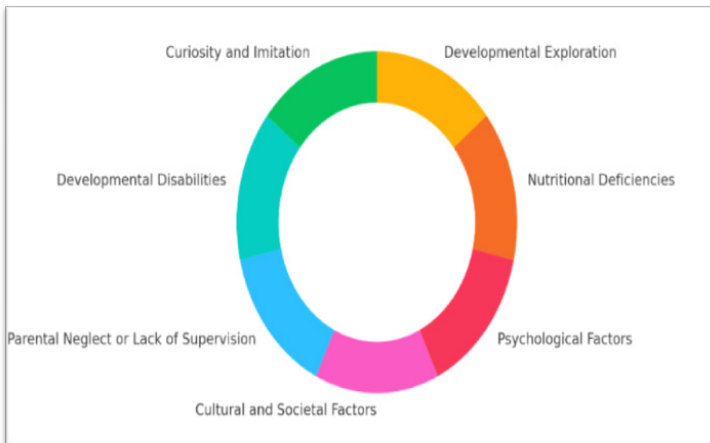
- Young Children: Particularly those under the age of six, who may engage in pica behaviors as part of normal development.
- Pregnant Individuals: Hormonal changes can increase cravings for non-food items.
- Individuals with Mental Health Conditions: Those diagnosed with autism spectrum disorder, intellectual disabilities, or schizophrenia are at a higher risk.

Understanding Pica in Young Children: Causes, Risks, and Management Strategies-

Pica is characterized by the persistent consumption of non-eatable substances, last at least one month, which is not suitable for developmental stages. It is conventional among young children and individuals who have developmental disabilities.

Causes of Pica in Young Children

- Young children understand their environment using their senses, including taste, which perceives non-food items.
- Sometimes children consume nonfood items to compensate nutrients deficiencies such as iron or zinc.
- Stress, anxiety, or mental health conditions may cause children to eat non-food items as a coping mechanism.
- In some cultures, eating certain non-food items is considered normal or traditional.



Causes of Pica in Young Children

Risks and Management Strategies:

Addressing underlying causes, provide appropriate supervision, and providing appropriate medical and psychological interventions from professionals involves management and treatment for pica behavior. Nutritional deficiencies should be corrected, and behavioral therapy can be used to discourage pica behavior. Educating parents and creating a safe environment can help prevent eating non-food. If pica is suspected, it is crucial to seek professional medical advice for proper diagnosis and treatment.

Understanding Pica in Pregnant Individuals: Causes, Risks, and Management Strategies

Pica is a condition characterized by the persistent consumption of non-dietary substances for at least 1 month, which is not suitable to the developmental level of the individual. This condition isn't only prevalent among children but also among pregnant individuals.

Causes of Pica in Pregnant Individuals

Insufficiencies in nutrients can cause pica behavior, as can the body, because the body may try to obtain these nutrients through non-eatable items. Due to certain belief system and cultural practices may normalize the intake of non-eatable items during pregnancy. Stress, anxiety, or underlying mental health conditions can contribute to pica as a coping mechanism. Fluctuations in pregnancy can cause unusual cravings, including for non-eatable items. Some pregnant woman may develop a liking for the smell, texture or taste of non-eatable items.

CAUSE	% (PERCENTAGE)
Hormonal Changes	20%
Sensory Appeal	20%
Nutritional Deficiencies	20%
Cultural and Societal Factors	15%
Psychological Factors	25%

Percentages of each cause of pica in pregnant individual

Risks Associated with Pica in Pregnancy

Consuming non-eatable items can interfere with the exploitation of essential nutrients, leading to deficiencies. To eat materials such as soil, clay or chalk can expose a person to harmful toxins and pathogens. Dental problem occurs due to chewing on hard non-food items, including tooth breakage. Eating indigestible items can cause barrier in the digestive system.

Management Strategies

- Education is required for pregnant women about the risks related to pica and to motivate them for adopt healthy eating habits.
- For monitoring and addressing any health-related problems arising from pica, regular check-ups are required.
- Identify nutritional deficit.
- To reduce stress, anxiety and other psychological factors provide them counselling.

Causes and Management Strategies- Understanding pica in individuals with mental health conditions:

Understanding pica in individuals with mental health conditions includes various factors that contribute to this behavior, as well as strategies for management. A brief discussion is provided below-

Causes of Pica in Individuals with Mental Health Conditions

Deficiencies in nutrients including iron, zinc, or calcium may cause people with mental health problems to crave non-food items. Obsessive-compulsive disorder (OCD), autism spectrum disorder (ASD), schizophrenia, & intellectual disability can contribute to pica. It can serve as a coping mechanism for stress, anxiety, or emotional distress. Some people with mental health conditions may have heightened sensory experiences, leading them to seek out specific textures or tastes that non-food items provide. Staying in an environment where non-food items are accessible or normalized, or social factors that strengthen pica behavior,

may affect individuals with mental health conditions.

Causes of Pica in Individuals with Mental Health Conditions	Percentage(%)
Nutritional Deficiencies	25%
Psychological Factors	35%
Sensory Sensitivity	15%
Environmental and Social Factors	25%

Risks Associated with Pica

Intake non-food items can lead to bowel obstruction, dental problems, poisoning and other serious physical health complications. Pica can deepen existing nutritional deficiencies or lead to imbalances, further impacting overall health. Consuming toxic or sharp substances can result in physical harm, such as cuts, wounds or poisoning.

Management Strategies

- Identifying underlying medical conditions, nutritional insufficiencies, or psychiatric disorders that lead to pica requires comprehensive assessment by healthcare professionals.
- To address the underlying causes of pica and reduce the urge to eat non-food items Cognitive- behavioral therapy (CBT) and behavior modification techniques can be effective.
- Provide education to caregivers and providing support to families to understand and manage pica behaviors effectively.
- Identifying nutritional deficiencies through dietary adjustments or supplementation under medical supervision.
- Limiting access to non-eatable items and creating a safe living environment to reduce opportunities for pica.

Prevalence and Detection

The specific prevalence of pica is difficult to define due to inconsistent definitions in research and the tendency of healthcare providers to overlook it. Symptoms often go

undisclosed, especially in young children, leading to under diagnosis. Moreover, behaviors in children may not be classified as pica, as they typically resolve on their own.

Health Implications of Pica

Pica can lead to various health complications depending on the types of non-food items intake. While some behaviors, such as eating ice, may be benign, others can result in serious issues:

- Chewing on hard objects can harm teeth (Dental Damage)
- Ingesting hair or large non-food items can cause intestinal obstruction.
- Consuming dirt or feces can lead to infections.

Psychological Impact

Due to feelings of shame or embarrassment, individuals with pica may be reluctant to seek help. This psychological burden complicates the condition, making it essential for healthcare providers to approach the issue sensitively.

Symptoms of Pica

The primary symptom of pica is the compulsive consumption of non-food items. Individuals may develop preferences for specific substances, ranging from chalk and dirt to more unusual items like paint chips and laundry starch.

Factors behind Pica

While the specific cause of pica remains unclear, several risk factors have been identified:

- Cultural Practices: Some cultures accept certain types of pica, such as eating clay or soil for nutritional deficiencies.
- Nutritional Deficiencies: Deficiencies in iron, calcium, or zinc may lead to pica behaviors.
- Psychological Factor: Stress, anxiety, or childhood trauma may contribute to the development of pica as a coping mechanism.

Diagnosis and Assessment

Diagnosing pica requires meeting specific criteria:

- **Duration:** The behavior must persist for at least one month.
- **Mental Development:** The individual should possess the cognitive ability to distinguish food from non-food.
- **Exclusion of Cultural Norms:** The behavior should not be explained by social or cultural practices.
- **Missing of Other Disorders:** Pica should not be primarily attributed to other medical or psychological conditions.

Diagnostic Tests.

To identify health complications related to pica, such as infections or electrolyte imbalances, internal damage etc. diagnosis is required, which may involve lab test.

Treatment and Management

Treatment for pica varies depending on individual situation. In children and pregnant individuals, pica often resolves on its own. For others, therapy is crucial. Therapeutic options may include:

- **Behavioral Therapy:** Teaching coping strategies to replace pica behaviors.
- **Aversive Conditioning:** Encouraging avoidance of non-food items through mild negative reinforcement.

Living with Pica

For those affected, maintaining open communication with healthcare providers is vital. Discussing pica candidly can facilitate better understanding and treatment. Additionally, removing access to non-food items may help reduce compulsive eating behaviors.

Coping Strategies with Pica

There are many strategies to help people make them empower with pica and try to help them to reduce stress and develop

coping skills when dealing with specific problems. Specific strategies, such as chewing gum, avoiding non-eatable items that you crave can all be helpful coping strategies.

Some examples for parents of autistic children include the following:

- Placing your hand on top of the child's hand so that the child cannot eat the non-eatable items or can blocking their hands. This strategy is helpful to reduce pica for some children.
- Regular time intervals can provide the child with alternatives to eating nonfood items.
- Positive reinforcement, such as toys, can be given when children avoid from pica behaviors. Reward is a proven procedure to help parents change a child's undesirable behaviors.

Conclusion

Pica, though often benign, can lead to serious health consequences if not addressed. Understanding its psychological underpinnings and health implications can empower individuals and healthcare providers to approach the disorder with compassion and effectiveness. As research continues, increased awareness of pica will enhance diagnosis and treatment, supporting individuals in managing this complex condition.

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Narcissism & Narcissistic Personality Disorder: An Interlacing Threads of Self-Obsession

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*"For the most part people are not curious except about themselves."
John Steinbeck*

In 1898, British essayist and physician Havelock Ellis was the first to recognize narcissism as a mental disorder characterized by pathological self-absorption. This disorder is marked by an exaggerated self-image, a preoccupation with fantasies, an unusual calmness and composure that is disrupted only when their self-confidence is challenged, and a propensity to exploit others for personal advantage. The word "narcissism" comes from the myth of Narcissus, who was captivated by his own reflection. Sigmund Freud noted that narcissism is a typical stage in child development, but it is considered a disorder if it continues beyond puberty.

In personality psychology, narcissism is one of the three negative traits that make up the "dark triad," along with Machiavellianism and psychopathy. The Diagnostic and Statistical Manual of Mental Disorders (DSM), in its fifth edition published in 2013, describes narcissism as featuring traits of grandiosity and attention-seeking, along with notable impairments in personality functioning. These impairments include an excessive reliance on others to regulate self-esteem, a belief in one's own exceptionalism, impaired empathy, and predominantly superficial relationships. These traits tend to remain consistent over time and are not mainly caused by medical conditions, drug use, or developmental stages. Researchers have identified a milder form of narcissism known as the narcissistic personality type. Individuals with this personality type exhibit many or all traits of narcissistic personality disorder but still fall within the typical range of

personality.

Individuals with NPD are obsessed with sustaining an overly positive self-image. They are hyper focused with receiving flattering evaluation from others and react with intense emotions, either positive or negative, depending on whether they succeed or fail in gaining others' admiration. Narcissists seek positive validation and actively manipulate others to elicit or coerce praise. As a result, narcissism is viewed as a persistent method of managing self-esteem through interactions with others.

The Narcissistic Personality Inventory (NPI) is the most commonly used self-report questionnaire for diagnosing narcissistic personality traits. The NPI assesses narcissistic traits through forced-choice items, where respondents select which of two statements better reflects their own characteristics. For instance, they may choose between the statements "People consistently acknowledge my authority" and "Holding a position of authority isn't particularly important to me". Higher NPI scores are indicative of narcissistic behaviours such as arrogance, perceived superiority, and aggression. Persons with narcissistic personality disorder generally achieve higher scores on the NPI than those with other psychiatric conditions or in control groups.

The well-known ancient history of the Narcissus story comes from the Roman poet Ovid. The story emphasizes that Narcissus was a hunter known for his exceptional beauty. Many fell love with him but he rejected all of his admirers and romantic advances. One day while out hunting in the woods, he came upon a clear spring, as he knelt down to take a drink he noticed his own image in the water and fell deeply in love with the reflection of his own beauty. Narcissus was unable to leave the spring and dissipate all his time staring at his own mirror image, pining away for the unattainable love he saw in the water. Eventually he realized that he could never possess the object of his desire and that his love could never be reciprocated. Overcome with grief and despair Narcissus stayed by the spring until he wasted away and died.

The story of Narcissus serves as a powerful moral lesson across cultures and generations. It's a poignant reminder of the dangers of excessive pride and vanity. Narcissus' fate demonstrates the perils of becoming overly absorbed in one's own image and the importance of empathy and recognition of others. His story has transcended time, continuing to be a relevant and cautionary tale about the consequences of self-obsession and indifference to the feelings of others.

Psychodynamic elaboration of Narcissism

Sigmund Freud devoted an entire paper, "On Narcissism: An Introduction" (1914), to elucidating the mechanisms and dynamics of narcissism. In this work, he profoundly explored its connection to libido and its effect in the psychosexual development of an individual.

The group of psychoanalysts were the another body to clarify the conception of narcissism, differentiating between normal egoism and self-admiration, this can be observed in both childhood age groups and in some adults, and in more acute psychopathological forms, it involves an excessive focus on and investment in one's own body. Otto Rank published the first psychoanalytic paper in 1911, focused solely on narcissism, based on his research with female patients. Rank (1914/1971) made several significant contributions in this and his subsequent work, including his view of narcissism as a form of self-conceit and self-admiration that extends beyond sexual aspects to encompass self-protective defensive functions. Narcissistic individuals, according to Rank, often depend on others for support and seek to relish in the presence of influential and powerful figures.

While Freud briefly addressed narcissism in his 1914 paper, Otto Rank considered it a normal aspect of human development. Freud's perspective on narcissism evolved over time, shifting from viewing it as a form of sexual perversion and naive thinking to identifying it "as a type of object choice, a pattern of relating to others, and a component of self-esteem." (Pulver, 1970). Thus, narcissism can be seen both as a universal stage in psychosexual development and as an aspect of self-preservation instincts, and an indicator

of pathological character. Freud's theories were grounded in observations of psychotic patients, young children, clinical data, and sexual love relationships. He first introduced the concept of narcissism in his 1910 publication, "Three Essays on the Theory of Sexuality" (1905/1957) and further explored it in "On Narcissism: An Introduction" (1914/1957). In these foundational works, narcissism was depicted as a dimensional psychological state, similar to how modern trait theorists characterize the pathological extremes of normal traits. Rank and Freud perceived narcissism as dynamic, seeing grandiosity as a defense mechanism against feelings of worthlessness or insignificance.

Despite these traits, Freud observed that such individuals often garnered admiration and attention and frequently occupied leadership roles. Notably, in this paper, Freud linked narcissism with aggression. Wilhelm Reich, a psychoanalyst, built upon Freud's observations by introducing the concept of the phallic-narcissist character. This character is characterized by traits such as self-confidence, arrogance, haughtiness, emotional coldness, and aggression. Reich further elucidated the link between narcissism and aggression, noting that narcissistic individuals often respond to emotional hurt, injury, or threats delivered with cold disdain, bad temper, or outright aggression. Reich also associated narcissism with concepts of masculinity, observing it more commonly in men, and noted that narcissistic individuals were overly fixated on the phallus.

Neo Freudian & Humanistic emphasis of Narcissism

Karen Horney (1939) characterized narcissism as a personality trait and identified various types, including aggressive-expansive, perfectionist, and arrogant-vindictive. She argued that "narcissism" should refer specifically to unrealistic self-inflation, distinguishing it from healthy self-esteem. Horney described self-inflation as excessive self-love and admiration without a solid foundation. This view aligns with the concept of morbid grandiosity as a defensive strategy in narcissism. Winnicott (1965) further elaborated on this by distinguishing between the actual self and an odd or imagined self, suggesting that narcissistic persons create an exaggerated

imagined self to protect against vulnerability. Annie Reich (1960) proposed that early traumatic experiences hinder narcissists' ability to manage their self-esteem, causing them to retreat into a grandiose fantasy world where they perceive themselves as powerful rather than weak. Narcissists often have a low tolerance for ambiguity, mediocrity, or failure, viewing themselves as either perfect or total failures, which leads to dramatic shifts between extreme grandiosity and deep despair or depression.

Nemiah(1961) expanded the concept of narcissism by defining it as both a personality type and a disorder, originating the term "narcissistic character disorder." Kernberg (1967), within his framework of borderline personality disorder, introduced the concept of "narcissistic personality structure." By 1970, Kernberg had elaborated on the pathological features of this structure, proposed a diagnostic method by overt noticeable behaviors, and distinguished among normal and psychopathological narcissism. In 1968, Kohut further refined the concept by introducing the term "narcissistic personality disorder."

Narcissistic personality disorder

Narcissistic Personality Disorder (NPD) is marked by tenacious grandiosity, an intense need for self-entitlement, and absence of compassion for others, often manifesting as disdain for others. This disorder involves a falsified sense of self-aggrandizement, driving a desire to exert authoritarianism and supervision. In contrast to healthy self-belief, NPD leads individuals to elevate themselves above others, disregarding their feelings and expecting special treatment regardless of actual accomplishments. Socially, those with NPD often display a precarious self-regard, sensitive to criticism, and argue to undervalue others to bolster their own sense of superiority.

According to the DSM-5, a person with NPD must meet at least five of the following nine criteria, usually without having the corresponding personal qualities or accomplishments to justify the respect and status they demand:

They possess an exaggerated high sense of self-importance, characterized by exaggerating their achievements and talents and expecting recognition as superior, even when their accomplishments do not warrant it.

- They are obsessed with fantasies of unlimited wealth, luxury, power, mastery, beauty, or idealized love.
- They view themselves as special and unique, believing that only other high-status or exceptional individuals or institutions can understand or deserve their association.
- They require excessive admiration from others.
- They have a strong sense of entitlement, expecting preferential treatment or automatic compliance with their demands.
- They exploit others for personal gain.
- They lack empathy and are unwilling to acknowledge or connect with others' feelings and needs.
- They often envy others or believe others are envious of them.
- They display superior, arrogant behaviors or attitudes.

Narcissistic Personality Disorder (NPD) is characterized by a consistent pattern of excessive self-importance, a constant need for admiration, and challenges with empathy. Individuals with NPD frequently fantasize about power, success, or their own appearance. Recently, there has been increased media attention on the stigma surrounding NPD, Narcissistic behaviors, which often develop in early adulthood, may be linked to abusive experiences and childhood trauma. These behaviors can manifest in various contexts.

Epidemiology

Narcissistic personality disorder (NPD) typically emerges in adolescence or early adulthood. While children and adolescents may exhibit traits similar to NPD, these traits are usually temporary and do not meet the clinical criteria for a formal diagnosis. Genuine symptoms of NPD are pervasive, evident in various social situations, and consistently rigid

over time. Severe NPD symptoms can significantly impair an individual's ability to form meaningful relationships, such as friendships, familial bonds, and marriages. According to the DSM-5, for traits to be considered symptomatic of NPD, they must substantially deviate from societal cultural norms. Individuals with Narcissistic Personality Disorder (NPD) often have a hereditary component, with their parents or close relatives potentially exhibiting similar traits or the disorder itself. Children may develop NPD by observing, imitating, and internalizing behaviors and traits from those around them. Negative childhood experiences, such as trauma, rejection, neglect, or lack of support, can also play a significant role in the development of narcissistic traits. Additionally, overprotective or "helicopter" parenting might lead children to expect and demand similar treatment throughout their lives. This type of parenting can also hinder a child's ability to understand and manage their own emotions, potentially causing difficulties with emotional regulation and resilience when faced with challenges.

Aetiology

Narcissistic personality disorder (NPD) arises from a blend of genetic, environmental, and social factors. It typically develops in adolescence or early adulthood. While children and adolescents may exhibit traits similar to NPD, these are often temporary and do not meet the clinical criteria for a formal diagnosis. Genuine NPD symptoms are pervasive, evident in various social contexts, and consistently rigid over time. Severe NPD symptoms can notably hinder an individual's ability to form meaningful relationships, such as friendships, family bonds, and romantic partnerships. Additionally, NPD symptoms can disrupt social functioning in work, school, or other key societal roles. According to the DSM-5, for traits to be classified as symptomatic of NPD, they must significantly deviate from societal cultural norms.

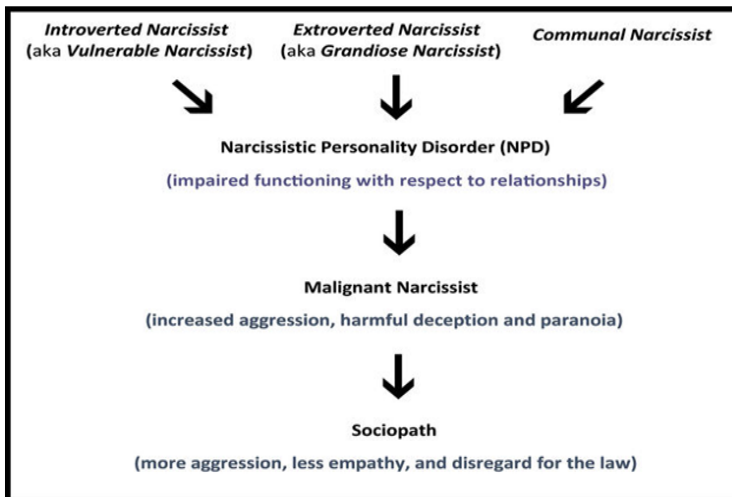
The exact importance of any single risk factor in predicting NPD remains unclear. However, cumulative risks such as childhood unpredictability and harshness, family invalidation, both permissive and authoritarian parenting styles, sensitivity to unspoken emotional cues during infancy,

and genetic vulnerabilities interacting with sociocultural factors all increase the likelihood of developing NPD.

Therapy can be particularly challenging for individuals with narcissistic personality disorder, as they frequently do not recognize their issues as symptoms, despite experiencing significant psychological dilemma. When they do seek treatment, it is often driven by problems in their lives or a need for relief from co-occurring mental health conditions or comorbidities.

This indirect path to psychotherapy is partly due to the fact that individuals with NPD typically have poor self-insight. They often fail to recognize that their behaviors contribute to their mental health issues and are unaware that their actions and perceptions are socially inappropriate, due to their inflated self-image.

Sub types



Narcissistic Personality Disorder has mainly two subtypes: overt and covert. The overt form is defined by traits such as grandiosity, exhibitionism, and a thick-skinned attitude, with behaviors that include attention-seeking, entitlement, and arrogance, often accompanied by minimal visible anxiety. On the other hand, the covert form is characterized

by vulnerability, hypersensitivity, and an introverted, thin-skinned demeanor. The overt type is depicted by egotism, attention-seeking behavior, entitlement, and arrogance, with minimal visible anxiety. These individuals might seem socially charming, yet they are frequently unaware of others' needs, exploitative in their interactions, and harbor feelings of resentment. On the other hand, the covert type is very sensitive to others' evaluations and criticism, often displays inhibition and visible distress, and presents as outwardly modest.

Covert narcissism is more closely associated with introversion and neuroticism, while overt narcissism typically correlates with extraversion and higher agreeableness. Both types are highly self-focused and harbor unrealistically grandiose self-expectations. Covert narcissists tend to mask their problematic behaviors, thoughts, and feelings, whereas overt narcissists openly display classic narcissistic traits. They often come across as ambitious, demeaning, and demanding, portraying themselves as special, important, and entitled regardless of others' needs. The arrogance and self-importance of overt narcissists are evident almost immediately upon interaction. In contrast, covert narcissists share similar thoughts and feelings but express their distinctiveness in less obvious ways, making their traits harder to detect by friends and coworkers. This distinction between overt and covert narcissism has been empirically supported by at least six studies using factor analyses and correlational methods. Rather than viewing these two types as separate forms of narcissism, it is more accurate to see them as exhibiting different clinical features and orientations of the disorder, with some traits being overt and others covert. Overt narcissists frequently display exalted traits, inappropriate exposure, and self-entitlement. However, in times of failure or loss, they may experience feelings of depletion and painful inferiority. Covert narcissists often appear shy and timid but reveal exhibitionistic and grandiose fantasies upon closer contact. Narcissism can also be categorized into three levels of functioning: high, middle, and low. High-functioning individuals use their talents to gain the admiration necessary to meet their grandiose needs, potentially functioning well

throughout life but becoming vulnerable to breakdowns as their desires remain unmet. Middle-functioning patients exhibit typical NPD traits with a grandiose sense of self and limited genuine intimacy. Low-functioning patients, often comorbid with borderline personality disorder, have a more unstable and diffuse sense of self, leading to oscillations between pathological grandiosity and suicidality, resulting in a more chaotic lifestyle. Malignant narcissism, a severe form of NPD, includes antisocial behavior, paranoid tendencies, and a propensity for deriving pleasure from aggression and sadism. These individuals are at high risk for suicide, which may be a form of sadistic control, a rejection of a denigrated world, or a display of mastery over death. Distinguishing noxious narcissism from NPD, as well as from antisocial, paranoid, and borderline personality disorders, is crucial.

Comorbidity

Narcissistic personality disorder (NPD) frequently coexists with so many psychological illnesses. Individuals with this disorder often experience episodes of psychological depression that can meet the clinical symptoms for a comorbid dysthymic disorder. Additionally, NPD is commonly associated with mood disorder and substance use disorders.

The current DSM-5 does not consider Narcissistic personality disorder (NPD) as one of the five important personality disorder types. Instead, its features are now integrated into three elements of the diagram: levels of personality dynamics, general personality ailments, and personality traits. The definitive classification of NPD in the DSM-5 is still pending further research and ongoing scientific debate. Regardless of its DSM-5 classification, research on narcissism will continue. Despite its long history and significant impact on understanding clinical phenomena and societal trends, narcissism has only recently started to receive the attention it merits. While the incorporation of NPD in DSM-III initially induced a surge in academic experimentation interest, this interest has since plateaued (Konrath, 2008). Nonetheless, findings from clinical psychology, psychiatry, and social-personality psychology indicates that a more thorough examination of narcissism is necessary.

Malevolent Dark Triad: Relational Aspects of Narcissism

Individuals with narcissistic traits frequently struggle to maintain interpersonal relationships in various aspects of life, such as at home, at work, and within the community. These relationships can sometimes be emotionally abusive. The cycle of narcissistic abuse begins with idealization, followed by devaluation, and continues until the narcissist discards the person once they are no longer useful. This cycle can be emotionally devastating, making it crucial to recognize the signs when it is occurring.

Narcissistic Ghosting:

Narcissistic Ghosting is another domain, which is often employed as a form of emotional manipulation and a power play by individuals with narcissistic traits. The narcissist might use ghosting to punish, control, or disorient another person. Narcissists often resort to ghosting as a control mechanism and a reflection of their self-centered nature. This behavior can be perplexing and hurtful for those on the receiving end. This behavior can be especially hurtful because it often leaves the other person feeling confused, abandoned, and emotionally devastated. Narcissists may engage in ghosting for various reasons, which are often rooted in their personality traits and desire for control and validation.

Narcissists often seek to have their needs met through relationships with others, using them as sources of admiration, validation, and control. This can lead to dysfunctional and one-sided relationships where the narcissist's needs consistently take precedence.

Manipulation and Control

Highly narcissistic people are motivated by their need for attention, admiration, and control. Ghosting can be a manipulative technique employed by narcissists to keep the other person emotionally entangled, positioning the narcissist as the one who has control over the dynamic.

The sudden withdrawal of attention and affection can leave the person feeling insecure and eager to please the narcissist, thereby boosting the narcissist's ego and sense of self-

importance.

Avoiding Confrontation

Narcissists often avoid uncomfortable conversations, criticism, or accountability for their actions. Ghosting allows them to sidestep these difficult discussions and avoid taking any responsibility for the consequences of their behavior.

Discard

Discarding refers to the instantaneous and often uncaring abandonment or ending of a relationship by a narcissist. This abandonment can happen suddenly, leaving the other person feeling confused and hurt.

Narcissists might even reject a partner when they identify a new source of admiration or validation. This cycle of discarding and seeking new “supply” is characteristic of many narcissistic individuals.

Why do narcissists ghost?

Here are key reasons why narcissists might choose to ghost:

- Ghosting allows them to assert dominance and control over the relationship.
- Narcissists may ghost to avoid difficult conversations or accountability.
- They might use ghosting as a way to punish or manipulate someone for not meeting their expectations or needs.
- If they no longer find the relationship beneficial or stimulating, they may simply move on without explanation.
- Narcissists often ghost when they have found a new person to provide the attention and admiration they crave.
- Despite their outward confidence, some narcissists ghost to avoid emotional intimacy and vulnerability.



Narcissist Hoovering:

Coined after the Hoover vacuum, “hoovering” is a manipulative tactic used by narcissists to draw you back into their lives and regain control over you. This draining dynamic reinforces a toxic cycle of idealization, devaluation, and discardment. Hoovering, a hallmark of toxic relationships, manifests in various ways with the aim of re-engaging and controlling the person, similar to a fisherman casting a line or a puppeteer manipulating a puppet.

Hoovering disrupts your life by shifting your focus back to them and their internal world, hindering your own healing process. While it may seem subtle, it is a significant power play. At its core, hoovering is a manipulative strategy designed to entice you into renewed contact and reintroduce you to a tumultuous relationship characterized by extreme highs and lows.

This tactic is commonly used by individuals with narcissistic, borderline, antisocial, or histrionic personality disorders. It is generally abusive, intended to capture the victim’s attention. If an unsuspecting individual cannot see through the partner’s motives, they may be deceived by their words or promises.

When a relationship with a narcissist ends, it can bring up uncomfortable feelings that the narcissistic partner may not be emotionally equipped to handle. To avoid facing this

discomfort, narcissists often instinctively reach out to their former partner – who typically has empathy and sensitivity – using a tactic known as “hoovering.” This behavior is driven by their desire to avoid pain and redirect it elsewhere. While they may care about you as a person, their primary concern is what you can provide to fill their own sense of emptiness, as they are unable to fulfill it themselves.

However, not every instance of an ex reaching out is hoovering. There is a crucial difference between contacting an ex to rebuild healthy communication and reaching out with a self-serving agenda. The latter prioritizes the narcissist’s needs over genuine mutual exchange, indicating an imbalance rather than a fair and reciprocal interaction.

NarcissistBreadcrumbing:

Narcissistic breadcrumbing is a strategy where someone offers minimal communication to maintain the other person’s interest – departing “breadcrumbs” – while avoiding deeper engagement or the development of a genuine relationship. They make enough contact to hint at the possibility of a genuine connection while keeping the other person longing for more.

Characteristics of breadcrumbing behaviours in a relationship:

- Texting, emailing, or direct messaging occasionally but avoiding requests to spend time together.
- Commenting on social media posts without engaging in direct communication.
- Being attentive and flirtatious in person but not making plans to meet again.
- Sending memes via text or social media without further interaction.
- Texting frequently without actually getting to know each other.
- Making vague plans that never materialize.
- Showing interest one day and disappearing the next.

- Displaying a primary interest in sex.
- Making you feel guilty or responsible for issues in the “relationship” when you question it.
- Exhibiting inconsistent communication, such as not responding to texts but reaching out on Snapchat.

Narcissist Triangulation:

Narcissists often employ triangulation, a manipulation tactic that involves introducing a third party—like a friend, family member, ex-partner, colleague, or even an imaginary figure—to stir conflict in relationships. This method enhances the narcissist’s ego, allows them to maintain control, and feeds their need for admiration. The consequences of narcissistic triangulation can be deep and enduring, leading to considerable emotional and psychological damage. Overcoming this manipulation necessitates time, patience, and self-reflection, along with effective strategies to help victims regain their self-worth and reconstruct their lives.

Narcissists fear intimacy, vulnerability, & abandonment

Many professionals struggle to differentiate between borderline personality disorder and covert or vulnerable narcissism because narcissists, despite their unconscious fear of abandonment, also fear enmeshment or being controlled by others. Consequently, covert narcissism is considered a subtype of narcissistic personality disorder. Both NPD and BPD, especially covert narcissism, share several common traits or comorbid features.

At the heart of these disorders lies a profound fear of abandonment. Narcissists often place their own needs, desires, and sense of self-importance above others’. This fear may stem from experiences of abandonment, constant demeaning, or rejection by a primary caregiver in childhood, or feeling devalued by a parent. Because this fear is deeply buried, narcissists often deny its existence, whereas individuals with BPD are generally more aware of their deep-seated fear of abandonment. To counteract this fear, narcissists develop a facade of grandiosity or machismo and deny their reliance on others. This “false self” often obscures their true self, which

is an immature, fearful child dependent on others for love and affection. When a narcissist disregards you, it signifies hurt, but they avoid revealing their vulnerable, scared inner child due to fear of negative outcomes like abandonment. By remaining silent, they protect themselves from vulnerability and avoid showing that they are hurt.

Case Study on Narcissistic Personality Disorder

“Malicious Self Love- Narcissism Re-evaluated”

Dr. Paul was referred by a friend of him for psychological consultation, He was an attractive, handsome, unmarried man in his late 30s, who looked slightly younger than his chronological age and by profession he is a Professor. According to the case history, his father was an army officer and mother was housewife, and he had one younger sibling. In childhood his parents were emotionally distant, physically abusive, indifferent to him while he was growing up. He was always told to be an achiever in his field, and became dependent on his mother for decision making, or making any kind of choice, his mother was overly involved in her son's business, including his friendship, his wardrobes, his finances. After growing up, he was involved in multiple romantic relationships, and sexual activities. But in all of those relationships he felt a severe commitment issues from his end and those relationships were not long lasted.

He had presented the symptoms of having a grandiose self-image, as he considered himself as a beautiful charming talented person, expecting others to give him special treatment and attention, exploited others for personal gain. According to the informant he lacks empathy, unwilling to recognize others feelings and needs, gets bored easily, uses passive aggressive behavior, tried to seek sadistic pleasure in romantic relationships, intentionally lied to others, could not take any responsibilities, infidelity in relationships, confused about his needs and priorities, extremely manipulative, secretly gets off on other people's suffering. He was seeking always self-entitlement, indulged into selfish actions.

He was diagnosed with Narcissistic personality disorder, though he claimed that he never used counselling services,

and he is not taking any medications at the moment. His previous physical examination was a year ago, and there are no substantially important points in his medical history.

Dr. Paul was administered a semi-structured clinical interview and mental status exam. Results were unremarkable. No additional tests were administered. Treatment plan was made by conducting weekly CBT sessions, talk therapy, dialectical behavioral therapy.

Another case of an individual named Mr. Das discovered with narcissistic PD, age 48, He frequently regarded himself as above others, had a grandiose sense of self, and reported despising others, yet at his core, he had a fragile self-image. He embodied the role of the supreme care provider, which led to boredom, anger, and a lack of satisfaction in his life. The patient made an effort to oversee their own therapy, by not following whatever suggested for him. As a result, the therapy stagnated and progress was limited. During this time, the patient recognized that his actions were driven by avoidance, as he was reluctant to reveal his vulnerabilities and flaws.

Throughout the course of treatment, the patient's ability to manage emotions and engage in self-reflection improves, leading to a more integrated and realistic sense of self that aligns with healthier personality functioning.

Treatment

In the therapeutic field, individuals with NPD, often without apparent symptoms, typically seek treatment because of severe emergencies triggered due to occupational, vocational, personal, or social breakdown or losses. Patients may seek help due to demands or family mandates, employers, or the court, or due to a growing feeling of dissatisfaction or lack of meaning in their lives. The degree of motivation can vary significantly, influenced by the urgency of the situation and the presence or absence of external support that may reinforce their self-centered attitudes and behaviors.

It is very difficult and challenging to build therapeutic alliance between patients with NPD and therapist, narcissistic

individuals may display a range of behaviors, from critical, avoidant, or dismissive to engaging, articulate, and seductive. Therapists frequently observe that the functioning of narcissistic patients often diverges from their own self-perceptions or understanding of their problems. While certain elements of narcissistic pathology may be more obvious, patients might initially be unaware of, unable to address, or unwilling to confront these issues. Conversely, patients may be keenly aware of and troubled by problems that others find insignificant or dismissible.

A suggested treatment approach is interdisciplinary, eclectic, flexible, and collaborative, tailored regarding the individual patient's functioning, motivation and level of self-projection and self-reflection. It is important to manage the patient's tendency to reject or devalue the therapist and withdraw from treatment while also encouraging them to confront and reflect on their emotions and behavior. The clinician should prioritize issues that the patient views as urgent and relevant and align with the patient's own understanding of these problems. Understanding that conspicuous narcissistic traits and patterns often act as protective mechanisms for the individual's vulnerable sense of self and self-reflection can inform the therapist's approach and intervention strategies.

Therapeutic interventions should be customized to address each patient's unique issues, functioning, and needs. Important considerations include the patient's motivation, curiosity, and capacity for self-reflection, along with external factors in their personal, social, or professional life that could influence treatment effectiveness. There are numerous approaches and modalities available; some are particularly designed for NPD, while others may be relevant for particular narcissistic patients but not universally applicable.

Goals of therapy for narcissism may include:

1. Identifying behaviors and traits that negatively impact a person's life
2. Exploring traumas that may have influenced one's behaviors

3. Establish emotional and interpersonal safety
4. Focus on interpersonal skill development
5. Identify and manage coping mechanisms
6. Manage self-talk
7. Learning empathy skills
8. Work to show up authentically

Therapy that focuses primarily on changing thoughts and behaviors in order to improve the overall functioning of individual with NPD is typically some form of **Cognitive Behavior Therapy**. This method specifically works to help people identify how their thoughts and feelings impact their behaviors and to give them control over choosing a new external behavior when difficult thoughts and emotions come up.

For narcissistic personality disorder, CBT can be helpful to disrupt behaviors that cause strain within their relationships. CBT can also help narcissists challenge distorted and inner beliefs about themselves that can trigger emotional outbursts and narcissistic rage.

CBT techniques include:

- **Cognitive restructuring** includes examining and challenging thought patterns and replacing them with healthier and more helpful thought patterns.
- **Journaling**: Journaling helps patients notice and keep track of thought patterns and viewpoints/beliefs, as well as an exercise to reinforce new beneficial thought patterns.
- **Situational exposure**: Situational exposure can help a person face their fears and to reduce the avoidance that worsens fears over time.
- **Relaxation/stress management exercises**: Stress management techniques are used in tandem with exposure and journaling in order to help a person feel in control of managing their emotional state during distressing feelings and thoughts.

Schema therapy combines aspects from cognitive-behavioral therapy approaches, Gestalt, and object and attachment relations theories. The schema therapy approach believes that people develop “schemas” that help them make sense of their lives and experiences, and people use these categories to determine the most likely outcomes in any given situation to save time and energy.

Since narcissism is generally considered an adaptive mental health disorder in response to genetics and childhood trauma, it can be helpful to re-examine the schemas a narcissist may develop to cope with abnormal situations in their childhood. Replacing unhelpful schemas can be a huge first step in changing how narcissists approach others and the world.

Schema therapy techniques that may be used include:

- **Limited reparenting:** Examining the parenting received in childhood and filling any unmet gaps in adulthood can help a person to make sense of and move forward from dysfunctional and toxic parenting that influenced their NPD.
- **Empathetic confrontation:** The therapist nonjudgmentally confronts maladaptive thoughts and behavioral patterns to address and reduce reactivity to narcissistic injury.
- **Guided imagery:** Imagining various scenarios and triggers as well as a person’s response to them can help a person to feel empowered to approach situations differently in the future.
- **Narrative development:** By creating a “narrative” of one’s life, one can better see how they developed certain schemas as adaptive behaviors and reduce shame and resistance to behavioral change moving forward.

The psychodynamic treatment approach for narcissistic personality disorder (NPD) aims to address the underlying emotional conflicts and self-structure issues contributing to the disorder. This approach delves into the client’s early life experiences and relational patterns to uncover how these factors shape their current behavior and self-perception. By

exploring unconscious motivations, defense mechanisms, and core self-esteem issues, psychodynamic therapy seeks to foster greater self-awareness and emotional insight. The goal is to help individuals with NPD develop healthier self-concepts, improve interpersonal relationships, and achieve a more balanced sense of self-worth, thereby reducing the maladaptive patterns characteristic of the disorder. Transference-focused psychotherapy for Narcissistic Personality Disorder (NPD) targets core elements of narcissistic behavior, such as defensiveness, aggression, entitlement, and extravagance, as well as sensitivities to envy, humiliation, shame, and inferiority. This method is well-suited for individuals who benefit from engaging in active, interactive exploration, where direct interaction and eye contact help address emotional detachment and disengagement. The approach is adaptable, adjusting to the severity of the narcissistic traits and employing a less interpretive technique for those with more sensitive personality structures.

Intensive psychoanalytic psychotherapy, for patients with more severe narcissistic symptoms, those experiencing acute consequences from these symptoms, or those requiring a more engaged, relational approach due to their character structure, intensive psychoanalytic psychotherapy is recommended, involving two to three sessions per week.

For highly motivated narcissistic patients who exhibit strong capabilities and those seeking to explore free associations, gain insight, and navigate interpersonal relationships with high emotional reactivity and endurance, psychoanalysis is recommended. This typically involves weekly four to five sessions over a period of several years.

Metacognitive interpersonal therapy, a structured treatment for NPD, initiate with a self-referential approach to establish a mutual comprehension of the client's issues. After that it promotes awareness of their own functioning and mental sets, as well as their patterns in interpersonal relationships, and signs of limited autonomy, and behavior. Change is promoted by reinforcing reality and perspective-taking, recognizing typical grandiosity, promoting a critical detachment from past behaviors, and cultivating new ways of thinking, feeling,

and interacting with others. These approaches enhance self-determination and self-sufficiency.

Three techniques like, providing mental health education, offering validation, and pinpointing target behaviors—can be particularly beneficial, particularly when integrated with psychodynamic psychotherapy as part of a comprehensive treatment plan. However, few individuals with pathological narcissism and NPD may perceive these techniques as insignificant, overly targeted, or even intimidating and disruptive, potentially leading to reactions of protest, rebellion, or premature termination of therapy.

Dialectical behavior therapy is focused on helping people to better tolerate emotional distress by developing new skills and strategies for their maladaptive patterns. Skills that a person might learn in DBT could include better interpersonal relating, mindfulness, emotional regulation, and distress tolerance, as well as identifying and replacing current unhelpful patterns.

Much of narcissists' struggles in their relationships stem from an inability to handle distress without high levels of reactivity from narcissistic injury, as well as manipulative and exploitative behavior patterns to meet their needs. DBT can help people with NPD to recognize these patterns, better handle the internal distress and shame they may experience, and respond to others in less destructive way.

Psychoeducation, drawing from DBT principles, all this approach leverages can enhance the comprehension of motivational incentives and explores emotional and intrapsychic experiences to enhance narcissistic patients' internal control and sense of agency. It aims to alleviate their fearfulness of the unknown, loss of having control, and complex emotions and psychological processes. Additionally, it induced encouragement in the patients' motivation and bravery to engage more deeply in treatment, grasp its purpose, and explore underlying emotions and conflicts.

When combined with individual treatment, group therapy can offer corrective opportunities to address issues such as embarrassment, self-reliance, neediness, estrangement, and self-centered illusions. The team setting can progressively

promote and enhance interactions among members, providing chances to cultivate and practice self-forbearance. However, managing the needs of individual members alongside the group's overall needs can pose challenges for both the patients and the group leader.

Psychiatric medication therapy can be propitious for concurrent Axis I conditions, including mood disorder, major depression, or anxiety disorders. Nevertheless, individuals with these conditions are often highly sensitive to side effects, particularly those impacting sexual and cognitive functions, which can result in treatment resistance. Currently, there is no precise therapeutic medication proven to effectively address pathological narcissism or narcissistic personality disorder (NPD).

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Importance of developmentally age-appropriate learning during early stages of Neural Plasticity: Toys as Tools

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Abstract

Neural plasticity refers to the ability of the brain to reorganize and modify its neural connections in response to environmental stimuli, experience, learning, injury, and disease processes. The first thousand days of life represent a critical window of heightened neural plasticity, during which the brain exhibits extraordinary capacity for adaptation and learning. Developmentally age-appropriate learning experiences during this period can profoundly influence neurodevelopment.

During early childhood, when the brain is highly adaptable, toys act as valuable learning tools that promote cognitive, motor, and social growth. Infants benefit from simple toys like rattles and soft blocks, which support sensory-motor development by improving grasping skills, cause-and-effect understanding, and object permanence. As children enter early childhood, engaging in pretend play with dolls, building blocks, and kitchen set toys enhances their symbolic thinking, language abilities, and creativity. In middle childhood, more

advanced toys such as puzzles, construction sets, and board games help strengthen logical reasoning, spatial skills, and executive functions. Each stage of development interacts with neural plasticity, enabling children to continuously adapt, learn, and improve their skills through play. Knowing which toy to provide when is the key here.

Developmentally appropriate learning ensures that activities align with a child's cognitive, emotional, and physical development at each stage. In infancy and early childhood, learning is primarily driven by sensory exploration, play, and hands-on activities that enhance motor skills, language development, and problem-solving. As children mature, their ability to think logically, retain information, and interact socially improves, making rule-involving games, group projects, and creative problem-solving increasingly beneficial. Adapting learning experiences to match a child's developmental stage promotes engagement, skill development, and a lifelong passion for learning.

Toys can serve as important tools to support a child's holistic developmental process. When chosen appropriately for a child's developmental stage, toys provide sensory, motor, and cognitive stimulation that promotes growth and development of the brain, facilitating neural plasticity. Toys such as soft blocks, rattles, or sensory balls help babies explore their environment and develop their senses. The tactile stimulation from touching or manipulating these objects helps form neural connections related to sensory and motor areas of the brain. This study examines the role of toys as tools for facilitating age-appropriate learning, emphasizing their potential to harness neural plasticity.

Keywords – *toys, early development, early childhood, neural plasticity, age-appropriate learning*

Introduction

Neural plasticity is a cornerstone of cognitive and behavioral development throughout the lifespan and it encompasses a range of mechanisms, including changes in synaptic strength and connectivity, the formation of new synapses, alterations in the structure and function of neurons, and the

generation of new neurons. It is extremely essential for early brain development in children. It allows the brain to rapidly adapt and form new neural connections based on previous experiences, enabling learning and skill acquisition, proper development of cognitive functioning.

This process is most prominent during early childhood when the brain is most adaptable and undergoes rapid and extensive growth and development, during which neural plasticity is particularly high, making the early stages of life crucial for cognitive, emotional, and physical development, as it establishes a strong foundation for future learning by forming robust neural connections through enriched experiences and engaging environments. Developmentally age-appropriate learning plays a vital role in enhancing neural plasticity, during early childhood. Young children have significantly higher level of neural plasticity compared to adults which suggests that a child's brain is more adaptable to new experiences and they can learn faster in order to form new neural connections and when they are exposed to age-appropriate learning activities, they contribute to the physical, social, cognitive and psychological development of the child. This developmental period highlights the need for learning activities that align with a child's age and developmental stage, ensuring that the brain's capacity for growth and adaptation is fully utilized.

Toys serve as valuable tools for developmentally age-appropriate learning by fostering cognitive, motor, and social skills at different developmental stages. When chosen appropriately for a child's developmental stage, toys provide sensory, motor, and cognitive stimulation that promotes growth and development of the brain, facilitating neural plasticity. Toys such as soft blocks, rattles, or sensory balls help babies explore their environment and develop their senses. The tactile stimulation from touching or manipulating these objects helps form neural connections related to sensory and motor areas of the brain. Selecting toys suited to a child's developmental stage supports learning, engagement, and overall growth and development.

For infants and toddlers, sensory toys, rattles, and soft blocks stimulate exploration and fine motor skills. In early childhood, building blocks, pretend play sets, and simple puzzles encourage creativity, language development, and problem-solving.

Infants:

For infants (0-12 months), toys should be designed to stimulate sensory exploration and motor development. Soft, sensory toys such as rattles, large rings, squeeze toys, teething toys, soft dolls, textured balls, plush toys and crinkle fabric toys engage a baby's sense of touch, while rattles or teething rings can help soothe gums and promote hand-eye coordination, things to play pretend with—baby dolls, puppets, toy vehicles made out of non-toxic materials, and water toys. Brightly colored toys encourage visual tracking, while unbreakable reflecting surfaces support self-recognition and visual development. These toys focus primarily on sensory development, motor skills, and early cognitive development.

Toddlers:

For toddlers (1-3 years), toys should support the development of motor skills, problem-solving, and early social skills. Simple building blocks encourage creativity and fine motor development by requiring children to grasp and stack pieces. Shape sorters are excellent for improving problem-solving abilities and hand-eye coordination as toddlers match shapes to corresponding holes. Push and pull toys also help toddlers with limb pressure, walking, balance, and coordination. Interactive books with textures or buttons promote early literacy skills while fostering a love for reading. These types of toys support gross and fine motor development, cognitive skills, and early literacy.

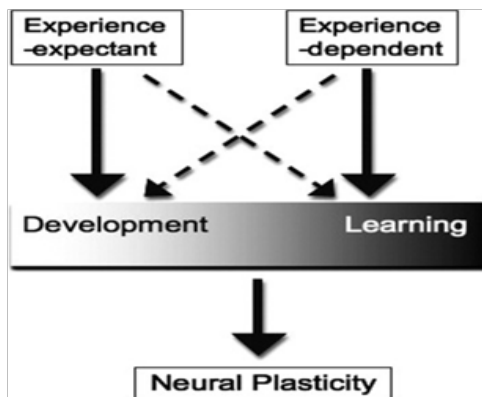
Preschoolers:

For preschoolers (3-5 years), toys should engage creativity, imagination, and further cognitive development. Art supplies such as non-toxic play doughs, washable markers, crayons, and coloring books allow children to explore their creativity while enhancing fine motor skills. Simple puzzles with large

pieces help children improve cognitive and problem-solving abilities, as well as spatial awareness. Pretend play toys, such as play kitchens, tool sets, or dolls, foster social-emotional growth by encouraging role-play and interaction with others. These toys nurture cognitive growth, fine and gross motor skills, social-emotional development, and creativity.

Understanding the significant relationship between Neuroplasticity and Developmentally Age-Appropriate Learning

The early stages of life are considered to be the critical period during which our brain is highly plastic. This postulates that it is particularly receptive to environmental stimuli and forms of neural pathways, which are crucial for developing the key skills such as language, communication, vision and motor functioning. Technological advances in cognitive neuroscientific tools such as MRI (Magnetic Resonance Imaging), fMRI (functional MRI), and electroencephalogram foster to examine connection and alteration in neural and behavioural changes. These aforementioned techniques play a pivotal role in behavioural diagnostics, as they provide elucidated, non-invasive images of the brain, its function, and neural connectivity, allowing us to investigate and identify the abnormalities.



The above picture indicates that development and learning are two interwoven constructs as they both exist on a continuum.

Each influences the neural plasticity simultaneously. From the picture it can be said that development is highly guided by experience- expectant mechanism, while it receives input from experience- dependent mechanisms. On the other hand, learning is mainly guided by experience- dependent mechanism, while it receives input from experience- expectant mechanism.

Research highlights the importance of providing young children with developmentally age-appropriate toys as they align with the developmental milestones children typically reach at various stages and can significantly enhance neural connections. For infants (0-12 months), soft sensory toys such as rattles, squeeze toys, soft dolls, and balls support sensory exploration and motor coordination. For toddlers (1-3 years), toys like simple building blocks encourage creativity and fine motor development. For preschoolers (3-6 years), art supplies such as washable markers, crayons, and colouring books allow children to explore their creativity while enhancing fine motor skills.

Significance of Sensory and Motor Exploration

Studies have highlighted the importance of providing young children with developmentally age-appropriate stimuli to optimize brain development. Developmentally age-inappropriate toys can impact a child's natural, neural development, impacting their cognitive, and motor development along with other areas of functioning. Therefore, providing young children with developmentally age-appropriate toys can optimize brain development and play a vital role in enhancing neural plasticity.

Children from infancy gradually develop cognitive, motor, and sensory skills through exploration and interaction with their environment. During this stage, sensory experiences, such as touching, grasping, and observing vibrant colors, play a crucial role in their development. Soft toys come in various textures, soft fur, and rough fabric. This enables them to comprehend the difference between what is soft and what is hard. Infants gradually develop their ability to grasp, which helps enhance their hand-eye coordination and motor

skills over time. Soft toys are often brightly colored, which attracts infants' attention and helps them gradually recognize color contrast patterns, enhancing their visual perception. Additionally, these toys serve as a safety measure, providing comfort and protection during their early, vulnerable stages of development.

Eventually when they reach toddlerhood, the toys that are provided to them facilitate them to develop autonomy, sense of accomplishment and initiation tendency. When building blocks are placed in front of them at this stage, children instinctively focus on arranging and stacking them while considering size and patterns. This process strengthens their problem-solving abilities, hand-eye coordination, and spatial awareness, contributing to their overall cognitive and motor development. They do not seek help, rather they try to accomplish it on their own, which develops their sense of autonomy and confidence. They become efficient in exploring the potential and creative sides. Fine motor and gross motor development are constantly taking place during this stage.

As children reach the preschool stage, they are introduced to crayons, art supplies, and drawing books, which foster their creative skills and enhance their memory and attention. To further enhance creative skills, they are also provided with dressing-up dolls and cooking sets. At this stage, developmentally age-appropriate toys help to stimulate problem-solving skills and critical thinking, which further supports the child in the developmental stages through lifetime.

Pretend Play:

During childhood, one of the most commonly played games was pretend play. Pretend play or role play of our role model fosters the child to develop interactive and communication skills, social responsibility, taking turn, sharing tendencies, initiative skills. It helps to develop new schemes they are developing cognitively. It improves child's symbolic thinking as they can understand better that objects and actions can symbolize many things, while navigating significant challenges. Finally, it has positive impact on their expressive

and receptive language efficiency.

When we reflect on our childhood, pretend play was one of the most common activities. Engaging in role play, often inspired by role models, helps children develop communication skills, social responsibility, turn-taking, sharing, and initiative. It also supports cognitive growth by allowing them to create and refine new mental frameworks. Additionally, pretend play enhances symbolic thinking, helping children understand that objects and actions can represent various concepts while overcoming challenges. Ultimately, it positively influences their expressive and receptive language skills, fostering overall linguistic development.

Conclusion:

During the early stages of life, when neuroplasticity is at its peak, the brain's capacity to form and refine neural connections plays a pivotal role and it is essential to capitalize on this period of rapid brain development. Therefore, developmentally age-appropriate learning is crucial for development as they are designed to align with a child's current abilities, allowing them to effectively practice and build new skills across physical, cognitive, social and emotional areas, promoting optimal learning. Knowing which toy to provide when ensures the healthy holistic development of the child. The main motive of providing children with toys is to encourage them to think critically and let them learn on their own. It can foster their intellectual capacity by improving their skills to form ideas and concepts through play. Toys develop a child's emotional intelligence, by enabling them to comprehend their emotions as well as others. In a nutshell, developmentally age-appropriate toys improve a child's cognitive, language, motor and interactive skills as he learns how to develop holistically as a fully functioning individual.

Additionally, adequate nutrition, warm and responsive caregiving and/or parenting, free-play opportunities, etc. contribute significantly to the holistic development of children.

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Impact of Workplace Inclusion on The Psychological Well-Being of Employees with Disabilities

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Abstract

Workplace inclusion has become a vital organizational strategy to provide equal opportunities and promote the psychological well-being of workers with disabilities. Although there are increasing attempts to facilitate inclusion, research on its particular effects on psychological well-being is still limited. The current literature review aims to explore how inclusive practices – reasonable accommodations, social support, and inclusive culture – contribute to outcomes such as stigma reduction, stress relief, emotional well-being, and job satisfaction among workers with disabilities.

This overview combines evidence from various studies to critically analyze the connection between workplace inclusion and psychological well-being. Empirical findings underscore that inclusive leadership, disability-awareness programs, and flexible working arrangements vastly decrease stigma and daily hassles, promoting psychological safety and stress management. Moreover, customized mentorship programs and employee resource groups promote emotional resilience and job satisfaction.

The review further discusses intersectionality, highlighting the added difficulties confronted by workers holding multiple marginalized groups, e.g., women with disabilities, and the necessity for specific inclusion attempts. Lastly, the research delineates ongoing hurdles, i.e., stigma, uneven policy enactment, and not investing in aid technologies, that

undermine the efficacies of inclusion strategies in workplaces.

The implications highlight the importance of workplace inclusion in creating a supportive climate, mitigating emotional distress, and enhancing overall well-being for employees with disabilities. The review recommends empirical research to establish clear frameworks for best practices in inclusion.

Keywords: *Workplace inclusion, psychological well-being, employees with disabilities, stigma mitigation, inclusive culture.*

Introduction

Workplace inclusion has emerged as a top priority for organizations working to build fair environments that include employees with disabilities. In addition to legal requirements and corporate diversity efforts, workplace inclusion is important in influencing the psychological well-being of employees. When organizations have inclusive cultures, employees with disabilities have higher levels of job satisfaction, lower levels of stigma, and more chances for professional development. Yet, whereas inclusion is so fervently championed, its clear-cut effects on psychological well-being—specifically in terms of stress management, emotional resilience, and overall mental health—are so far underemphasized.

The significance of workplace inclusion reaches beyond minimal accommodations; it incorporates a wide set of practices ranging from reasonable accommodations to social support systems, flexible work arrangements, and inclusive leadership. All of these interact synergistically to enable an environment that makes employees with disabilities feel included and empowered. Current research indicates that inclusive leadership encourages an acceptance culture, while disability-awareness programs break down stigma and foster a more empathetic workplace. Furthermore, mentorship schemes and peer support groups offer employees with disabilities the support and motivation needed for career progression and emotional resilience.

In spite of these advantages, workplace inclusion continues to be faced with a number of challenges. Most employees with disabilities experience enduring stigma, variable policy application, and workplace microaggressions that have negative impacts on their mental health and performance. Additionally, inclusion strategies commonly do not target intersectionality—overlapping marginalization experiences of employees with disabilities who also have other minority groups, like women, racial minorities, or LGBTQ+ status. Such people could experience added layers of discrimination and need custom-tailored inclusion strategies that understand their distinctive issues.

In addition, the international workplace inclusion landscape is extremely uneven. While there have been robust policy frameworks for the promotion of disability rights and access to the workplace in some nations, others have yet to manage policy implementation or social acceptance. To create solid inclusion strategies that can be fitted into various legal and cultural landscapes, it is essential to be aware of such global disparities.

This literature review consolidates salient findings regarding workplace inclusion and its psychological impacts, noting improvements and challenges overcome. Through an examination of issues including stigma reduction, stress management, job satisfaction, emotional well-being, and intersectionality, this review seeks to present a better understanding of how practices of workplace inclusion impact employees with disability. Ultimately, the results underscore the importance of more robust, evidence-based systems that center on inclusion as an integral aspect of workplace well-being.

Workplace Inclusion and Stigma Mitigation

Along with many other workplaces, a significant number of company employees who have a disability tend to face considerable stigma problems. Such stigma tends to damage their psychological state, lower their satisfaction with the job, and curtail their chances of promotions. The belief that employees with disabilities are less competent or require

special assistance tends to foster hostile and uncomfortable conditions of work. Inclusion in the workplace can change the situation. Breaking down acceptance gaps, understanding, and inequality will foster an environment that offers disabled employees the support they need. In this part, we discuss the importance of the stigma and its mitigation through inclusion, with the help of workplace accommodation, awareness programs, and inclusive leadership.

Stigma and Workplace Accommodations

Schuret al. (2014) have noted that one of the easiest methods of mitigating stigma is through workplace accommodations. These are modifications or adjustments made to an office setting to ensure that employees with disabilities are provided with a reasonable opportunity to prosper. These may include adjustable workstations, assistive technology, and flexible working hours.

The implementation of these measures helps to improve overall productivity and morale in the workplace, as these accommodations foster a culture where everyone's needs and requirements are respected. Employees with disabilities tend to feel less 'different' and are viewed as equally capable professionals. These measures aid in addressing the dip in feeling "normal" when we consider "common" work settings. The feeling of "normal" encompasses a wide variety of measures. The use of comfortable chairs or ergonomic computers for 'comfortable' work assist the employee. Essentially, these measures help normalize work environments for those who would otherwise have difficulties functioning.

This measure aims to redefine the expectations set against employees with disabilities and the barriers within disability measures. Offering such support helps shift the perception that with disability comes incapability. Once the stigma around being disabled, employees are able to perform constructively, a change in focus from the employee's disability to their capabilities with positive work attitude begins.

The Effectiveness of Awareness Programs on Combating Biases Against Individuals with Disabilities

As stated by Kulkarni and Lengnick-Hall (2011), sensitivity training and awareness programs can have a profound impact on how employees view and interact with co-workers having a disability. These programs involve informing employees about the nature of disabling conditions and how they can assist in integrating these individuals into the workplace. Most of the negative attitudes employees possess toward persons with disabilities are not malicious, but rather stem from ignorance or lack of exposure to disability matters.

Awareness programs are developed to accomplish that through providing practical information about disabling conditions such as disability etiquette, legal and workplace rights, and the benefits of a discrimination-free work environment. They also challenge the myths and stigma, which are often associated with disability. By teaching the employees respectful ways of interacting with their colleagues who have disabilities, the employees become more accepting and less critical of those who are differently abled.

These programs foster a culture of empathy, which is equally important. These employees are more receptive to their disabled colleagues and are supportive of their coworkers suffering from discrimination.

Stigma Reduction and Inclusive Leadership

As stated by Shore et al. (2018), leadership has been identified as one of the most influential inclusiveness factors of an organization. Inclusive leaders are those who proactively support equal opportunity and the recognition of all employees' diverse abilities. The adoption of inclusion by leaders speaks volumes by acknowledging employees with disabilities as valued members of the team.

It is known that inclusive leadership is one of the most prominent sets of abilities because a leader is the primary source in which the organizational culture stems from. A leader who embraces inclusive, comprehensive recruitment, an open office layout, and uncontested policies will build

motivation for the entire organization. Employees with disabilities are enabled to fully participate in the workplace when their leaders endorse them both overtly and covertly, which assures that policies respect employees' dignity and citizenship.

In addition, inclusive leaders tend to provide a safe environment for their employees to air their worries revolving around their disabilities. Leaders foster open communication channels, showing how much they value their employees and that they're ready to take the necessary steps to improve their employees' situations. This approach to leadership helps to combat feelings of loneliness, raise employee satisfaction levels, and allow employees who suffer from some disability to feel as if they are part of the organization.

Inclusion in the Workplace and Daily Stressors Experienced by Employees with Disabilities

Individuals living with a disability face daily hustle challenges that are both physical and mental in nature. On a micro scale, these hurdles may not seem severe, but cumulatively, they greatly impact a person's mental health. The constant stressors, if not managed or taken care of, can lead to complete exhaustion. On the other hand, workplace inclusion can reduce and even alleviate these hurdles entirely. It encompasses putting systems in place to ensure that employees with disabilities are understood and supported in order to do their jobs to the best of their abilities while eliminating added obstacles that inhibit them from performing. In this part, we will examine the impact of microaggressions and flexible work on disabled employees, and how fostering inclusion can greatly relieve the burden on them.

Workplace Micro-aggressions and Stress

Microaggressions are not having the intended aggressive motivation behind them, but their impact greatly affects employees. Shore et al. (2018) discuss how employees with less severe challenges can be faced with microaggressions through mundane daily activities like talking, making assumptions, or even through quietness, and tend to feel alienated at most and excluded at least.

For example, it could be something as simple as a coworker overlooking an employee's ideas or assuming they can't handle certain tasks because of their disability. These small but impactful acts can erode confidence, creating a work environment that feels more like a daily struggle than a supportive space. Over time, this constant stress of dealing with microaggressions wears on the mental health of employees with disabilities, leading to feelings of isolation, frustration, and even anxiety.

The good news is that these challenges can be mitigated through workplace inclusion efforts. When organizations create spaces where disability awareness is a priority and encourage respectful communication, employees feel like they can show up as their authentic selves without the fear of being judged or misunderstood. By educating coworkers about how to recognize and avoid microaggressions, companies can help build a culture that values diversity and reduces unnecessary stress for everyone.

How Flexible Work Arrangements Can Help to Reduce Stress

Another way that daily stresses can be reduced is through flexible work arrangements, which is of utmost importance as pointed out by Luntamo and Rentschler (2021). Foster and Wass (2013) point out that people with disabilities appreciate the ability to work from home or even set their own hours as a great benefit. For example, commuting to a job can be tedious for one with a disability, but the option to set hours that correspond with when one is able to handle additional stress helps a great deal.

As an example, an employee suffering from physical disabilities or chronic conditions might find commuting to and from the office extremely painful, especially when coupled with long travel times and office inaccessibility. Having the option to work remotely or to set a schedule that corresponds with their energy levels can help a great deal. It assists them in eliminating the anxiety of dealing with a physically taxing commute. At the same time, it allows for the construction of a work environment which best caters to their

personal requirements.

Additionally, having control over the workday allows employees with disabilities to manage their physical and emotional well-being more effectively. For instance, someone who experiences chronic pain can pace themselves through the day, taking breaks when necessary, without feeling like they're falling behind. The ability to work in a way that's best for their body and mind reduces overall stress, allowing them to contribute fully at work without burning out.

Inclusion in the Workplace and Job Satisfaction

Satisfaction in a job is crucial for workplace productivity, retention rates, engagement levels, and overall satisfaction. This is even better for employees with disabilities, whereby feeling included and valued has a significant impact on their productivity levels. Inclusion, when implemented fully and sincerely, always comes with a positive work experience whereby employees feel valued and respected. This part of the paper will analyze the role of mentorship and disability-friendly HR policies in fulfilling the job satisfaction gap for disabled employees. In addition, how these measures can facilitate a more conducive working environment will be expounded upon.

Impact of Mentorship on Job Satisfaction

Kulkarni and Lengnick-Hall (2011) remarked that employees with disabilities who participated in mentorship programs designed specifically for them reported higher levels of job satisfaction. These programs are intended to provide more than simply professional advice; rather, they are intended to help in broader areas such as skill acquisition and development, all the way to crucial emotional support.

Employees with disabilities are often confronted with problems that other employees may not understand, creating barriers to career growth and networking. This can be especially difficult considering people with disabilities are often seen as a challenge on their own and end up suffering greatly in silence. Mentees,

By connecting employees with mentors who understand both the professional landscape and the specific challenges faced by individuals with disabilities, these programs create an environment of mutual respect and trust. Mentors help guide their mentees through career hurdles, introduce them to networks that might otherwise be out of reach, and provide advice on how to advocate for the accommodations they need. For employees with disabilities, having this kind of support can make them feel more secure in their roles and more confident about their future career prospects. Ultimately, this leads to higher levels of job satisfaction, as employees feel empowered and supported in their professional journey.

Disability-Inclusive Work Policies and Job Satisfaction

Using the approach proposed by ME Ezerins et.al (2024), the authors analyzed how job satisfaction correlates with disability-inclusive HR policies. The research participants showed that employees with disabilities have higher levels of job satisfaction and commitment to the organization if it is perceived that disability inclusion is actively sought in their organization.

An illustration of HR policies that encourage disability inclusion includes appropriate selection and recruitment, plus accommodating provisions and aids in the execution of the duties. These policies enable fair employment for persons with disabilities and their subsequent support during employment. Pay equity, adequate working conditions such as flexible hours, and supportive work environments together with attention to diversity in the organizational structure all project the organization's desire to foster diversity and inclusion.

The workers who have a disability appreciate the organizational measures and policies put in place to ensure fairness in treatment of all employees and above that, support their specific needs for their position at hand, and feel secured and valued. Hence, this significantly enhances their job satisfaction which leads to the increased perception of belongingness. Employees who feel understood in terms of their individual needs are more likely to become engaged and

committed to their work and the organization.

Improving the Environment of the Workplace and Reducing Stress

Stress has become part of the daily routine of most employees. Nevertheless, for employees with disabilities, stress can sometimes be higher because of factors like unaccommodating workplaces, the burden of ongoing advocacy, or simply the exhaustion that comes from having to endure challenges that others do not see. Fortunately, the stress relief that can be provided by inclusive workplaces is enormous. Inclusion is about building a culture where employees are actively listened to, protected, treated, and given power. This part will analyze two major elements that aid employees with disabilities in coping with stress: peer support groups and flexible work arrangements.

Peer Support Groups and Their Functions in Coping with Stress

Suppose you are in a workplace and you have a problem to solve, but you know there are others who will understand what you are going through. That's what colleagues' support networks are meant to provide for disabled workers. These are Campbell et al.(2024) reasons why these networks should be encouraged among staff with disabilities: to enable stress relief. Employees with disabilities who belong to a peer community have the opportunity to interact with others who face similar challenges.

Having the chance to be a part of a community where you can share stories, speak about your struggles, and also celebrate your achievements is extremely powerful. Peer support networks are not all about expressing frustrations – they also offer guidance and informal counselling to help alleviate the pressures that come with work. For anyone with a disability, having a tough moment can be made much easier by simply having a mentor or a peer to turn to. These networks provide a non-threatening environment where employees feel cared for, which automatically helps to reduce stress or isolation.

From conversations around physical barriers, through work accommodations, to microaggressions, employees can share and learn from each other. Keeping in mind that there is a group that understands and can provide practical advice eliminates stress for many employees with disabilities. Employees that are struggling with stress are better equipped to face the challenges if there is someone to help them through the situation. With this type of emotional support, employees are willing to remain optimistic during challenging situations.

Hybrid Work Patterns as a Strategy for Lowering Levels of Stress

Study reveals benefits of hybrid working for disabled workers but some fear choice between health and career progression. Researchers discovered these adaptive working methods, which allow workers to split their time between remote work and office work, and discovered that the hybrid work model can lower stress levels, particularly for employees with disabilities. The researchers also emphasize the growing importance of hybrid work models in today's economy. As commuting to work increasingly becomes challenging for most people, More and more, it's emerging as one of the most problematic stressors for workers. The daily struggle to get to work mentally and physically places a strain on an employee's wellbeing due to the inaccessibility of public transport, accompanied by long travel time along with the mere demands of commuting.

The strategy of working from home is especially beneficial for employees with disability. Employees can now have access to a supportive and comfortable working environment, which can be done virtually. Remote working is advantageous for the employee since it enables the worker to better manage their energy because of the travel and office setting. Suffering with chronic pain, fatigue, and restricted mobility means mentally challenging environments become impossible to try and work in. Remote working allows a healthy pace, breaks as needed, and the freedom of not having to navigate a non-friendly office space.

Workplace Inclusion and Emotional Wellbeing

Emotional well-being is a fundamental aspect that most people overlook, especially for employees who have disabilities, as they carry a different burden. The emotional cost of having to cope with barriers, discrimination, or even loneliness can be extremely high. But employees' emotional health improves where workplaces are inclusive because they feel more protected, respected, and cared for. In this part, we shall examine the effects of inclusion on the emotional health of disabled employees along with the cultural and psychological factors of well-being.

Inclusive Cultures in The Workplace and Emotional Resilience

Shoreet al. (2018) bring attention to the fact that an inclusive workplace culture can promote emotional resilience in employees with disabilities. Employees who understand that the environment acknowledges and appreciates their diversity and difference, are more likely to succeed in developing the inner strength that helps them face workplace challenges.

Creating an inclusive workplace does not include mere facilitation of exercises or amendments to policies. One part is creating a psychologically safe space where disabled employees can be themselves without the intimidation of being looked down upon or ostracized. When staff members are aware that their opinions are valued, and that they are treated with dignity, they are likely to develop an enhanced sense of identity and belonging, which increases their emotional strength.

Having a sense of belonging at the workplace is crucial for employees with disabilities. It is a known fact that numerous individuals contend with sociocultural stigma or misconceptions surrounding disabilities and this can result in feelings of loneliness or nervousness. In an inclusive workplace, employees are made to feel like they belong, and there is no need to deal with these issues. Rather than trying to conceal the disability, the focus is on what the employee can offer, and their talent is appreciated. Thus, disabled employees experience less emotional strain and anxiety,

leading to an increased ability to cope with the highs and lows of work life.

Psychological Well-being as a Workplace Priority

Park and Martinez(2022)found that organizations that highly focus on the psychological well-being of their employees have higher levels of satisfaction in the workplace alongside elite retention levels. Employees with disabilities are able to take care of their mental health if the company is serious about the welfare of its staff by providing counselling, mental health programs, and stress management workshops to aid their well-being.

Access to mental health resources is especially crucial for employees with disabilities. The psychological toll of coping with visible obstacles, microaggressions, or the mere thought of needing accommodations can result in tremendous amounts of stress and anxiety. Employees can operate without the added stress of facing many barriers and instead have the resources needed to deal with the emotional aftermath of their experiences. Such supportive environments are characteristic of organizations that invest in mental health.

Organizations also communicate to employees that their well-being is important when mental health support is provided. This is bound to support employees in feeling valued as well as contribute towards lowering the stigma associated with obtaining help. A significant number of employees are ready to utilize the resources because they are confident that they are giving support.

Workplace Inclusion and Intersectionality

Inclusion in the workplace is multifaceted and cannot be abstracted and understood alone without the intersectionality of other domains of a person's identity. For employees with disabilities, the workplace is not only shaped by their disability, but for many who are also part of marginalized groups based on gender, race or even sexual preference, their experiences are even more complicated in ways that make it even harder to navigate the workplace. In this section, we focus on the intersection of different identities that compound

the experience of LoC and how workplaces can be more inclusive by recognizing the different layers of discrimination and bias that these employees encounter.

The Intersection of Disability, Gender and Race on The Inclusion of LoC in The Workplace

Inclusion is one of those terms in the workplace that requires a more overarching understanding. In the Article by Netwomen, the view that inclusion cannot be considered in isolation of disability. It has to be considered in relation to gender, race, and other individual identities someone possesses. Sexually diverse persons exhibit different experiences and challenges when compared to a heterosexual woman. Consider a brown disabled woman, her reality is drastically different when compared to a white disabled man. These challenges aren't just the result of having a disability; they come from the overlap of gender bias, racial discrimination, and ableism.

These overlapping identities often mean that people have a much more nuanced experience at work. For example, a disabled woman does not only confront the biases surrounding her disability. She is also likely to face discrimination based on her gender. An ethnic minority employee who has a disability may be contending with racism as well as ableism, which makes it more challenging to be accepted or recognized at work. Inclusion strategies that do not focus on this aspect are bound to be ineffective and out of touch with the needs of these employees.

Researchers argue that it is not enough to look at inclusion from a singular angle. This means that people's experiences in the workplace are influenced by several different aspects of their identity, and inclusion policies have to take these concerns into consideration. The reality is that when it comes to people living with multiple marginal identities, there can be no standard approach. By integrating race, gender, and disability, more strategies are bound to be effective in enabling employees to thrive at work.

Tackling the Compound Marginalization among Employees with Multiple Identities

According to Carter and Reynolds (2019), employees with several marginalized identities tend to face discriminative issues on multiple levels. The discrimination experienced is multifaceted and interrelates with one's ethnic background or disability. To illustrate, an ethnic minority, disabled woman may suffer from ableism, racism, and sexism simultaneously. This puts them in an especially challenging environment because, in addition to everything, there are the significant barriers associated with being part of a disabled member of society and other marginalized groups.

Such discrimination can evoke feelings of social disengagement and anger among the workers. Employees may feel as though their particular unique struggles are overlooked, or worse, believe that their employer does not fully appreciate or sympathize with their situation. Many ethical concerns arise from this type of discrimination, particularly those addressed by Carter and Reynolds (2019). More specifically, these scholars accentuate that there is a need to focus on the multiple forms of discrimination and marginalization goes beyond of race or disability. Failing to do so, according to these scholars, disables the creation of comprehensive and relevant policies within the institutions. General policies eliminating disability discrimination are clearly insufficient. It is essential to incorporate race, gender, and disability issues.

Barriers to Workplace Inclusion

Despite the efforts made by companies to be inclusive, it still remains a challenge for employees with disabilities to participate and succeed in the workplace. Many barriers surface due to stigma, lack of proper policy implementations, and even allocation of resources to employ neuro-diverse individuals. Let us examine further how these barriers continue to impact people with disabilities in an organization and why it is important for organizations to take more effective measures to mitigate them.

The Persistence of Stigma and Inconsistent Policy Implementation

Along with policies regarding diversity and inclusion, many workplaces have adopted policies that attempt to include employees with disabilities. Nelson and Parker (2020) claim that the policies as they are currently drafted and as they attempt to include employees with disabilities are not very operative in the real world. A business may have a policy, but if they do not follow it, then there is no change perceived by employees.

The stigma towards disability is one of the major barriers in this situation. An example of this is that some employees with disabilities may not ask for certain accommodations that are already in place because they do not want to be judged negatively. Many still think that having a disability means one is less capable, which is not accurate. This stigma continues to exist, and as a result, employees are made to feel as though they are alone in the workplace or that they do not fully fit in.

A major concern is that such employees may attempt to put policies into practice, even those that are supposed to be accommodating, and fail to do so sensibly. As an example, one employee is very accommodating towards an employee, while another colleague does not seem willing to provide the same level of support. This perpetuates a culture of scepticism among employees with disabilities as they question whether they can depend on their employer to treat them fairly. When policies have insufficient regard for nuance or discretion, it becomes obvious that they have no relevance whatsoever.

Issues in the Recruitment of Neurodivergent Individuals

A different but similar important obstacle is offered by Kirby and Smith (2017): the struggles that neurodivergent learners encounter when seeking jobs. Processes like interviewing candidates often include elements that involve rigid questioning and arbitrary social criteria, such as interactions with clients, which might not be appropriate for neurodivergent people.

For instance, neurodivergent candidates may have difficulties during the interview, especially people with autism or ADHD. For instance, some neurodivergent individuals may not succeed in looking the interviewer in the eyes or responding to questions in ways which the centre expects. However, that does not mean that they are less capable of doing their assigned tasks than other candidates. The traditional interview format dominant in enterprises, which considerably accentuates social conversation and adroitness, does not capture the candidate's accurate capabilities, particularly if it is more constructive in nature.

This means that many neurodivergent candidates get screened out of selection in favour of someone who is more socially adept, articulate, or has better interpersonal skills, but is less qualified in several other significant aspects. This blindsides many camel trained professionals because their skills do not meet the aspirations of the modern field which employs them due to their so-called strengths.

Kirby and Smith (2017) suggest that companies need to rethink how they approach hiring neurodivergent individuals. Instead of relying solely on traditional interviews, they recommend using alternative methods, like task-based assessments, where candidates can showcase their skills in ways that feel more comfortable for them. They also emphasize the importance of interviewer training to help hiring managers recognize the value of diverse skills and to avoid unconscious bias that may favour certain ways of communicating over others.

Neurodiversity and Inclusion

It's not simply about having ramps and elevators: inclusion also entails appreciating and catering to neurodiversity. Employees on the autism spectrum, those with attention deficits, or those who are dyslexic are neurodivergent, and they have their own set of challenges in the workplace. This part will analyse the steps that organizational structures need to take in order to create neuroinclusive workspaces with the relevant support, as well as explain, in broad strokes, the type of support that is essential for inclusion.

Creating Neuro-Inclusive Workspaces

Brown et al. (2023) stress that an employee's sociocultural context and the physical space they work in should be intentionally designed in a manner that caters to their neurodivergent condition. People who have autism or some other neurodiverse condition should be able to work in a place that guarantees their optimum level of productivity similarly to their neurotypical colleagues.

For example, introducing sensory-friendly workspaces to employees with aspects of autism would assist significantly. This could involve setting up quiet rooms equipped with noise-cancelling headphones, or changing light levels for individuals who feel over-stimulated. These adjustments could lessen the burden on stress receptors for these neurodivergent employees, enabling them to concentrate with more ease on their work.

In addition, methods of communication that are flexible are vital. Face-to-face communication is one area in which some neurodivergent employees may have difficulties or struggle to cognitively process a lot of information in a meeting. Also, by emailing meeting notes, or providing communication in writing, employers can enhance the level of comfort and understanding to employees to boost their confidence.

In addition, these neurodivergent employees can be provided with individualized work plans, as they stand the best chance to succeed with good accommodation for organization and planning. These can include shifts to the work schedule, the provision of organizational tools to interventions of supervisees, and the simplification of organizational objectives. Personalization of management leads them to develop a supportive work environment that really assists neurodivergent in achieving success at work, as every employee ought to be treated as a unique individual rather than a number.

The Role of Organizational Support in Neurodiversity Inclusion

An organization needs to provide its unique support in

addition to fostering a physically and socially inclusive workspace to promote an environment of neurodiversity inclusion. According to Brown et al. (2023), companies that actively promote neurodiversity through training, awareness programs, and accommodations at the workplace tend to have higher retention and satisfaction rates among neurodivergent employees.

Such programs should also include customized training for the particular organization as the culture is the hardest to build and change. Informing all employees about neurodiversity will help clear many biases and misconceptions that neurodivergent employees face. Most importantly, it will help managers and other employees appreciate how to support their colleagues with unique needs.

Accommodations at the workplace are also of critical importance. These might include modifications to shift patterns, provision of assistive devices such as speech to text software, and allowing longer times to complete tasks that require deep focus. These changes will enable neurodivergent employees to perform optimally without being constrained by their differences.

When organizations take these proactive steps, they create an environment where neurodivergent employees feel valued and supported, which leads to greater job satisfaction and engagement. In fact, employees who feel supported in their neurodivergent identity are more likely to stay with the company long-term, reducing turnover and creating a stronger, more diverse workforce.

Global Inclusion Efforts and Intersectionality

The inclusion of employees in the workplace and their onboarding process in any company is progressing at a global level, even though its approach is different from one country to another. In this subsection, we will analyze inclusion at the workplace in the context of other countries around the world, including the issues that arise with people suffering from disabilities. We will also address the issue of inclusivity policy legislation at a global standard to improve the mental health and job satisfaction of disabled persons in employment

all over the world.

Workplace Inclusion in an International Context

Lemonde (2024) focused on the issue of workplace inclusion in France and reported that people with disabilities are not uniformly issued accessibility and employability throughout the country. Different parts of the France are performing really well in terms of including people with disabilities in the workforce, but there are some parts where this inclusion is scant or oftentimes absent, thereby increasing the possibilities of marginalization for disabled employees.

The regional inconsistency in France reflects a broader issue faced globally: disability inclusion efforts often vary greatly depending on location. While some countries, especially those in Western Europe and North America, have established comprehensive disability rights laws and accessibility policies, other regions are still lagging behind in providing the support that employees with disabilities need to succeed in the workplace.

Lemonde's research suggests that geographical disparities in workplace inclusion can have a direct impact on the psychological well-being and job satisfaction of employees with disabilities. For example, in regions where accessibility policies are weak or absent, employees with disabilities may feel excluded, isolated, or unsupported, which can negatively affect their mental health and overall productivity.

Conclusion

This review emphasizes the significance of workplace inclusion in promoting employees' psychological well-being with disabilities. Findings from the existing body of evidence confirm that inclusive strategies—namely, reasonable accommodations, social support structures, and flexible work options—make an important contribution towards stigma reduction, stress reduction, and improved emotional resilience. Additionally, activities such as disability-awareness initiatives, mentorship programs, and inclusive leadership have been found to play a decisive role in enhancing job satisfaction and general workplace experience for employees

with disabilities.

Despite all these developments, a number of challenges remain. Stigma, uneven policy implementation, and insufficient intersectional efforts continue to hinder the success of inclusion initiatives. Workers with intersecting marginalized groups, like women with disabilities or racial and ethnic minority group members, tend to face compounded discrimination, which calls for more directed and sophisticated inclusion measures. Also, differences in international workplace inclusion initiatives underscore the necessity for versatile frameworks that account for both legal and cultural differences.

To create truly inclusive workplaces, organizations need to go beyond compliance with the law and bake inclusivity into core organizational values. This requires the application of evidence-based policy, long-term leadership commitment, and the creation of robust frameworks that guarantee accessibility, fairness, and psychological safety for disabled employees. Future research should aim to improve standardized inclusion models and evaluate long-term effects on workplace well-being. Through putting emphasis on such endeavours, companies are able to provide work spaces where not just professional achievement but also the psychological welfare of the workers with disabilities can be sustained, thus cultivating a more just and inclusive work environment.

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Current Trends in Neurodevelopmental Disorders: A Thematic Review of Advances and Challenges

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Abstract

Neuropsychology is the field of psychology that studies the relationship between human brain and behaviour. In DSM-5, NDDs are defined as a group of conditions with onset in the developmental period, inducing deficits that produce impairments of functioning. NDDs comprise intellectual disability (ID); Communication Disorders; Autism Spectrum Disorder (ASD); Attention-Deficit/Hyperactivity Disorder (ADHD); Neurodevelopmental Motor Disorders, including Tic Disorders; and Specific Learning Disorders (Morris-Rosendahl, D. J., & Crocq, M. A., 2020). With advancements in the field of neuropsychology as a varied field, the recent trends and patterns followed in the field are important to consider to be updated about the rising progression in the field of neurodevelopmental disorders. In the present paper, the most recent trends, patterns and advancements in the field of neurodevelopmental disorders namely, Attention-Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD) and Learning Disorders (LDs) for the past five years have been studied including but not limited to academia, diagnosis and technology orientation is reviewed as per research with thirty papers as evidence. The paper will give a thematic review about the foreshadowing essence found in the critical analysis of the papers which will elaborate

on the research gaps found and the challenges faced along with the progression in the said field. The analysis indicates that there are gaps, criticisms and commonalities in the understanding of the population sample, neuropsychological profiling, shifting perspectives, technological adoption and the academic incorporation in the understanding of the disorders. However, scope for further research is still found in the future directions for most of the papers.

Keywords: *Current Trends, Neuropsychology, Neurodevelopmental Disorders, Attention-Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD), Learning Disorders (LDs).*

Introduction

Human development involves biological, cognitive, emotional, and social changes throughout life, shaped by genetic and environmental factors (Berk, 2014). Developmental disorders, such as autism spectrum disorder (ASD), attention-deficit/hyperactivity disorder (ADHD), and intellectual disabilities, disrupt typical milestones, emerging before age 18 and often persisting due to neural, genetic, or environmental causes (Thapar et al., 2015; American Psychiatric Association, 2013). These early deficits can cascade into later developmental challenges (Shonkoff & Garner, 2012).

Neurodevelopmental disorders (NDDs) impact cognitive, emotional, and motor milestones due to disrupted brain development, affecting >3% of children globally and lasting for life. Major NDDs include ASD, ADHD, learning disorders, motor disorders, and intellectual disabilities. The DSM-5 classifies NDDs as involving significant difficulties in intellectual, motor, or social functions (Khandelwal & Singhal). Comorbidity is common; for example, 22%–83% of children with ASD meet ADHD criteria, and vice versa (Khandelwal & Singhal). Specific learning disorders (SLD), defined by DSM-5 as impairments in reading, writing, or math, affect 5%–15% of school-age children, with dyslexia being most common, impacting 20% of the population (Psychiatry.org). SLD often co-occurs with other NDDs, such as ADHD and anxiety.

With regard to occurrence and severity of these neurodevelopmental disorders namely, ADHD, ASD and learning disorders (LD), a thematic review over the current and latest trends followed in the field of neuropsychology has been conducted to understand these better over the past five years from 2020 to 2025 in the process to find out gaps and patterns that have had an impact. The most recent literature have been synthesized into this review to contemplate the present demands leveling in neurodevelopmental disorders and how it has evolved to encompass wider ranges of approaches rising in the field.

Review Of Literature

Attention-Deficit Hyperactivity Disorder (ADHD)

Birtalan et al. (2024) studied ADHD awareness and diagnosis in Hungary, emphasizing the integration of global epidemiological studies and DSM-5 parameters. At Semmelweis University's an ADHD Treatment Centre, diagnostic protocols included DSM-5 interviews (SCID-5-PD, M.I.N.I.-PLUS-5.0), Conners' Adult ADHD Rating Scales, self-report questionnaires, heteroanamnesis, neuropsychological tests (e.g., Rey Auditory Verbal Learning Test, Stroop Test, Conners-CPT3, Trail Making Test), and WAIS-IV intelligence tests. The study aimed to enhance ADHD diagnostics by reviewing international literature and Hungarian empirical findings. Despite general concordance in methodologies, disagreements between neuropsychological and other assessments, particularly with the Rey Auditory Verbal Learning Test and Trail Making Test, highlight the need to revise neuropsychological criteria for adult ADHD.

Montgomery (2024) has characterized Attention-Deficit/Hyperactivity Disorder (ADHD) in a transitional process toward the shift from strict attention deficit and more toward a form of unique neurodevelopmental variation. Using predictive coding and active inference theories, investigators suggest that ADHD individuals have unique mechanisms for generating and updating environment predictions. Such differences affect sensory processing, attention allocation, and motor control. The article proposes

a redefined clinical approach toward ADHD that embraces its complexity and neurodiversity in diagnosis and treatment tailored to individual cognitive profiles. A challenge in the understanding of ADHD pathology is posed by the diversity in different individual presentations as well as the clinical assessment tools available that can have limited success at differentiating contributions from sensory, attention, arousal, and motor processes. It is critical to identify objective approaches to further research into the aetiology of ADHD in order to potentially develop personalized interventions.

Biabani et al. (2023) found that by making use of an EEG decision-making paradigm, the current investigation evaluated key neuropsychological components of ADHD, isolating distinct neural signals along the information processing pathways from sensory input to motor responses. Results show that, in comparison with their typically developing peers, children with ADHD exhibited slower, less accurate behavioural performance, due to atypical dynamics in the electrophysiological signatures associated with attention allocation, sensory evidence accumulation, and urgency to respond. These results integrate current understanding of the ADHD deficits, and establish neural markers for further research into the mechanisms of the disorder, guiding future diagnostics and treatment customizations for individuals with ADHD. This approach highlights the importance of recognizing the complexity of ADHD in both research and clinical practices.

Herrera-Morales et al. (2023) explored how varying ADHD symptoms affect treatment effectiveness. They found that ADHD subtypes, identified through QEEG studies, may have distinct neurophysiological characteristics, especially in children. The study focused on young adults with ADHD symptoms and cognitive performance, specifically theta/beta ratios. Those with ADHD symptoms and poor working memory showed higher theta/beta ratios than controls, while those with good working memory showed no differences. These findings suggest that neuropsychological profiling could help categorize ADHD subtypes and optimize treatment strategies, highlighting the need for further research into

ADHD's neurophysiological correlates.

The paper "Automated Detection of ADHD: Current Trends and Future Perspective" by Loh et al. (2022) explores advancements in using technology, particularly machine learning and AI, for early ADHD diagnosis. The authors emphasize that these methods can improve accuracy and efficiency compared to traditional approaches. However, challenges such as data privacy, large datasets for algorithm training, and variability in symptoms across individuals hinder success. The paper calls for collaboration between clinicians, researchers, and technologists to address these issues and build reliable detection systems. Ultimately, the study highlights technology's potential to enhance ADHD diagnosis and treatment while acknowledging current limitations and future research directions.

The relevance of employing neuropsychological assessment in a school setting is most conspicuous for teens and young adults. One of the burning questions is how to combine neuropsychology with personality diagnostics to see what amalgamates in each case regarding learning abilities. This represents a multivocal approach to discovering destructive youth risks by identifying their personality neuropsychology. Stepashkina&Akhmetshina (2022) discusses current trends in neuropsychology in the context of Russian and global experience with an emphasis on behavioural, personality, and affective disorders. It highlights cognitive impairments accompanying personality dysfunctions that lead to odd risk-taking behaviour and interfere with emotional and motivational development, which may cause lowered schooling motivation and consequent school failure.

Castellanos & Pereira-Sanchez (2021) review neuroimaging research on ADHD, highlighting recent studies and trends. They found 40 publications from January 2019 to September 2020, including four meta-analyses with contradictory results. A study by the Enhancing Neuroimaging Genetics Through Meta-Analysis consortium found small but significant structural brain differences in children with ADHD. Increasing international collaborations are using open-science and multimodal data to study ADHD's genetics, environment, and

pathophysiology. Machine learning and predictive science are emerging areas for identifying ADHD biomarkers. While neuroimaging hasn't yet guided clinical ADHD treatment, large-scale studies offer hope for improving understanding and applications.

Baader et al. (2020) examined two commercial continuous performance tests (CPT) for the diagnosis of Attention-Deficit/Hyperactivity Disorder (ADHD) in a clinical sample of 29 adult patients. The aim was to compare the tests and see whether they correlated with any clinical parameters. A positive correlation for inattention was found between the two tests ($r = 0.49$, $p = 0.01$), but neither showed any significant association with the clinical measures of inattention. The results were mixed for hyperactivity, with present ADHD symptoms positively correlating with motor activity on the Nesplora Aquarium ($r = 0.52$ to 0.61 , $p < 0.05$) and with hyperactivity on the Qb-Test ($r = 0.52$ to 0.71 , $p < 0.05$). Overall, the tests were found to be not reasonably comparable and to correlate poorly with clinical parameters. While interesting correlations between clinical symptoms and test sub-scales were found, this suggests that these tests are unsuitable for regular use in a clinical setting for ADHD diagnosis. The need for more research into more pertinent and reliable diagnostic tools is warranted for ADHD intervention.

The high prevalence of ADHD has provided strong impetus to research into its pathophysiology. O'Neill et al. (2018) found that most prominent models of ADHD related neuro-cognitive deficits, especially executive dysfunction, with symptomatology. The continued significant heterogeneity found in cognitive and adaptive functioning in persons with ADHD thus challenges the validity of current theories. Meanwhile, existing models do not satisfactorily account for the trajectory of symptoms and impairments through development. Neuropsychological functioning in ADHD within developmental perspective will hence be addressed in this chapter as commentary on literature and open questions guiding research in this direction. Finally, we will discuss the implication of the knowledge gathered for the designing of effective, lasting interventions for ADHD individuals.

Kataoka (2016) in his article underscores the rising prevalence of ADHD diagnoses and subsequent treatment, especially within the adult population, with particular attention to the prescription of stimulant medications. It stresses the necessity for enhanced detection methods and training for primary care practitioners, alongside the importance of monitoring for possible medication misuse. The summarized abstract says that ADHD is common in children and adults and that the treatment for ADHD is increasing. However, the limitations stand to talk about the potential misuse of stimulants prescription which has been noted and the need for accurate ADHD diagnosis and treatment options. However, the utilization of the treatment for adults remains unclear and requires investigation.

Autism Spectrum Disorder (ASD)

Patil (2024) provides a review of recent neuroimaging studies aimed at elucidating the biological underpinnings of autism spectrum disorder (ASD). The analysis focuses on findings from structural magnetic resonance imaging (sMRI), which indicates that individuals with ASD often exhibit reduced grey matter in crucial brain regions, such as the amygdala and superior temporal sulcus. Additionally, concerns regarding white matter connectivity within the brain are highlighted. Functional magnetic resonance imaging (fMRI) studies reveal diminished connectivity within essential brain networks and atypical activation patterns during social information processing. Intervention studies suggest that targeted training can enhance brain function related to social skills. Furthermore, postmortem research has identified cellular and synaptic alterations, including a reduction in Purkinje cells and changes in neuronal organization. These findings underscore the significance of investigating the social brain network in individuals with ASD and point to the necessity for more extensive, long-term studies. Ultimately, this review aims to contribute to the development of advanced diagnostic tools and therapeutic strategies that could improve the quality of life for those affected by ASD.

Sloan-Pena et al. (2024) examined neuropsychological assessment practices for autism spectrum disorder (ASD) in

Black and Brown children, incorporating behavioural ratings from parents and teachers. The study highlighted disparities in diagnosis and treatment due to gender, ethnic, racial, and linguistic differences, which influence symptom endorsement and assessment outcomes. Despite the growing need for neuropsychological services for minority children in the U.S., there is a shortage of culturally competent neuropsychologists. The findings emphasize the importance of culturally sensitive assessments to ensure equitable behavioural health services and improve early intervention outcomes for this population.

Georgescu (2023) presents a comprehensive survey of recent machine learning (ML) and deep learning (DL) approaches for the detection of autism spectrum disorder (ASD) using brain magnetic resonance imaging (MRI). The paper emphasizes the methodologies employed, feature extraction techniques, classifiers, databases, and evaluation metrics associated with various ASD detection strategies. The study validates the performance of several ML systems, including K-Nearest Neighbour (KNN), Support Vector Machine (SVM), and Classification Tree (CT), using the ABIDE-I dataset. In addition to detailing the methodologies, Georgescu discusses the challenges and limitations faced in the field, as well as potential future directions aimed at enhancing the effectiveness of machine and deep learning-based ASD detection methods. The review highlights the importance of addressing these challenges to improve diagnostic accuracy and ultimately contribute to better outcomes for individuals with ASD.

Jiang (2023) conducted a bibliometric analysis of autism spectrum disorder (ASD) research from 2011 to 2022, analysing 57,108 studies from the Web of Science Core Collection. Using Bibliometrix, Cite Space, and VOS viewer, the study revealed a 181.7% growth in publications, from 2,623 in 2011 to 7,390 in 2021. Research focused on genetics, immunology, and clinical psychology, with keyword clusters in “causative mechanisms,” “clinical features,” and “intervention features.” Emerging topics since 2015 include immune dysbiosis and gut microbiota. The study highlighted the importance of neuroscience, genetics, brain imaging, and the microbe-gut-

brain axis for advancing ASD research.

Wang (2023) provides a comprehensive review of the applications of Transcranial Magnetic Stimulation (TMS) and transcranial Direct Current Stimulation (tDCS), alongside the key recording technique of Electroencephalogram (EEG), in treating individuals with autism spectrum disorder (ASD). The study selects ten representative research articles published on PubMed over the past five years, analysing their methodologies, results, and new findings. Additionally, the review addresses potential challenges and future directions for these therapeutic approaches. The organization of the review is based on different stimulation sites, with a focus on commonly targeted areas such as the dorsolateral prefrontal cortex (DLPFC) and the right temporoparietal junction (rTPJ). Wang concludes by proposing expectations for future research and treatment strategies for ASD. The author anticipates that future scientific trends in ASD therapy will include homogeneous subgroup analyses and broader accessibility to therapeutic research, which could enhance treatment efficacy for individuals with ASD.

Wu et al. (2023) conducted a bibliometric analysis of global trends in digital therapeutics (DTx) for autism spectrum disorder (ASD) from 2002 to 2022. Analysing 509 articles from the Web of Science using Cite Space, the study found the U.S. and Vanderbilt University to be the leading contributors. Key researchers included Warren, Zachary, and Sarkar, Nilanjan, with the Journal of Autism and Developmental Disorders as the most cited journal. Influential works included Scassellati's (2012) research on robotics in autism and Adolphs' (2001) study on social information processing. Emerging technologies, such as AI, machine learning, virtual reality, and eye-tracking, were identified as driving innovation. The study emphasized rapid growth in this field, particularly in developed nations, and called for cross-regional and interdisciplinary collaborations to enhance accessibility and progress.

Roba (2022) investigates the impact of various educational technology trends on the education of children with Autism Spectrum Disorder (ASD) by analysing peer-reviewed studies. ASD is characterized as a neurodevelopmental disorder that

results in significant deficits in social skills and persistent behavioural patterns, which can hinder social interactions. The increasing prevalence of ASD diagnoses globally, with the Centres for Disease Control and Prevention (CDC) estimating a rate of 1 in 59 children affected (Pliasa&Fachantidis, 2019), underscores the need for effective educational strategies. The study emphasizes the importance of “augmentative and alternative communication” (AAC) systems, which enhance communication capabilities through high-tech solutions like electronic speech-generating devices (SGDs) and low-tech options such as the picture exchange communication system (PECS) (Gilroy et al., 2018). Additionally, Roba’s analysis includes assistive technology (AT) and its benefits for children with ASD, highlighting how these tools can facilitate learning and improve social engagement.

Zhao et al. (2022) conducted a bibliometric analysis of childhood autism spectrum disorder (ASD) research from 2012 to 2021 using Cite Space and VOS viewer. Analysing 7,611 articles, the study identified the U.S. as the leading contributor. Key research clusters included the COVID-19 pandemic, gut microbiota, and physical activity, with rising keywords like “disabilities monitoring network,” “United States,” and “caregiver” (2018–2021). The Autism and Developmental Disabilities Monitoring (ADDM) Network was highlighted as a global reference. The study emphasized developing intelligent medical assistant systems and urged more research to address caregiver challenges in ASD care.

Gupta et al. (2021) examined autism spectrum disorder (ASD), a group of neurodevelopmental disorders marked by deficits in social behaviours and nonverbal communication, such as diminished eye contact, facial expressions, and body language, typically observed within the first three years of life. The primary objective of the study was to investigate recent trends in diagnostics and management strategies for ASD. A comprehensive literature search was conducted, utilizing both electronic databases like PubMed and manual searches. The findings indicate that the main therapeutic objectives focus on enhancing core behaviours to foster improved social interactions and communication. Additionally, treatment

aims to mitigate irritable and disruptive behaviours while implementing strategies to facilitate integration into educational settings and the development of meaningful peer relationships. Long-term goals also include equipping individuals with skills necessary for independent living.

Carmona-Serrano et al. (2020) conducted a bibliometric study using the Web of Science database to analyse autism-related research in education, aiming to identify trends and guide future studies. Analysing 5,512 documents, they found fluctuating research output, with a significant increase starting in 2007. The study highlighted two main research areas: one focusing on mothers of children with autism spectrum disorder (ASD) and the other on young individuals with ASD. Since 2012, new research has emerged on ASD diagnosis and the inclusion of affected students in educational settings.

Learning Disorders (LDs)

Reading, writing, and language processing skills are all greatly impacted by learning disorders such as dyslexia and dysgraphia. Dyslexia mostly impact reading, showing itself as problems with phonological processing (the ability to associate letters with sounds) and word recognition. On the other hand, dysgraphia impairs writing skills and causes issues with letter alignment, spacing, and construction. When these illnesses coexist, diagnosis becomes more difficult. This calls for a sophisticated method that can adjust to these modifications while maintaining the ability to recognize and distinguish between these illnesses. Recurrent neural networks (RNN) and sophisticated geometrical patterns are used in this study by Alevizos et al. (2024) to detect handwriting abnormalities suggestive of dyslexia and dysgraphia. To find abnormalities, handwriting standardized characteristics are extracted, with an emphasis on baseline deviations, letter connectedness, stroke thickness, and other anomalies, and then fed into an RNN-based autoencoder. Preliminary findings demonstrate the difficulty of adapting complicated patterns. Cultural-historical neuropsychology analyses neurodevelopmental disorders by identifying the neuropsychological factors impacting cognition and academic performance. This study by Bonilla-Sánchez (2024)

aims to present clinical experiences from neuropsychological interventions in unique educational cases. Qualitative assessment reveals developmental strengths and weaknesses, indicating children's potential self-sufficiency. It evaluates the zone of proximal development beyond current capabilities. Neurodevelopmental and learning disorders exhibit unique life manifestations, allowing qualitative analysis to capture subtle developmental changes. Intervention principles serve as the methodological framework for tailoring programs to children's needs. The case study enhances clinical expertise by contributing to empirical knowledge on neuropsychological interventions. This approach emphasizes qualitative evaluations of neurodevelopmental abnormalities and underscores the finding of neuropsychological determinants that explain academic success. Through focused assistance, it enhances children's learning capacity by promoting intervention programs that are customized to meet their developmental requirements.

Iqbal et al. (2024) reviewed deep learning (DL) applications in clinical imaging for neurological diseases (NDs), focusing on advancements in processing multimodal neuroimaging data. The study evaluated DL models, including CNNs, LSTM-CNN, GAN, and VGG, to assess their performance across various NDs. Key benchmarks and datasets for DL model training and testing were identified, alongside challenges and opportunities in clinical neuroimaging research. The review highlighted DL's potential to revolutionize ND diagnosis and treatment, offering insights into its current status and paving the way for developing more efficient, accessible algorithms to improve patient care and advance neurology research.

Schultheis (2023) discusses emerging technologies in neuropsychological evaluation and therapy, including brain-computer interfaces, virtual reality, neuromodulation, and portable brain imaging. These innovations, combined with machine learning, offer new insights into brain-behaviour interactions. The program aims to teach students to identify three neuropsychological technologies, compare the pros and cons of brain-behavior interface technology, and understand the clinical use of neuromodulation and portable brain

imaging. These advancements provide opportunities to expand research and improve the understanding of cognitive mechanisms related to learning problems.

Turza (2023) studied neuroanatomical causes of developmental dyslexia (DD) by assessing grey matter (GM) volume and cortical anomalies in adults with DD using advanced neuroimaging techniques. The study found reduced GM volume and cortical thickness in the left insula, globuspallidus, putamen, parahippocampal gyrus, and left superior temporal gyrus. Better reading and phonological abilities were linked to higher GM volumes and cortical thickness in these regions. Brain volume overall did not differ between groups. These findings support theories linking phonological processing difficulties in DD to brain region anomalies.

Wypych (2023) summarizes research on machine learning for identifying dysgraphia, a handwriting condition that impairs writing and is difficult to diagnose. The study highlights the challenges in diagnosing dysgraphia due to varying symptoms among individuals. It reviews machine learning methods such as Support Vector Machine, AdaBoost, K-Means Clustering, Random Forest, and Convolutional Neural Networks, noting mixed results in their effectiveness. The authors call for further research to improve algorithm accuracy and reliability by using more complex models and larger datasets, though a cure for dysgraphia remains elusive.

The study of brain functions is advancing significantly in modern neuroscience, which may have major educational implications. Nevertheless, there is a disconnect between the direct use of neuroscientific findings in classrooms and the present understanding of how the brain learns. What steps can educators, psychologists, and neuroscientists do to enhance the relationship between neuroscience and education? In order to answer this question, Храмова et al. (2023) looks at the fundamentals of educational neuroscience, an interdisciplinary field of study at the nexus of cognitive science, pedagogy, and neuroscience that aims to understand how education affects a learner's brain and translate research on the neural mechanisms of learning into educational

practice. The article's first section outlines the history and current state of neuroscience in education, discusses terminology ambiguity in the Russian scientific literature on the subject, and outlines potential – and, in our opinion, the most promising interactions between psychology, pedagogy, and neuroscience. Based on the Scopus database of scientific data, we examine the primary avenues of current neuroscience research in the second section of the paper.

Developmental dyscalculia (DD) is a learning impairment characterized by poor numerical processing and cognitive deficits. Wang et al. (2022) used event-related potentials (ERPs) to study negative priming (NP) effects in children with and without DD. Both groups showed similar mean response times under prime and control settings, but the NP magnitude was significantly smaller in the DD group. ERP data revealed that the TD group had higher P100, P200, and P300 amplitudes, while the DD group had slower N100 and P300 latencies. These findings suggest that typical inhibitory difficulties in children with DD may contribute to their impaired numerical processing skills.

People in their middle or older years are most frequently affected by neurological disorders, which are illnesses of the central and peripheral nervous systems. Prompt diagnosis and treatment of such illnesses depend heavily on accurate categorization and early-stage prediction. In order to help doctors stop potentially irreversible brain alterations, Anoop&Sreelakshmi (2021) presented a novel paradigm for identifying neurological illnesses using image processing techniques. The recently suggested framework guarantees accurate and dependable machine learning methods for processing brain magnetic resonance imaging (MRI) by utilizing visual saliency algorithms. For researchers interested in using visual saliency traits for illness diagnosis and prediction, the authors also offer a wealth of guidance and information. Future studies demonstrate improving machine learning methods for precise categorization and using visual saliency characteristics for illness prediction.

Dyslexia, a lifelong neurobiological reading deficit, causes academic, cognitive, and emotional challenges, underscoring the need for early intervention. However, identifying dyslexia before reading acquisition is challenging. Farah et al. (2021) used diffusion tensor imaging, brain mapping, and behavioural measures to show executive function (EF) anomalies in dyslexics from infancy onward. EF, essential for language and reading, is impaired in both behavioural and neurobiological domains before reading difficulties emerge. The study recommends including EF assessments in neuropsychological tests and incorporating EF training for early intervention. Limitations include the potential influence of other cognitive processes on EF tasks and a narrow age focus, which may overlook EF complexities across the lifespan. More prospective research is needed to address contradictory findings and gaps in understanding EF and dyslexia.

Method

The objective of the current review paper is to check on the current trends followed in the field of neuropsychology with respect to neurodevelopmental disorders namely, ADHD, ASD and LD over the past five years (2020-2025). The paper synthesizes and analyses 30 previous studies equally divided into the three chosen disorders in a thematic review. With regard to the objective mentioned, the review paper follows a thematic analysis of the various trends common and overlapping to the neurodevelopmental disorders and how it has impacted the growth and preciseness of the field in various segments. The aim is to provide an outline for given research question in an analytical manner to segregate the patterns followed in the field of neuropsychology with the coming time. In the early stages, keyword surfing for words such as "ADHD trends", "ASD trends", "Learning Disorder Trends", "Trends in Neuropsychology", and "latest trends in neurodevelopmental disorders" were used to search for the target literature from the past 5 years. The sources for surfing included databases like Google Scholar, Science Direct, ResearchGate, and SciSpace. The papers that were published between 2020 and 2025 were selectively collected based on the inclusion criteria of whether they define recent researches

of neurodevelopmental disorders and follow the keyword “current trends”. Out of 60 articles, 30 were excluded as per the criteria since they did not support the review progression. Therefore, the left 30 papers were examined thoroughly in the final phase of the review and data has been interpreted as required in a qualitative basis.

Discussion

Understanding neurodevelopmental disorders requires a multifaceted approach that integrates diagnostic advancements, technological innovations, and inclusive educational strategies. Recent research has highlighted several key themes that reflect current trends and ongoing challenges in the field.

Expanding Diagnostic Criteria and Personalized Profiling

Diagnostic frameworks for disorders like Attention-Deficit/Hyperactivity Disorder (ADHD) have broadened to encompass wider age ranges and symptom variability, increasing reliance on clinician expertise (Birtalan et al., 2024). Personalized profiling, such as subtyping ADHD based on neurophysiological markers using quantitative electroencephalography (QEEG), has shown promise for targeted treatment approaches (2023). Neuroimaging studies have highlighted structural and functional brain abnormalities in disorders such as ASD and dyslexia (Patil, 2024; Turza, 2023). Additionally, biomarker-based approaches, such as EEG and functional magnetic resonance imaging (fMRI), are gaining traction for subtype classification and personalized treatments. Despite these advances, the clinical translatability of such findings remains limited (Pereira-Sanchez & Castellanos, 2021). However, many diagnostic tools, such as the Rey Auditory Verbal Learning Test for ADHD, show inconsistencies, leading to false positives and negatives (Birtalan et al., 2024). Moreover, there is no unified framework for integrating neurophysiological, behavioral, and cognitive assessments into comprehensive diagnostic protocols. Significant disparities in diagnosis and treatment persist among ethnic and racial minorities, highlighting the need for culturally sensitive diagnostic tools and equitable healthcare

access (Sloan-Pena et al., 2024). Also, most research focuses on childhood presentations of neurodevelopmental disorders, with insufficient studies examining adult manifestations, transitions, and neuroplasticity. This gap is particularly evident in ADHD and ASD research (Kataoka, 2016). Socioeconomic factors further compound these challenges. Comorbidities such as anxiety and executive function deficits are often overlooked. Additionally, longitudinal studies exploring developmental trajectories and the interplay of comorbidities are scarce (Farah et al., 2021). Neuroimaging studies frequently yield inconsistent results, limiting their utility for clinical interventions. For example, structural differences identified in ASD and dyslexia have yet to inform diagnostic or therapeutic practices (Patil, 2024; Turza, 2023).

Technological Integration in Diagnosis and Treatment

Technological advancements such as machine learning and artificial intelligence are transforming diagnostics, particularly for Autism Spectrum Disorder (ASD) and dysgraphia, by increasing accuracy and efficiency (Georgescu, 2023; Loh et al., 2022). However, challenges like data variability, privacy, and accessibility persist. Moreover, portable neuroimaging and neuromodulation tools, such as transcranial magnetic stimulation (TMS), are providing innovative methods for understanding brain-behavior relationships (Schultheis, 2023). However, while machine learning and neuroimaging hold great promise, their clinical applications remain constrained by scalability and interpretability challenges (Georgescu, 2023; Schultheis, 2023). Although machine learning models have demonstrated potential, they face issues of bias, dataset variability, and limited generalizability, making real-world applications challenging (Loh et al., 2022; Wypych, 2023). The use of AI and machine learning raises ethical questions, including concerns about data privacy, algorithmic bias, and potential misuse of sensitive health information (Loh et al., 2022).

Shifting Perspectives

Disorders like ADHD are increasingly being reframed as variations in neurodevelopment rather than deficits,

emphasizing unique cognitive and sensory profiles. This shift toward neurodiversity highlights the importance of tailored interventions that respect individual differences (Montgomery, 2024). However, research often adopts a deficit-based perspective, which can stigmatize individuals with neurodevelopmental disorders. A strengths-based approach, as suggested by neurodiversity paradigms, is necessary to foster inclusion and understanding (Montgomery, 2024).

Educational and Developmental Support

Bridging neuroscience and education has become a key focus, with efforts to translate research findings into classroom practices. Augmentative and alternative communication (AAC) systems are especially impactful in supporting children with ASD, enhancing their learning and social skills (Roba, 2022; Храмова et al., 2023). However, the integration of neuroscience, psychology, and education remains inadequate. Many studies fail to translate neuropsychological findings into actionable educational or clinical practices (Храмова et al., 2023).

Conclusion

While research in neurodevelopmental disorders has made significant strides, substantial gaps remain. Future studies must prioritize standardization in diagnostics, address cultural disparities, and focus on translating findings into practical interventions. The adoption of neurodiversity perspectives and interdisciplinary collaboration will be key to developing inclusive and effective treatments. Additionally, ethical considerations must guide the integration of advanced technologies into clinical and educational practices.

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Study on the Application of Psychological Knowledge by the Teachers in Elementary Level Education System in Coochbehar Municipal Area.

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Abstract

The motto of National Education Policy 2020 is to develop good and complete human beings. The ultimate purpose of this policy is to build an altruistic society with potential in the present global context. The policy aims at enhancing an individual's cognitive learning and creative disposition. This education policy also emphasizes inclusivity and equity in education with stress on physical and mental health development. A deliberate note of psychological aspects sounds through the text of this policy. This research surveyed the prevailing situation to find out the truth underlying the system. The research undertook an experimental study to focus on the extent of application of psychological knowledge by the Primary and upper Primary teachers working at the elementary level of the educational system. The question is whether the current education system embraces and applies psychological knowledge at the ground level. The area of search was delimited to the Coochbehar Municipality, West Bengal, India. A sample of fifty students from age six to fourteen years, were surveyed in the qualitative method. They were the students of "Chhotoder Theatre School" during the last five years. The school is being run by a non-profit social organisation named Coochbehar Shishu Kishore Sanstha. Boys and girls and other special children are motivated there in theatrical art and play, other performing arts, and creative compositions. They

are nurtured there with care and kindness, affection and equity, compassion and empathy, togetherness, courage and resilience. Within a very few years of their association and participation in these activities, they acquire skills in different performing arts and creativity. Their positive behavioural change is also observed. The result is that the children and adolescents grow physically and mentally healthy, responsible, learning with joy and belongingness. They lead their day to day life with self-confidence and self-respect. The students of this theatre school can secure their desired place among the vast multitude of children and adolescents. On observation of the achievement of these positive results, the current study concludes that application of psychological knowledge in the elementary level education is effective for all-round development of the children and adolescents. This implies that strong adherence to social and emotional values while educating the elementary level students have positive impacts in nation building.

Key Words: *Altruistic society, cognitive learning, psychological knowledge, creative compositions, children and adolescents.*

Introduction

Universalization of Elementary Education is a national goal of India. Because education is the effective means of social reconstruction and national development. The National Education Policy 2020 has been framed to priorities the upgradation of the educational system to the global context. The target is to develop individual's better cognitive learning such as literacy, numeracy, critical thinking, decision making, problem solving as well as creative dispositions like social, cultural, moral, ethical and emotional capabilities. The policy has outlined tasks to inculcate society oriented interest, attitude and behavioural changes among the children and adolescents for overall development of the communities and the country as a whole. Towards this prospective the students of elementary level, those who are reading in class I to class VIII, are to be taught through the application of basic psychological knowledge. Because psychology as a science encompasses different areas of study like cognitive, behavioural, educational, developmental, experimental,

biological, physiological, social, environmental and other aspects of human life.

Application of knowledge from the psychological domain would enable the educators to better understand the students' needs and their differential capabilities in a particular environment. The teachers will be more capable of imparting lessons according to the students' interest and attitude. They will also be able to apply their knowledge about how to acquire, process and store information and improve memory. Moreover, teachers' knowledge on psychological aspects will empower them to do away with individual conflicts, anxiety and tension and help them maintain their mental health. The research identified the scope and relevance of application of psychological knowledge in the elementary level educational system on the basis of the past and present analytical studies and real-life observation and experiments to fill the gap.

Review of the Literature

A study of the research article by Grutta.S La & et al (2022) on Emotional Competence in Primary School Children proposed that children's psychological, cognitive and social development are elements of learning. On intervention they found facts on the importance of developing the Psycho-Educational system for the emotional health of the school children to prevent problematic behaviours in schools. The research resulted in positive change and control over behavioural and emotional aspects in the primary level school children. The study was concerned with the primary level school children and aimed at development of emotional competence only. But the question of allround development of the children and adolescents with application of psychological knowledge remains to be answered. The current study undertook an investigation on the application of psychological knowledge by teachers in elementary level education.

Rashid U.H. et al, (2021), stated in their review paper that educational psychology facilitates the learning process in early childhood of the school children having differences and disabilities. It helps the children and adolescents acquire social, emotional and cognitive processes. These in turn help

learning for life. Not only the teachers and students but also the entire personnel under the education umbrella are effectively engaged to know the psychology of teaching-learning, social psychology, organisational psychology and the psychology of human behaviour. With the understanding of psychological knowledge elementary level teachers can devote themselves in shaping children's mental acuity towards a brighter change in the society. Moreover, the researchers conducted a study of game based performance to overcome the problem of cognitive difficulties in children. This attempt yielded fruitful results. The target group could identify the problems, analyses them and bring out the solutions with more confidence than before. Thus, they concluded that a vital point of the education system is educational psychology for proper teaching- learning, control drop-outs and help disability management in the classroom. The present research adds to this the effect of cultural activities for their all-round development.

Dr. Ravivikar S.A., (July ,2023) in the article on Application of Psychology in Education, pleaded for the application of psychological knowledge right from learning, assessment, motivation, classroom management, special education, social and emotional development of the children. The study did that with reference to the works of William James, John Dewey and Edward Thorndike who applied psychological processes in the field of training and education. The paper briefly presents the contributions of the above trio thinkers. William James' "Talks To Teachers" is a classic example of the application of principles and theories of psychology in education. John Dewey advocated that schools are social institutions for social interactions and social transformation. He stressed on students' participation in active learning, ability to adapt the environment outside school, problem solving capabilities along with overall development. On the other hand, emphasizing the students' intellectual skill development Thorndike initiated scientific research on the teaching and learning process with his valuable laws of learning. He spoke in favor of the reinforcement theory for learning expected and desirable responses and eliminating unexpected and undesirable behaviours. He identified

students' interest in learning as a vital point which is to be attended to. Thus, the author concluded that psychology is a subject that fittingly applies to the vast field of fundamental education towards social transformation.

Fatima E. (July 11, 2024) on application of educational psychology in teaching, stated that educational psychology involves students, teachers and educationist. Its application in the classroom teaching helps students develop conceptual processes, understanding, memory, orientation of emotional, social aspects and cognitive learning. The individualized and inclusive learning process inspires the children to do more than they are expected. The dynamics of the reinforcement process and providing incentives increase students' interest for performing more and more. A sense of attachment towards the institution, classmates and teachers is another field of development that ultimately leads to an ideal learning environment for the young group of learners. Moreover, their early age intervention with psychological knowledge will shape their childhood positively. This will have a long-lasting effect on their personality development, respect for moral, ethical and social values, skill aspirations and future achievements.

Alvarez D. G. et al, (2022), in their study on practicing teachers during the Covid - 19 pandemic, linked their investigation to the well-being and mental health of the teachers.

Teachers' emotional competencies are regarded as the most important pillar of quality education for sustainable development of a nation as missioned by the U.N.O. in 2015 and declared it to be attained by 2030. The research team designed the mechanism to measure teachers' character strength, optimism, self-efficacy and self-esteem with regard to their social values and diverse cultures. They found that psychological knowledge updating is necessary to improve capacity and quality of teachers and to reduce their psychological disturbances. Because the teacher's psychological disabilities affect the students' learning ability and environment of learning. They concluded that intervention based on positive psychology improved teachers' well-being and enhanced their requirements like emotional

competencies. It also reduced their psychological risks and other related physiological discomforts.

A review of B.F. Skinner's "Reinforcement Theory of Motivation" by Gordan M. et al (March, 2014) states that knowledge of psychology may be successfully applied to young learners who have any disability to pursue the existing way of learning. To encourage and motivate them to change their behaviour of learning, application of positive or negative reinforcement is very much effective. Sometimes punitive measures are also imposed to eliminate the habit of awkward behaviours. But teachers must be conscious about its implementation. They must be consistent in applying punishment, otherwise it will lose impact or the respective teacher may be questioned. They agree with the fact that bad interactions are more powerful emotionally than good interventions. So, a perfect balance is required to be maintained - such as, a good ratio is - five positive reinforcements to one punishment. But that punishment must be imposed privately and praise be done publicly to discourage and encourage respectively. The conclusion is that it is not the human but the environment of application of positive psychology that can ensure a change towards a free society.

Sailors Misty in a historical research study on Arthur Irving Gates' (1890-1972) Educational Psychology and the Study of Reading, quotes an important line from Gates. The gist of the speech is that the aim in teaching reading is to teach children to read well and to love to read. Gates who believed that formal education is a fundamental way to remake society, devoted his life to improving the quality of individual as well as social life. The study highlighted Gates contribution of reading readiness for the beginner children, reading methodology, reading materials and remedial reading instructions. It is recognized that reading is an integrated art. It is a well-balanced activity of linguistic, artistic, dramatic, constructive and exploratory skills. Reading with context and meaning smooth the way to comprehension. Misty studied in depth the biography of Gates, his philosophy of life and his vast works. The study summarized that Gates pleaded for psychological knowledge of teachers to begin the children

reading and for their reading instructions.

On importance of psychological knowledge in teachers' professional activity Gorovaya V.I. et al (2017) focused on the psychological knowledge and training gained in the university education by prospective students. They also searched for its importance and application in the educational process. Based on the method of self- evaluation, the study was conducted to find the readiness of practicing teachers to use psychological skills to encourage students in reflective thoughts and personality development. They used practical lessons for students as tools to understand teachers' readiness to apply psychological knowledge in real life situations. In this study the authors referred to pedagogical psychology. The study found that many teachers at their beginning professional activity lacked knowledge in the cognitive learning process, children's age wise individual psychological traits, cultures, proficiency in the organisational system and activity. They collected empirical data of teachers with work experience of different durations and conducted both quantitative and qualitative research. On analysis of the result of their study, the authors suggested for psychological orientation of the prospective teachers. They also stressed on improvement of the process technology and task-based practical approach using psychological knowledge to get the students to gather individual experience for future application.

Researches are being carried out to improve the quality of education, student-oriented educational environment with a view to build up professional expertise in order to face the future challenges. The methods of teaching - learning in education are mostly based on pedagogical knowledge application. Flow of knowledge from teachers to students is a common aspect of learning. To judge the validity of this system, Richmond A.S. et al (2016) made a comparative study where they tried to understand the effects of learner centered syllabus and teacher centered syllabus in the perspective of teacher-student relationship. The study revealed that the students prefer comparatively long, detailed and teacher oriented syllabus than a shorter one. They consider teachers of this syllabus more qualified and efficient to manage the

course with a better teacher-student relationship.

Education is self-revelation. Knowing the self is true education in the traditional perspective of Indian society. Education in India started under the “Gurukul” system. From then on, a vast change came in Indian educational field. But the ideas of self-respect, self-esteem and self-realization did not lose any relevance. The National Education Policy 2020 resonates with the Ideas of self-development and self-dependence ideologies for the development of the society and the nation at large. Towards that end in view importance has been laid on elementary education of the children and adolescents in the present global context. Chapter 7 of the book titled “ GururVabonayShishirShiksha” by Saha P.C. (2023), is a study on Swami Vivekananda’s philosophy of education. The author studied in depth the philosophy of education of Swami Vivekananda and explained briefly its gist in a very lucid language. According to Swamiji’s philosophy education is the manifestation of the inner qualities of man for the well-being of society. To attain this, psychological, meditational, physical activities and a close contact with nature are the fields to be attended to for man making education - as is advocated by Swami Vivekananda. That education is to be made easily available to the children and adolescents today to strengthen themselves, strengthen the society and strengthen the country in the present global context.

Objective

1. To assess the impact of application of basic psychological knowledge in the elementary level education system.
2. To evaluate the outcome of psychological interventions in elementary level students’ participation in art, cultural and community activities.
3. To validate the role of dramatic play therapy in improving the mental health of the children and adolescents.
4. To assess the results of intervention and engagement of elementary level students in fundamental creative compositions.

5. To relate the application of psychological knowledge in motivating the children and adolescents and make them understand and concentrate on the self and to implant moral and ethical values to their social awareness.

Methodology

The research was conducted on the students between the age group of six to fourteen years. They were from the elementary level schools reading in the classes from I to VIII. The schools were situated within the Coochbehar Municipality area. The students belonged to the different sections of the society. Most of them suffered economic disability. Some of them were especially abled children. They came to "Chhotoder Theatre School" on the Saturdays and Sundays of every week. They were motivated there to learn and play in theatrical arts, fine arts, performing arts and creative skills. Students were encouraged and guided to write and compose literary pieces of their own. The writers were awarded prizes as reinforcement to encourage others to follow their path and overcome individual disabilities. The good articles were published in the spokes paper of the organisation titled "Sabujmon". All these activities were being organised throughout the year with the help and cooperation of the honorary members and well-wishers of "CoochbeharShishu Kishore Sanstha", a non-profit social organisation with their objective of child and adolescent development. Out of the total number of children enrolled during the last five years, a sample survey was conducted on fifty students by observation and assessment of their skill development. It was found that the children and adolescents developed healthy habits in respect of their study and learning. Their artistic sense and capabilities were higher than the children and adolescents of elementary level in other schools of the delimited area of Coochbehar Municipality. Application of the basic principles of psychology was employed by the guides for their overall improvement in dramatic art, culture, behaviour, community sense and mental health. This intervention of the children and adolescents based on the principles and processes of psychology resulted in positive behavioural growth. Successful acquisition of the artistic skills and creative acumen made the students stand

out from the multiplicity of the students of the same area of search. It was noticed that, even the special children with some disabilities, learn and perform creditably and lead normal life with confidence and self-esteem. The observation and experience confirmed that this all-round development of the children and adolescents was because of the application of psychological knowledge by the teachers who devoted their strength and energy to this social and developmental activities.

Data Collection

The investigator used a structured questionnaire on the attitude and behaviour of the children and adolescents of the age group between six and fourteen years. In addition to that interviews, surveys, observations of their performances along with published books, journals and daily newspapers were also used to collect data.

Analysis and Interpretation Data

The research conducted on the group of elementary level school children and adolescents revealed a trend of behavioural change. The application of psychological knowledge for their skill development worked for positive change. The children became more interested in cultural, social and community matters. They understood the benefits of integration, association and group performance. Mindful exercises influenced them to be more concentrated and confident. Not only that but they also developed their cognitive skills, thought for innovative ideas for their school reading, learning and problem solving. Those who had had difficulties in speech, communication and association, overcame their problems after participation in the sessions of group interactions. This all-round development of their latent capabilities made the students of “Chhotoder Theatre School” stand out among the multiplicity of the children and adolescents of the area under research.

The findings of the current study are supported by the earlier research on primary level school children done by Grutta S.L. et al (2022). They found that the emotional competence of primary school children brought out positive results. Another

review by Rashid H.U. et al (2021) on impact of educational psychology on primary education found that application of psychological knowledge of teachers could grow children's confidence to identify the problems, analyses them and find out the solutions of their own. They identified educational psychology as a vital catalyst in elementary education.

Psychology is a science of human behaviour and its application to human development is a necessity in the present context. Dr. Raravikar (2023) on a paper on its application in education referred to the valuable contributions of the trio pioneers of the past in this discipline. By reference they emphasized that the principles of Psychology fittingly apply to the vast field of fundamental education. In her personal and professional reflection Eram Fatima (2024) on application of educational psychology in teaching pointed out that early age intervention among the children with psychological knowledge would help them develop healthy personality with respect for moral, ethical, social values and skill aspirations for future achievements.

Psychology has its many sub-disciplines. Positive psychology is one of them. During the Covid -19 period both the communities of teachers and students suffered psychological setbacks. D.G. Alvarez and others applied positive psychology for the well-being of the practicing teachers. They found that the teachers' psychological problems impacted the children's mental health. The intervention with positive psychology improved teachers' well-being and enhanced their competence. This also reduced the risk of future discomforts. A review of B.F. Skinner's Reinforcement Theory of Motivation by M. Gordan and I. A. Krishnan (2014) concluded on their findings that it is not the human but the environment of application of positive psychology in fundamental education is the change factor for a free society. In a historical research paper by Misty Sailors on Arthur Irving Gates' (1890-1972) educational psychology, the researcher found that Gates pleaded for psychological knowledge of teachers beforehand they started young children reading and giving instructions.

Teachers' profession is a noble profession. A teacher's motivation to a student is very much effective. And a

professional teachers' knowledge in psychology goes a longer way for motivational process. V.I.Gorovaya and N.F.Petrova on analysis of the result of their study on psychological knowledge of the professional teachers suggested that psychological orientation of the prospective teachers and improvement of process technology, task-based practical approach using psychological knowledge add to the students' experience for future application in real life situations. Another vital aspect of teaching-learning system in elementary level education is syllabus of study. A.S. Richmond and others made research on designing of syllabus. They conducted a comparative study on acceptability of student friendly syllabus and teacher friendly syllabus. In conclusion they submitted that the students welcome a comparatively long and detailed syllabus on consideration that teachers of the longer syllabus are more efficient, course oriented and student-friendly. A review on Swami Vivekananda's philosophy of education by the author himself (Chapter -7, 2024) stressed on the application of Swamiji's ideology in elementary level education. Swamiji's philosophy of education fits well to the principles of educational psychology today for inclusive and quality education towards building a strong nation.

The present study has limitations in respect of sample size and unit wise comparative research with government sector school students, private sector school students and Chhotoder Theatre School students who are taught and guided in elementary level.

Conclusion

The above discussion synthesizes and supports the research question on application of psychological knowledge by teachers in elementary level education. As outlined in the National Education Policy 2020 and in the constitution of India, the need of the hour is to implement the policy guidelines on the basis of fundamental principles of Psychology. The methods and processes of psychology in education help the teachers engaged in the profession understand the diversity among the students and guide them more efficiently for their better future. On the other hand, students also get encouragement and inspiration from these processes and

perform better with confidence and resilience.

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Juvenile Delinquency: A Multidimensional Approach to Prevention and Rehabilitation

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Introduction

The term “juvenile” comes from the Latin word “juveniles,” meaning young. According to the Juvenile Justice Act, a juvenile is a person under the age of 18. The fundamental principle of law states, that treating children the same as adults would result in inequality. Children are a vulnerable section of society and require a humane approach. Placing them in adult jails would not help rehabilitate them; instead, it could turn them into hardened criminals.



This behavior one of the major forms of deviate behavior that creates social hazards of highest variety. For this reason, society establishes or imposes certain rules and regulations (Legal) to tackle such behavior. Delinquent acts have complex roots. Attempts to define delinquency have been made mainly from two aspects.

1. Social (Representing legal stand point)
2. Clinical (Depicting personality problems)

Since the legal code varies from country to country the definition differs to some degree. According to International Juvenile Penal Code Act (1965) the legal definition pinpoints to youngsters of below 20 years who must have violated a state of governmental Jurisdiction. The violation of jurisdiction involves murder, assault, rape, robbery, theft etc.

According to West Bengal Children Act, Juvenile Delinquency means a child of 18 years who has been found to commit an offence which includes assault, murder, crime of wounding, robbery, sexual offence, theft etc.

Delinquency from psychological standpoint, is defined as rebellion which is aimed at destroying or breaking down the environment. This rebellion is mostly against social condition which deny the individual, his basic right and satisfaction of fundamental needs.

Characteristics of Juvenile Delinquents

From the comprehensive definitions, the Chief characteristics of Juvenile Delinquents are found to be:

- Who violates a state of law or local ordinance (a person below 18 years of age)
- A habitually truant, intensely disobedient boy or girl.
- Associate with thieves, criminals, prostitutes and vicious persons,
- Knowing visits a poolroom or gambling dens.
- Wondering about rail road yards, jump on from moving trains, enter any car without authority.
- Habitually use or write obscene language
- Absence himself from home without a just cause.

Causation

When viewed sympathetically all the reasons whatever specific from they may take have the common denominator

of maladaptation of the individual to the Demands of social codes. The social factors behind their delinquency are-

A. Family: when the family does not help the youngster to full accepted and secured or to adjust to the given environment, he loses his most important means of psychological support and the most effective agent for socialization and develops delinquent behaviour.

B. Poverty: Delinquent child mainly comes from lower socio economic status. Sometimes they come from higher income group too, but in such cases it was found that parents spent most of their incomes for the personal purposes depriving the family of its essential resources. The effect of financial deprivation on the children of both group is the same. There is not enough money to meet the essential requirements of the child. A child shares his bed with many siblings, sometimes the same bed is shared by the parents also. Mostly this bed is not at all comfortable; together with the fact is that the provision for food is inadequate and irregular. In such a family, the child releases his energy in a way which is not accepted by the society and thus ultimately becomes a delinquent child.

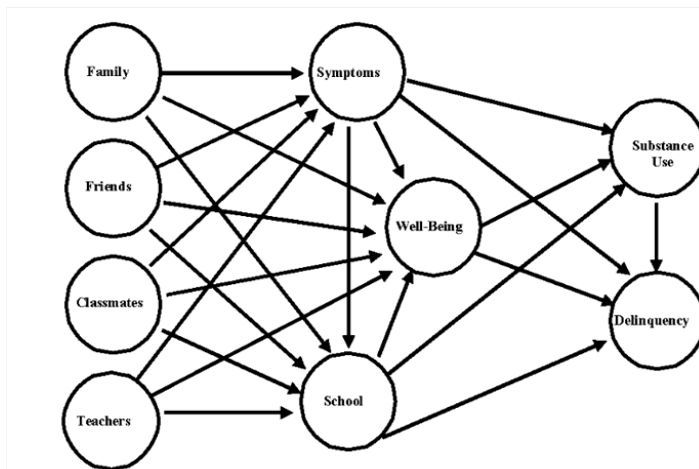
C. Parental behaviour: weak relation with the parents also facilitates in the formation of Juvenile delinquency. Emotional insecurity experienced by the child in the relationship with parents, primarily the mother is a fruitful cause of delinquency. It is evident that if the mother is not available to the child, when the child needs her and the mother cannot convince the child regarding the absence from home. The mother may also remain pre-occupied with her own emotional problem and hence, the child lacks her affection. In a family where a child does not has parental guidance or coherence in handling he may develop antisocial behavioral pattern.

D. Broken Home: Loss of love, affection, acceptance or security from the parents due to broken home condition may create both defective psychological as well as interpersonal relations with parents and society. Other than these factors, delinquent companionship

with other delinquent gangs, excessive facilities for self-amusement, bathing, gambling etc. or lack of whole some religious activities or community activities may play vital roles in creating delinquency.

In any case, the delinquent child is an emotionally disturbed one who has emotional deprivation of various kinds in early childhood. Various research findings show that delinquents are-

- Socially asserted
- Defiant
- Ambivalent toward authority
- Very hostile and adventurous
- Extrovert in action
- Suggestive
- Stubborn
- Emotionally unstable
- Highly irritable
- Destructive
- Ego- centric
- Low ability to adjust
- Sometimes genius
- Impulsive
- Have strong feelings of isolation



Symptoms

Prevention:

In preventing delinquency two different modes are adopted:

- A. Preventive
- B. Rehabilitation

Preventive:

a. Public and private agencies are working together to focus on prevention. To prevent youth crime, public and private agencies need to work together with full commitment. These include schools, religious institutions, parent-teacher associations, youth organizations and group work agencies like boys and girls, clubs etc. Interests should be taken by provisional officers of juvenile delinquency. If all these members help parents find children at risk of trouble, recognize signs of unhappiness, and plan for their support, it can make a difference.

b. Training of members and staffs of all organ-Careful training of key members in dealing with delinquency is necessary. This will help them recognize danger and connect parents and youth with agencies that can help.

c. Establishment of guidance clinic-Clinics and mental health clinics are important for treating seriously disturbed and maladjusted children. Schools also offer diagnostic facilities.

d. Education of the family- The family members of these children need to be formally educated about the causes of delinquency & specific reason of the child in the family. Awareness programs of the media can be utilized in this respect and at time parental counseling are needed.

e. Establishment of wholesome recreational agencies-Prevention of delinquency requires the establishment of wholesome recreational agencies like sports, concerts, drama etc. and developing social group, work and youth group. In rural areas, neighborhood schools and religious institutions should open their meeting halls and playgrounds for youth sports and cultural activities to provide healthy recreation. If possible, guidance in these respects should be offered to the youth by responsible programs.

f. Assistance to underprivileged children-Schools and other character-building agencies should be encouraged to help underprivileged children and work with law enforcement, including juvenile police.

g. Propaganda- Newspapers, magazines, radio, television, and movies should honestly report the causes and prevention of juvenile delinquency, rather than focusing on sensational scandals and glorifying delinquent behavior.

Psychologist mention 3 steps for prevention of delinquency in India-

1. Improving the environment which includes improved housing, increased recreation facilities, reduced economic insecurity etc.

2. Locating potential delinquents by predictive tests. Children may be identified by school teacher or specialized agencies in this respect.

3. Reducing their psychological problems through therapeutic modes.

Rehabilitation:

The fact that children offered proper guidance and training and helps towards rehabilitation would develop into socially normal individual is the expectation by means of current scientific assessments of their problems. In almost all the civilized countries of the world if the basic requirements of the children are met or else in the absence of these, if the proper situation is explained to them their mental health, is developed properly; much evidences of delinquency can be prevented in the context. In the occurrence of these acts if delinquents are helped finding their newer courses of life through rehabilitation, it can bring them back into the main stream.

Juvenile Justice System: Approaches and Effectiveness

Children who come into conflict care and protection are required with the law. They are considered the greatest asset of any society or nation. Therefore, it is crucial to ensure they grow up to be responsible citizens who are mentally alert, physically fit, and morally sound, so that they can contribute to the betterment of society.

Reasons for Juvenile Delinquency

Various factors can lead children to commit crimes. The juvenile justice system aims to safeguard the human rights of minors who have committed offenses or have been neglected by their parents, caregivers or family members. The focus is more on rehabilitation than punishment, unlike the adult criminal justice system. Article 15 of the Indian Constitution ensures special attention to children through necessary laws & policies that protect their rights.

Constitutional Provisions

Several articles in the Indian Constitution empowering and imposing responsibility on the state to ensure that children's needs and rights are met-

Article 15(3): Allows the State to make special arrangements for children.

Article 39(e): Ensures children are not abused and their youth is protected against exploitation.

Article 39(f): Ensures children are given opportunities and facilities to develop in a healthy manner.

Article 45: Provides free and compulsory education for child.

Article 47: Improves public health and nutrition for children.

Evolution of the Juvenile Justice System in India

The juvenile justice system in India has evolved through six phases, from traditional laws to modern legislative developments:

1. Pre-1773: Hindu and Muslim Law: Both laws emphasized, it is the sole responsibility of parents to bring up their children properly. If parents couldn't care for a child, someone from the community would.

2. 1986 Act:

- Defined juveniles as boys under 16 and girls under 18.
- Classified children into juvenile delinquents and neglected juveniles.
- Prohibited the arrest of children in police custody or jail.
- Established juvenile courts and welfare boards.

Juvenile Justice Care and Protection Act, 2000

After ratifying the UN Convention on the Rights of the Child in 1992, India revamped its juvenile justice laws to align with international standards. This act introduced new philosophies, structures, and institutions.

Characteristics of the Act

- Children in Conflict with the Law: Juveniles who have committed an offense.
- Children in Need of Care and Protection: Who may be abandoned, abused, tortured, or exploited.
- Separate House: For different age groups to separate

minor offenders from older ones.

- **Four Types of Homes:** Observation homes, special homes, children homes, and shelters.
- **Child Participation:** Ensures children can participate in proceedings affecting them (Section 12).
- **Civil Society Involvement:** Encourages significant involvement of civil society in providing justice.
- **Special Juvenile Police Unit:** Established to effectively manage juveniles, with trained officers in each police station.

Criticisms of the Act

- The act was criticized for not fully adhering to international human rights standards.
- There was confusion between the best interest policy and the right to participation policy, leading to questions about whether a child's opinion on their best interest could be overridden by adults through the law.

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The Future Evolution of Psychology in the Era of (AI) Artificial Intelligence

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Abstract

Artificial intelligence (AI) incorporates into the field of psychology marks a significant paradigm shift, offering new methodologies for diagnosis, therapy, and cognitive research. AI's capabilities in analysing large datasets, recognizing patterns in human behaviour, and personalizing interventions open up novel opportunities for improving psychological services. However, the incorporation of AI into the psychological practices also raises ethical concerns, particularly regarding privacy, empathy, and the loss of human oversight. This paper explores the current role along with the future evolution of AI in psychology, highlighting the potential benefits in mental health care, research, and therapy, while discussing the ethical challenges that accompany these advancements. Through examining the intersection of AI with psychological theory and practice, this paper provides a balanced perspective on the evolving relationship between psychology and AI, emphasizing the need for a human-centred approach to technology integration.

Keywords: *Artificial Intelligence (AI), Psychology, Mental Health, Future of Psychology, Human-AI Interaction, AI in healthcare and monitoring system, AI in psychology research*

Introduction

Artificial intelligence (AI) has accelerated as an essential tool in a variety of industries, with healthcare, cognitive

research and psychology among the most significant sectors impacted (Vaida S, 2023). Over recent years, AI has sparked on psychological practices by offering unique ways to enhance diagnostics, streamline therapeutic interventions, and generate new insights into human behavior. As AI technologies, such as machine learning (ML), natural language processing (NLP), and neural networks, continue to evolve, their role in psychology is becoming more pronounced, promising both significant advancements and new challenges (Waghmare et al., 2023).

The way by which the psychological disorders are diagnosed, treated, and understood by AI driven technologies, is potentially revolutionary (Vaida, 2023). In particular, AI-powered diagnostic tools, digital therapies, and cognitive models could greatly improve the accessibility, precision, and personalization of mental health care (Olawade et al., 2024). Yet, beside the promise of AI into transforming the field, its integration into psychology also has significant ethical concerns. Issues related to privacy, consent, data security, and the loss of human empathy in therapeutic settings are crucial discussions that must accompany the technology's adoption (Waghmare et al., 2023).

The future evolution of psychology in the era of AI, involves significant shifts in both theory and practice. Here are several key areas where AI could shape the field:

AI-Enhanced Diagnosis and Treatment: AI can assist in diagnosing mental health disorders through advanced algorithms that analyze patterns in behavior, speech, and even brain activity. AI tools, such as chatbots, might help deliver therapy or support, making mental health services more accessible. Personalized treatment plans could be developed through AI's ability to process huge amounts of data about a patient's medical case history, data of genetics, and daily lifestyle (Fitzpatrick et al., 2017; Graham, et al., 2019; Lee, et al., 2021; Wen-Jing Yan, 2022).

Data-Driven Insights into Human Behavior: AI can analyze vast datasets, providing insights into human behavior on a scale previously impossible. For example, AI could identify

underlying psychological patterns, relationships, and causal factors in areas like emotional well-being, decision-making, and cognitive processes. This data could fuel more precise psychological theories and interventions(Imel et al., 2017).

Mental Health Monitoring: Wearables and AI-powered apps might continuously monitor a person's emotional and mental states. These technologies could provide real-time feedback, helping individuals manage stress, anxiety, and other mental health concerns. Early warning signs of mental health issues could be flagged by AI, allowing for early intervention(Thakkar et al., 2024; Jin, et al., 2023; Graham, et al., 2019; Cross, 2024; Lee, et al., 2021; Luxton, 2014).

AI in Cognitive Research: AI can assist in advancing our understanding of cognition by simulating neural networks, enhancing research into how humans learn, remember, and think. This could lead to new theories about memory, attention, and consciousness(Fulmer, 2021).

Ethical and Philosophical Challenges: Ethical concerns regarding AI in psychology research generally focus on potential issues like informed consent, algorithmic bias, data privacy, lack of transparency in AI decision-making, and the potential for misinterpreting AI-generated results, which may lead to inaccurate diagnoses or treatment plans if not carefully managed. As AI systems take on roles in psychological practice, ethical questions will arise. These might include concerns about privacy, consent, the reliability of AI diagnostics, and alsohypothetical for AI to exacerbate mental health related issues by replacing human empathy. Psychologists will need to adapt ethical guidelines to address these new concerns (Klugman, 2018;Benneh, 2023).

AI and Human-AI Interaction: As AI plays a more prominent role in the therapeutic process, research will be needed on how human beings interact with AI. Understanding how people perceive and react to AI in therapeutic contexts could turninto more effective integration of theseAI driven technologies(Imelet al., 2017).

Job replacement of professionals in the field of psychology: As AI has made significant changes in various fields of psychology

like, diagnosis, therapy, early detection of various disorders etc., it may replicate the unique qualities of clinicians, such as empathy, emotional intelligence, adaptability and ethical judgment in the future. But now there are lots of challenges and concerns of replacing human therapist over AI (Wen-Jing Yan, 2022).

In summary, AI has the potential to revolutionize psychology, making mental health care more accessible and personalized, while also presenting new ethical and practical challenges. It will be essential for psychologists to adapt to these changes by integrating AI technologies responsibly and maintaining a human-centred approach in their work (Fulmer, 2021).

This paper seeks to explore the evolving intersection between AI and psychology, analysing both the opportunities AI presents and the ethical challenges it raises. It argues that while AI will profoundly impact the future of psychology, its integration should be done with caution to preserve the human-centred nature of the discipline.

Literature Review

1. AI in Mental Health Care:

One of the most significant areas where AI is making an impact is in the treatment, as well as diagnosis of mental health disorders. Algorithms of AI, particularly (ML) Machine Learning Models, have been developed to process speech, facial expressions, and behavioural database to diagnose psychological conditions. For instance, recent studies have shown that AI-powered tools can identify early signs of depression by analysing verbal cues such as speech rate and tone, as well as non-verbal cues such as facial expressions (Fiscella et al., 2020). These AI applications can augment traditional diagnostic methods, potentially leading to earlier detection and intervention, especially for individuals who may be reluctant to seek professional help.

Additionally, AI-driven virtual therapists and chatbots are increasingly used to provide psychological support. These tools, which use cognitive-behavioural therapy (CBT) and other evidence-based methods, are accessible via

smartphones and computers, offering a level of convenience and affordability that traditional therapy often cannot match. For instance, AI applications like Woebot and Wysa offer structured therapeutic interventions for users experiencing anxiety and depression, with studies suggesting that these tools can provide significant symptom relief (Fitzpatrick et al., 2017). This marks a critical shift in mental health treatment, specially for individuals in underserved areas or any remote areas, who may lack access to in-person therapy.

Despite the promise of these AI tools, questions remain about the limits of their effectiveness. While Artificial intelligence (AI) can provide support, it may fail in addressing complex emotional and psychological issues that require the nuanced understanding and empathy of a human therapist. Furthermore, there is concern that reliance on AI for mental health care could potentially lead to a dehumanization of therapy, as patients might miss the human connection that plays an integral role in the therapeutic process.

2. AI in Cognitive Psychology:

In the field of cognitive psychology, AI is making strides in modelling the human mind. Cognitive functions such as memory, attention, learning, and decision-making are complex processes that are often difficult to study due to their variability across individuals. AI technologies, particularly Artificial Neural Networks (ANNs), have provided cognitive psychologists with a way to simulate and better understand these processes by mimicking the brain's structure and functions (Pedersen M, 2020).

AI's ability to process and analyze vast datasets is revolutionizing cognitive psychology research. For example, AI systems are now being used to investigate how humans make decisions under uncertainty, a critical area of research in cognitive science. In some cases, AI has been used to replicate the processes that occur in the human brain when it makes decisions, providing insights into how cognitive biases influence human choices (Koch et al., 2017). AI's role in cognitive research extends to memory, where (ML) Machine Learning Models can be used to study how humans store

and retrieve information, advancing our understanding of memory disorders such as Alzheimer's disease.

Additionally, AI can analyze patterns in human behavior on a much larger scale than traditional research methods allow, with the ability to process any data from various sources, like brain scans, behavioural observations, and even social media activity, AI provides a means to study cognitive phenomena across diverse populations, increasing the universality and applicability of cognitive theories.

3. Data-Driven Psychology:

The incorporation of AI into psychology has given rise to data-driven approaches to understanding and predicting human behavior. AI's capacity to analyze large-scale datasets, such as personal behavior data, social media activity, and physiological signals, allows for the development of predictive models that can forecast mental health trends and identify early warning signs of psychological conditions. For example, AI systems have been used to analyze language in social media posts, detecting linguistic markers that correlate with depression and other mental health conditions (Coppersmith et al., 2018). These tools enable clinicians to identify at-risk individuals earlier, potentially improving the outcomes of early intervention.

Furthermore, AI technologies can be used to provide personalized care and treatment, as well as further recommendations based on an individual's specific needs, preferences, and behavior. By analysing past treatment outcomes and patient characteristics, AI can help clinicians select the most appropriate therapeutic methods for each patient. This personalized approach portrays a significant advancement in psychological care, moving away from a one-size-fits-all model to more tailored interventions that optimize treatment effectiveness.

4. AI in research of Psychology:

AI can help researchers better understand and predict mental health issues based on various factors like medical history, behavioural patterns, and even language analysis from

patient interactions, allowing for potential breakthroughs in early detection, personalized treatment plans, risk prediction, and improved diagnosis of mental health conditions by identifying patterns in patient data that might not be readily apparent to clinicians alone. Overall, AI has the strong potentiality to revolutionize mental health research by enabling earlier intervention, personalized treatment, and a better clinical understanding of mental health conditions, which improving research outcomes.

5. Ethical Considerations:

While the benefits of AI in psychology are considerable, they come with a host of ethical concerns. Privacy is a major concern, especially when AI systems rely on sensitive data, such as medical records, social media activity, or personal behaviours, to make diagnostic decisions or treatment recommendations. The potential for misuse of personal data or breaches of confidentiality is a pressing issue that requires strict regulations and oversight.

A critical ethical issue is the potential loss of human empathy in therapeutic settings. While AI-driven tools can provide interventions based on cognitive-behavioural therapy or mindfulness techniques, they lack the emotional intelligence and empathy that human therapists offer. Critics argue that the therapeutic relationship – based on trust, emotional support, and understanding – is essential for effective psychological care, and that AI cannot replicate this dynamic. The over-reliance on AI-driven systems could also undermine the importance of human judgment in diagnosing and treating mental health conditions, leading to potential misdiagnoses or insufficiently nuanced interventions (Sharkey, 2020).

Finally, the issue of AI bias must be addressed. AI systems learn from data, and if the data used to train these systems is biased, the resulting algorithms can perpetuate those biases. This is specifically concerning in the circumstances of mental health, where AI systems might make biased recommendations based on some basic factors such as gender, race, or socioeconomic status. To mitigate these risks, AI systems must be developed with fairness and transparency

to ensure that they are inclusive and do not contribute to existing inequalities in mental health care.

Methodology

Indexed databases, including PubMed, PsycINFO, and IEEE Xplore, EMBASE etc., were independently searched, related to the study topic, limited to the English language to ensure coverage of foundational and recent studies. In the qualitative analysis, various combinations of keywords were used such as AI in mental healthcare, AI in treatment and diagnosis, AI in healthcare and monitoring system, AI in research, AI in personalized medicine, AI monitoring Human Behaviour, AI ethics and safe practice, predictive scenarios in future healthcare, and AI applications in mental healthcare, mental health diagnostics and treatment (e.g., AI chatbots, digital therapies), AI-driven research in cognitive and behavioral psychology (e.g., simulations of memory and decision-making), Ethical challenges related to AI integration, including privacy, bias, and empathy. All relevant publications were screened through rigorous review of the titles and abstracts. Articles were included according to specific criteria related to the present study. Specific areas were analysed and included after screening within the articles.

Result and discussion

1. AI in Diagnosis and Treatment: AI's diagnostic capabilities extend far beyond traditional methods. Algorithms of AI can easily identify patterns in speech, text, and physiological data to diagnose the early signs of mental health conditions such as depression, anxiety, and schizophrenia (Fitzpatrick et al., 2017; Pedersen M, et al., 2020; Olawade, et al., 2024; Thakkar et al., 2024; Jin, et al., 2023; Graham, et al., 2019; Cross, 2024 & Lee, et al., 2021). AI systems can analyze subtle changes in behavior that may not be immediately visible to a human observer, allowing for more prominent and punctuate at diagnoses (Luxton, 2014). For instance, research has shown that AI-powered tools can identify speech patterns indicative of depression or mania, improving diagnostic accuracy and facilitating early interventions (Fiscella et al., 2020).

In treatment, AI-driven platforms like Woebot and Wysa are becoming important tools for delivering cognitive-behavioural interventions. These platforms offer real-time therapeutic interactions, helping users manage symptoms of anxiety, depression, and stress (Fitzpatrick et al., 2017). Although these AI systems cannot replace human therapists, they serve as a valuable supplement, especially for individuals who may not have access to in-person therapy (Imelet al., 2017). Their ability to provide 24/7 support at a relatively low cost makes them an attractive option for many people seeking mental health care[See Table 2].

2. Data-Driven Insights into Human Behavior:AI's ability to analyze large datasets is revolutionizing how psychologists study and understand human behavior. AI tools can detect trends and correlations in data that were previously difficult to identify, providing psychologists with new insights into personality, cognition, and emotion. For example, AI systems can analyze social media posts and predict shifts in mood or behaviour, helping mental health professionals intervenes before symptoms become severe. Similarly, AI is being used to analyze biometric data, such as heart rate variability or sleep patterns, to diagnose the early signs of psychological distress (Olawade et al.,2024;Fulmer, 2021).Figure 1& 2 reflects the future adoption of Artificial intelligence in Psychology.

AI's ability to personalize interventions based on personal data is another significant advancement. By processing information about a person's behavior, preferences, and history, AI can recommend specific therapeutic strategies tailored to each individual. This shift towards personalized mental health treatment and care marks a new dimension of treatment which facilitates the needs of each patient (Fulmer, 2021; Imel et al., 2017; Wen-Jing Yan, 2022).

3. AI in Cognitive and Behavioural Research:AI is a potential tool for cognitive psychologists seeking to perceive the complexities of human thought and behaviour. Machine learning (ML)Models and NeuralNetworks are implied to simulate cognitive processes, such as decision-making, memory, and learning. By replicating brain activity, AI systems

can help researchers test cognitive theories and explore new questions about how the brain works. For example, AI has been used to simulate decision-making processes under conditions of uncertainty, shedding light on the cognitive biases and heuristics that influence human choices (Koch et al., 2017). Neural network models have also provided insights into memory consolidation, helping researchers understand how memories are stored, retrieved, and sometimes distorted over time[See Figure 3& 4].

Additionally, AI enables psychologists to conduct large-scale behavioural studies that were previously impractical due to the limitations of manual data collection. For instance, researchers can now analyze patterns in human behavior across millions of data points from social media, wearable devices, and digital interactions. This capability allows psychologists to develop more robust theories of cognition and behavior that account for individual and cultural differences (Jin, et al., 2023).

4. Mental Health Monitoring: AI-powered wearable devices and smartphone apps are transforming mental health monitoring by offering real-time insights into a person's emotional and psychological state. Wearables such as Fitbit, Apple Watch, and Garmin devices track physiological indicators like heart rate variability, sleep patterns, and physical activity, all of which can provide clues about a person's mental well-being. AI algorithms process this data and can detect deviations from normal patterns that may signal stress, anxiety, or depression (Lee, et al., 2021).

Moreover, mental health apps equipped with AI, like Mindstrong and Youper, allow users to track their mood, engage in mindfulness exercises, and receive personalized feedback. These tools are particularly valuable for individuals who need ongoing support between therapy sessions. They also enable clinicians to monitor their patients remotely, improving continuity of care and allowing for timely interventions when necessary. However, the reliance on technology for mental health monitoring create concerns about data security and the probability of misuse, highlighting the need for stringent privacy protections (Fitzpatrick et al., 2017;

Pedersen M, et al., 2020; Cross, 2024). [See Table 1]

5. Ethical Challenges and Human-AI Interaction: The incorporation of AI into psychology comes with significant ethical considerations that must be addressed to ensure its responsible use. One of the primary concerns is data privacy (Benneh, 2023). AI driven technologies often rely on huge volumes of sensitive data, like medical records, social media activity, and biometric information, to make predictions and recommendations. Without proper safeguards, this data could be vulnerable to breaches or misuse. Psychologists and technology developers must collaborate to establish ethical guidelines and regulatory frameworks that prioritize patient confidentiality and data security (Klugman, 2018; Warrier et al., 2023; Chesney & Citron, 2018).

Another critical challenge is the potential for AI to exacerbate existing biases in psychological research and practice. AI systems are only as unbiased as the data they are trained on. If training datasets reflect societal biases, the resulting algorithms may perpetuate or amplify those biases. For example, an AI system trained on data from one predominant demographic group may provide less accurate predictions for individuals from underrepresented groups. To mitigate this risk, developers must ensure that AI models are trained on diverse and representative datasets.

The question of human empathy is also central to the ethical debate. While AI can simulate therapeutic interactions, it cannot replicate the genuine emotional connection and empathy that human therapists bring to their work. The therapeutic alliance—a cornerstone of effective therapy—is built on trust, emotional atonement, and a shared understanding between therapist and patient. Over-reliance on AI could undermine this relationship, particularly for individuals with complex psychological needs (Hanai, 2018).

Finally, there is concern about the potential dehumanization of mental health care. As AI becomes more integrated into psychology, there is a risk that patients may feel reduced to data points rather than being treated as whole individuals. To prevent this, psychologists must ensure that AI is used as a

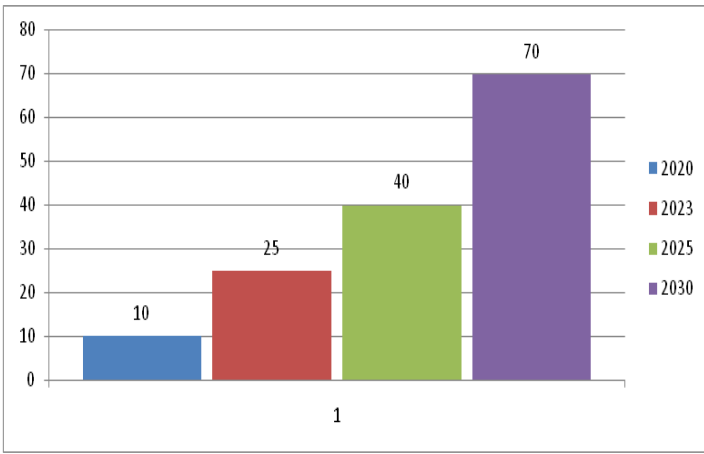
tool to enhance, rather than replace, human care.

Table and figures

The following design is a hypothetical dataset and corresponding figure based on the discussed aspects of AI in psychology.

Figure 1:

Bar Diagram shows Current and Projected AI Adoption in Psychology



Here’s a description of a graph to visualize the adoption rate of AI in psychology over time.

- 2020: 10% adoption.
- 2023: 25% adoption.
- 2025: 40% adoption (projected).
- 2030: 70% adoption (projected).

The graph shows a steady increase in AI adoption due to advancements in technology, improved public trust, and wider accessibility. The curve can be steeper post-2030 with the use of AI emotional intelligence and ethics frameworks.

Table 1:
Effectiveness of AI Applications in Psychological Practices

AI APPLICATIONS	PRIMARY FUNCTIONS	ACCURACY RATE	STRENGTH	USER SATISFACTION	LIMITATIONS
Wysa	CBT based Chatbot Therapy	55%	Chatbots with a cognitive behavioral focus, easily accessible, mindfulness activities	57%	AI chatbot frustrating and irritating in nature. Cannot understand human emotions. Text based only.
Woebot	CBT based Chatbot Therapy	85%	Human like Robot provides cognitive behavioral focus, easily accessible.	90%	Limited empathy. Not suitable for severe conditions
Ellie (USC/ICT)	Virtual Therapist	85%	Virtual humans in helping to treat symptoms of PTSD, Stress, Depression etc.	87%	Limited understanding for cultural Nuances
Mindstrong Health	Mental Health Monitoring	88%	Virtual mental health platform that combines care, data and technology to help members do better, feel better & stay better.	87%	Potential data privacy concerns
Joyable	Provides CBT courses	81%	check-ins are available over the phone, Well illustrated CBT courses are available, useful for new users.	83%	Coaches instead of therapists

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Talkspace	Virtual Therapist	80%	Real licensed therapists help for mental health	86%	Technical difficulties
Traditional Human Psychologist	In-personal Therapy	92%	Rapport Establishment, Empathetic support.	95%	Higher Cost Limited Accessibility & Availability

Fig 2:

The bar graph illustrating the projected growth in AI adoption in psychology for the next 10 years, divided into four key areas: diagnostics, therapy, research, and monitoring.

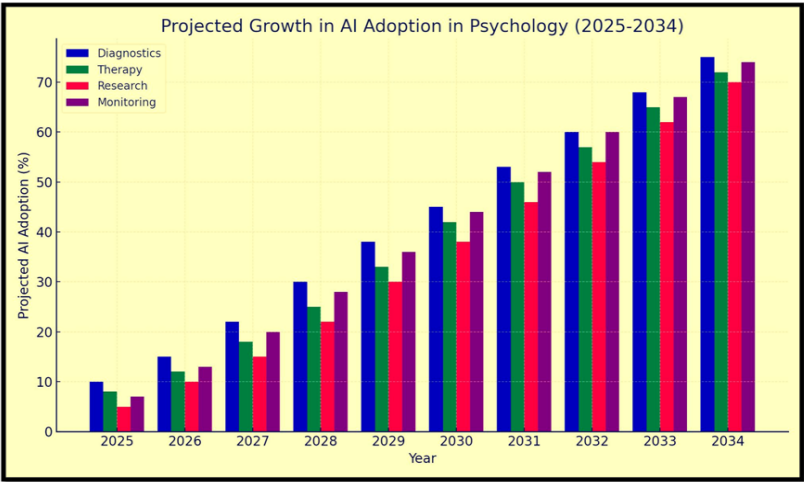


Table 2:

Summarizes the multifaceted role of AI in psychology, highlighting both its contributions and the challenges that need to be addressed for effective integration

Area	Contributions of AI	Challenges	Case Studies/Examples
Diagnostics	Enhanced accuracy through predictive analytics; Early detection of mental health issues using digital footprints; Reduced human bias in assessments.	Ethical concerns about data privacy; Over-reliance on algorithms; Risk of misdiagnosis.	Woebot: An AI-powered chatbot providing mental health support; Mindstrong: Uses smartphone usage patterns to detect mental health trends.
Therapy	Virtual therapists and chatbots providing 24/7 support; Personalized treatment plans using AI-driven insights; Increased accessibility for remote or underserved populations.	Lack of human empathy and nuanced understanding; Potential misinterpretation of emotions; Dependence on technology.	Wysa: An AI mental health app offering CBT-based support; Replika: A chatbot designed for companionship and mental health conversation.
Research	Large-scale data analysis for psychological studies; Identifying patterns and trends in mental health; Accelerating the development of new therapeutic methods.	Validity of AI-generated research insights; Limited applicability to complex human behaviours; Risk of reinforcing biases in datasets.	IBM Watson: Assists in analyzing psychological research data; Mindstrong Health: Uses machine learning to study cognitive function through smartphone interactions.

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Monitoring	Continuous monitoring of patients through wearable tech and apps; Early intervention through anomaly detection; Supporting clinicians with real-time data.	Privacy issues with continuous data collection; Potentially invasive monitoring; Overwhelming clinicians with data.	Ginger: Monitors mental health through digital interactions and provides real-time support; Oura Ring: Tracks sleep and stress patterns for mental health insights.
Training & Education	Simulation-based learning for psychology students; AI-driven modules for learning complex concepts; Enhancing training with virtual role-play scenarios.	Risk of standardizing education too much; Dependence on AI for skill acquisition; Need for balanced human-AI teaching approaches.	SimCoach: An AI platform for training therapists; Virtual Reality (VR) Therapy Simulations: Helps students practice therapy sessions with virtual patients.

Figure 3:
Evolution of AI in Cognitive Psychology

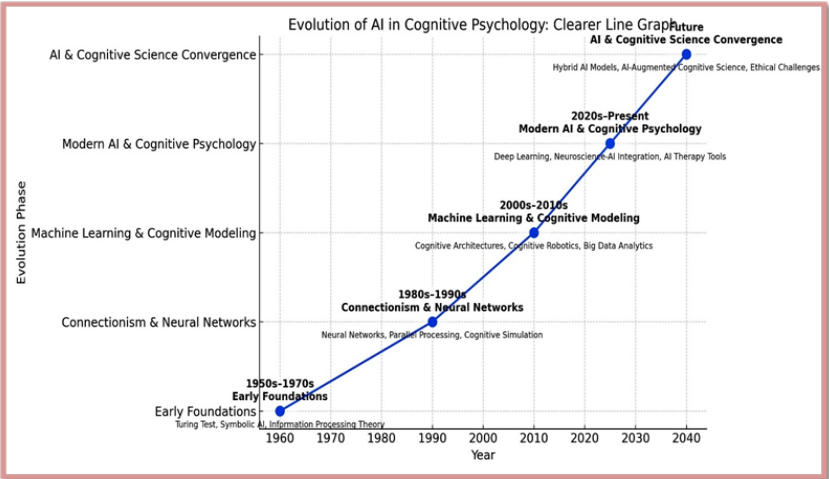
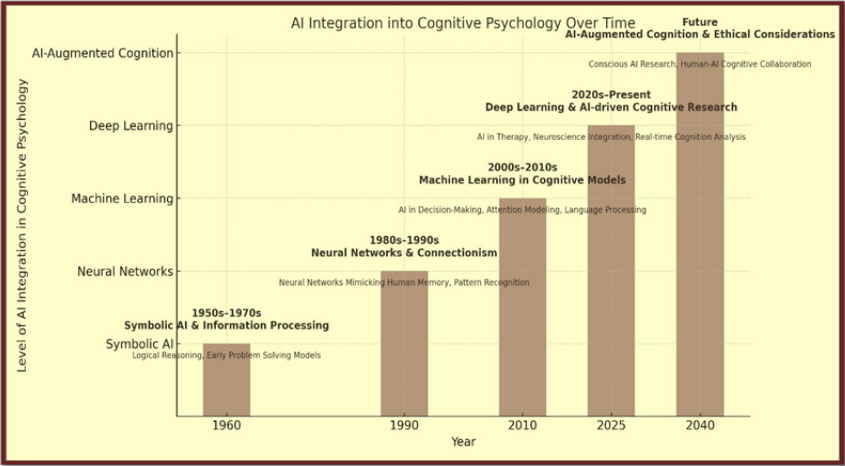


Figure 4:

Illustration of the progression of artificial intelligence within the realm of cognitive psychology, showcasing how AI has been integrated into various cognitive processes over time.



Discussion

The intersection of AI and psychology offers a future filled with promise and complexity, opportunities and challenges. AI's ability to analyze large datasets, identify patterns in human behavior, and personalize interventions has the possibility to revolutionize mental health treatment and care. It can increase productivity, intensifies quality of work(Waghamareet al.,2023; Sebestian, 2023; Yan, 2022). It can acceleratediagnostic accuracy, provide accessible and affordable therapeutic options, and generate new insights into cognition and behaviour (Luxton, 2014). For example, AI-driven platforms like Woebot and Wysa have already demonstrated their value in addressing mild to moderate mental health concerns, while AI-powered diagnostic tools are improving early detection of conditions like depression and schizophrenia. In addition, researchers are trying to detect OCD, early autism detection through facial expressions, anxiety, PTSD, using facial expressionsand speech for early

detection of mental health issues etc. with the help of AI technologies(Fitzpatrick et al., 2017; Lee, et al., 2021; Luxton, 2014). Artificial intelligence (AI) is increasingly influencing the field of psychology, offering tools that enhance research capabilities and clinical practices. However, the integration of AI also presents challenges, particularly concerning ethical considerations and the need for standardized frameworks.

Challenges of over reliance on AI in Psychology:

1. Lack of Human Empathy and Emotional Intelligence:AI, while effective in analysing data and providing interventions, lacks genuine empathy and emotional intelligence. Human therapists build trust and rapport through nuanced understanding and emotional atonement, which AI cannot replicate. This limitation can impact therapeutic outcomes, particularly for individuals with complex psychological needs.
2. Algorithmic Bias:AI systems are susceptible to biases in their training data, which can lead to unequal or unfair outcomes. For example, AI algorithms trained on data from specific demographic groups may not perform well for individuals from underrepresented populations, resulting in inaccurate diagnoses or ineffective treatment recommendations(Fulmer, 2021).
3. The Data Privacy and Security: AI in psychology relies crucially on sensitive data, including personal, behavioural, and medical information. Ensuring the data privacy and security is challenging, especially given the probable opportunities for breaches or misuse. The lack of robust regulatory frameworks exacerbates this issue(Chesney & Citron, 2018).
4. Over-Reliance on Technology:There is a risk that over-reliance on AI tools could lead to the dehumanization of mental health care. Patients may feel reduced to data points, and the human connection essential for effective therapy may be diminished. Furthermore, this reliance might lead to reduced professional autonomy for psychologists(Waghmare et al., 2023; Olawade, et al.,2024).

5. **Regulatory and Ethical Challenges:** The rapid development of AI technologies often outpaces the formation of appropriate ethical and regulatory guidelines. This creates uncertainty regarding accountability, informed consent, and the unethical use of AI in psychological practice (Klugman, C. M., 2018; Benneh, 2023), (Warrier, et al., 2023) Hanai, 2018).

6. **Limited Accessibility and Digital Divide:** While AI driven technologies can improve access to mental health care; they may not reach individuals without availability and accessibility to technology or the internet. This digital crisis could further exacerbate inequalities in mental health care delivery.

Future Strategies:

1. **Enhancing Human-AI Collaboration:** AI should complement, not replace, human psychologists. Strategies should focus on integrating AI tools to assist clinicians in diagnostics, data analysis, and routine tasks, allowing psychologists to focus on complex cases and provide empathetic care (Imel, Z, et al., 2017).

2. **Ensuring Diversity in AI Training Data:** To address algorithmic bias, AI systems must be trained on diverse and representative datasets. This includes incorporating data from various cultural, linguistic, and demographic backgrounds to ensure fairness and inclusivity in AI-driven psychological services. Both Algorithms and humans contribute to bias in AI, but AI may also hold the autonomy to change, correct or reverse inequities among humans (Russell Fulmer, 2021).

3. **Developing Ethical and Regulatory Frameworks:** Governments, professional organizations, and technology developers must collaborate to create clear ethical and legal guidelines for AI use in psychology. These frameworks should address data privacy, informed consent, transparency, and accountability (Mensah George Benneh, 2023).

4. **Improving Data Privacy and Security:** Advanced encryption techniques, decentralized data storage, and strict

controls on access should be deployed to safeguard sensitive psychological data. Regular monitoring and compliance checks can drive the AI systems to adhere into the highest privacy standards(Chesney, R., & Citron, D. K. , 2018).

5. Building Emotional Intelligence in AI:Research should focus on improving AI's ability to simulate emotional intelligence and empathy, such as through advanced natural language processing and affective computing. While AI may never fully replicate human empathy, these advancements can make AI-driven tools more supportive and understanding(Waghmare S, et al.,2023),,,Russell Fulmer, 2021.

6. The Digital Divide Bridging:Equitable access has to be ensured toavail AI-powered psychological services.Efforts must be made to provide technology across the diverse demographic areas.Internet access must be provided to underserved populations. Governments and NGOs can play a key role in funding and implementing programs to minimize the probable digital divide(Wen-Jing Yan, 2022).

7. Continuous Monitoring and Feedback Systems:AI tools should be subjected to continuous monitoring and evaluation to ensure they remain effective, unbiased, and ethical. Feedback from clinicians and patients can help improve these systems and adapt them to real-world needs(Fitzpatrick et al., 2017).

8. Interdisciplinary Collaboration:Psychologists, AI researchers, ethicists, and policymakers must work together to align technological advancements with psychological principles and societal needs. This interdisciplinary approach can ensure that AI is developed and deployed responsibly(Imel, Z, et al., 2017).

9. Public Awareness and Education:Educating the public regarding the capabilities and drawbacks of AI in psychology is emerging to determine trust and managing expectations. Transparent communication can help demystify AI and encourage its acceptance as a tool for enhancing mental health care(Waghmare S, et al.,2023), (AnoushkaThakkar , et al.,2024).

Addressing the limitations of AI in psychology requires a multifaceted approach that combines technological innovation with ethical responsibility. By fostering collaboration among stakeholders and prioritizing human-centred strategies, the future of AI in psychology can be shaped to enhance mental health care while preserving its empathetic and humanistic core.

Research Gaps for future research:

Despite significant advancements in the incorporation of artificial intelligence (AI) into psychology, several research gaps remain that limit the field's potential and require further exploration:

1. **Lack of Standardized Frameworks for AI Integration:**The absence of standardized protocols for incorporating AI into psychological practice presents challenges in ensuring consistency, reliability, and ethical compliance. Research is needed to develop frameworks that guide the implementation of AI tools in various psychological contexts, from diagnostics to therapy.
2. **Limited Understanding of Long-Term Effects:**Most studies on AI in psychology focus on short-term outcomes. There is a gap of longitudinal research exploring the long-term effectiveness, safety, and psychological impacts of AI-based interventions, particularly in vulnerable populations such as children, the elderly, or individuals with severe mental health conditions.
3. **Insufficient Diversity in Training Data:**Many AI systems are trained on data that lack demographic diversity, leading to biases and inaccuracies in psychological assessments and interventions. More research is needed to curate and utilize datasets that are representative of diverse cultural, linguistic, and socioeconomic backgrounds.
4. **Ethical Challenges in Human-AI Interaction:**The ethical legacy of human-AI interaction in psychology remains underexplored. Further research is needed to address issues such as informed consent, strict restrictions for emotional manipulation, and the boundary between human and AI.

responsibilities in mental health care.

5. **Limited Exploration of Hybrid Models:** There is a need of research on hybrid models where AI complements human psychologists. Investigating the optimal balance between AI-driven automation and human-led therapy can provide insights into creating more effective and empathetic care models.

6. **Gaps in Emotional and Cultural Intelligence of AI:** While AI has made strides in analysing behaviour and language, its ability to understand and respond to complex emotional and cultural nuances remains limited. Research should focus on improving AI systems' capacity for emotional intelligence, cross-cultural understanding, and context-sensitive responses.

7. **Accessibility and Digital Divide:** AI-driven psychological tools are often inaccessible to populations without reliable internet access or technological literacy. There is a need for research on scalable and cost-effective solutions to bridge this digital divide and ensure equitable access to AI-based mental health services.

8. **Evaluation of Patient Satisfaction and Trust:** Few studies have examined how patients perceive and trust AI in psychological contexts. Research is needed to explore factors influencing patient satisfaction, trust, and willingness to engage with AI-driven tools, as these elements are essential for successful implementation.

9. **Limited Research on AI's Impact on Psychologists' Roles:** The evolving role of psychologists in the era of AI has not been adequately studied. Future research should focus on how AI affects psychologists' responsibilities, decision-making processes, and professional identity, as well as the potential need for new skillsets and training.

10. **Challenges in Multimodal AI Systems:** AI systems that integrate multiple modalities—such as speech, facial expressions, and physiological data—are still in their infancy. Research is required to develop and refine multimodal AI systems that provide a holistic understanding

of psychological states while maintaining accuracy and reliability.

Addressing the Research Gaps:

Filling these gaps will require a multidisciplinary approach involving psychologists, AI researchers, ethicists, and policymakers. Collaborative efforts can ensure that AI is developed and implemented in ways that enhance psychological care, respect ethical boundaries, and address the diverse needs of individuals and communities. It is recognised during this study that there are several challenges related to these versatile adoption and application of AI into healthcare systems and psychological practices. These challenges can be mitigated by improving data quality and access, technical infrastructure, organisational capacity, and ethical and responsible practices in addition to aspects related to safety and regulation.

Conclusion

In conclusion, while AI offers promising advancements in psychology, it is imperative to address the associated challenges through continued research, ethical deliberations, and the development of standardized frameworks to ensure its beneficial and responsible application. However, the integration of AI into psychology must be approached with caution. Ethical challenges, such as data privacy, algorithmic bias, and the loss of human empathy, require careful consideration and proactive solutions and addition of Emotional Intelligence into AI driven technologies for use of psychological practices. Psychologists have a crucial role to play in ensuring.

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Children with Special Needs (CWSN) with Intellectual Disability: A Way to Independent Living

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Introduction

CWSN stands for Children with Special Needs. Children who have some types of disability (challenges) or impairment and need extra help and care or additional support to overcome their challenges are come under this category (CWSN). The children who have unique requirement and may have challenges in their life like communication, mobility, education, self help skill, activity in daily life and social interaction. So, this term (CWSN) recognize the importance to provide appropriate or early intervention and support system to ensure that these children will enjoy equal opportunities. Also they can they can enjoy the facilities and perform their duties of the society. Children comes under CWSN are as follows-

- Children who have learning difficulties, intellectual disabilities and sensory processing issues.
- Physical disabilities or orthopedically handicap.
- Visual impairment.
- Hearing impairment.
- Neurologically handicap

CWSN have faced a wide range of challenges that affect their overall well-being. They struggle with academic area, social interaction, emotional regulation as well as for their physical

limitation, they restricted in mobility and independence.

Among the CWSN, we shall specially focus on Intellectual Disability (ID) which was previously known as Mental Retardation (MR). When a person has certain limitations or challenges in cognitive functioning and skills, including conceptual, social and practical is called ID. According to WHO-“MR refers to significantly sub-average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period. This is a most common developmental disability now days. According to American Association of Intellectual and Developmental Disabilities and , there are three criteria to denote ID. They are:

1. IQ is below 70
2. Significant limitation in adaptive behavior in conceptual, social or practical skills
3. This condition can have by birth or acquire before 18 years

According to the “Mental Deficiency Act” (1927)-“Mental defectiveness as a condition of arrested or incomplete development of mind existing before the age of 18 years, whether arising from inherent causes or induced by disease or injury.”

According to EncyclopediaBritanica- “A state of subnormal evaluation of the human organism in consequence of which the individual affected is incapable of assuming the responsibilities expected of a socially adequate person, such as self-direction, self-support and social participation.”

According to Diagnostic and Statistical Manual of Mental Diseases (DSM-IV) three criteria are there to consider a child as a case of Intellectual Disability or Mental Retardation. They are-

- IQ below 70
- Significant limitation in two or more areas of adaptive behavior
- Limitations becoming apparent before the age of 18

years

"If a person has the ability to take his/her own responsibility, can take his/her own decision and can live on his/her own term means that person is independent. So, the person with ID also has the right to live independently and to have equal opportunities. If the child can maintain daily life activity, health and hygiene with him/her self (as per their ability) then that is also independent living. Now days we can see children with ID able to perform in different types of job(as per their ability) and can earn money to live independent economically. In this paper, the researchers try to find out the ways to independent living for CWSN with ID. To make ID children independent it is necessary to early identification and provides them early intervention.

Objectives

1. To make CWSN with ID survive independently.
2. To determine various ways to make them (CWSN with ID) independent.
3. To make them mainstreaming with society.

Hypothesis

1. CWSN with ID will acquire the skills in the ADL(daily life activity skills) with proper guidance and training.
2. According to their ability they can be put in job and perform well.

Review of Related Literature

1. Corbett, J. (1999). Disability arts: Developing survival strategies. In P. Retish& S. Reiter (Eds.), Adults with disabilities: International perspectives in the community (pp. 171-181). Mahwah, NJ: Lawrence Erlbaum Associates.

This research concern about skills development of disabled children needs to function outside the schools. Also the book showed that problems of transition are not for person with disabilities bur for all persons. The social perception about disabled people is not accurate.

2. Chwalisz, K., & Vaux, A. (2000). Social support and

adjustment to disability. In R. G. Frank & T. R. Elliott (Eds.), *Handbook of rehabilitation psychology* (pp. 537–552). Washington, DC: American Psychological Association.

Here the researchers discussed the various models on social support, e.g. positive supports which affect the CWSN.

3. Crewe, N. M., & Athelstan, G. T. (1981). Functional assessment in vocational rehabilitation: A systematic approach to diagnosis and goal setting. *Archives of Physical Medicine & Rehabilitation*, 62, 299–305.

In this research 8 scales identified for Factor analysis, which is very important to provide employability with CWSN(ID). Vocational qualification, Medical Condition, Vision, Hearing, and Economic Disincentive are important factors for proper employment.

4. Nester, M. A. (1993). Psychometric testing and reasonable accommodation for persons with disabilities. *Rehabilitation Psychology*, 38, 75–84.

In this research, researcher discussed psychometric testing accommodation in terms of medium, time limits and test content.

5. Connell, C., & Berkowitz, H. (1976). Rehabilitation for the disabled family in stress. Research prepared for the California State Department of Rehabilitation at Los Angeles, Los Angeles, CA.

The California Department of Rehabilitation (DOR) works with consumers and stakeholders to provide services to the CWSN to live independently. They provide the services like job placement, counseling, necessary training with the help of housing assistance, peer support and assistive technology.

Methodology

- Books, Journals, magazines, case history, interview and Research articles
- Research Design : 5 case studies
- Used Tools:

1. Researcher made questionnaire (close ended questions), 3 points scale :

The questionnaire consisting 10 questions on

- doing daily life activity independently
- maintaining personal health and hygiene
- managing emotions correctly and situation wise
- effective communication skill
- sociability
- using assistive device
- essential reading capability
- essential math skill
- following the instructions accurately
- having employability skill

2. MDPS

The Madras Developmental Programming System (MDPS) assesses children's abilities in 18 functional areas including motor skills, self-help skills, communication skills, social interaction, and functional academic skills

3. BASIC-MR

BASIC-MR stands for Behavioral Assessment Scale for Indian Children with Mental Retardation. It's a tool used

- To assess a child's current behavioral level
- To identify problem behaviors
- To help develop support plans for children with mental retardation

Research Design: 5 Case Studies

Case No 1:

Mr.R. 25 years old male having moderate intellectual disability and cerebral palsy. According to his mother and test administer (MDPS), he is able to perform daily

life activity independently. Parents want to make him independent economically also. So, they want to open a stationary shop for him.

Intervention:

The child can be trained in mathematics (preferably use calculator), effective reading skills, control behavioral and emotional issues with the help of counseling and therapy. Also when need help can ask parents for help and guidance. Also need training how to maintain the shop (selling products).

Case No 2:

Master A. 9 years old male having mild intellectual disability. He has behavioral issues also. According to his parents he is under therapy (OT). He is toilet trained, can have food independently but need to improve communication and socialization. Also he is studying in main stream school and takes support of special educator.

Intervention:

The child is under OT but need to go and consult a speech therapist to improve communication skills. In home parents communicates with him effectively like what he has done in school, what he like to eat in lunch/dinner, where he want to go and why, storytelling with the use of flash card/pictorial books. Also visit shopping mall, different types of gatherings/ceremony, park etc.

Case No 3:

Master N. 15 years boy has moderate intellectual disability. He is able to do all his daily life activity independently. Also he is now studying in a mainstream school and makes himself adjusted at the school environment.

Intervention:

Parents and teachers should take care of him that he should not bullied in school and other places. With the help of counseling and therapy, the child is now able to control his emotions and behaviors. If needed, special question paper

may be arranged for him in exam.

Case No 4:

Miss S. 21 years girl has Down syndrome. She is a good dancer and performs in different event with payment. This way she is economically independent and also able to do her all daily life activity independently.

Intervention:

The child should be given proper dance training, counseling, and medication. Also she needs good care and support from her parents.

Case No 5:

Master M. 12 years boy has moderate intellectual disability. He needs good care and support from her parents. has behavioral issues. He is studying in normal mainstream school. He is under medication and counseling. So, he is able to manage in school environment and able to do all his daily life activity independently.

Intervention:

Though the child is under counseling and medication he is improving but need to take care that he should not be bullied in school.

Discussion

Objective No. 1: To make CWSN with ID survive independently

To make CWSN with ID survive independently need training and guidance in following areas like personal care, safety, essential math, household skills, leisure time activity, community living, self-awareness and self-confidence, occupational skill and essential learning. To make these children independent, they need huge quality time and support of their parents. Parents should motivate their children constantly to make their children independent.

Objective No. 2: To determine various ways to make them (CWSN with ID) independent.

To determine various ways to make them (CWSN with ID) independent, they should have education according to their needs and ability. Universal Design of Learning(UDL) made to easy for them cope up with all challenges. These children should develop communication skill, managing emotions in right way, proper use of assistive devices, with proper training and guidance. With proper vocational training these children can make their employability better way and economically independent.

Strategies to make Independent:

- Age-appropriate activities: Tasks arrange in simple to complex way. Give them initially the task to clean bed, toys, separating fruits and vegetables etc. Gradually increase the complexity.
- Decision making: According to ability and age give them chance to take decision like to choose dress or playing with toys.
- Problem solving skills: Let them short out their small problems, which increase confidence and self-esteem. Parents and teachers give support when need.
- Routine: If they are in proper routine, they develop positively. So, create daily routine as per their need and ability.
- Independent play: Encourage them to play independently without constant supervision.
- Reinforcement: Everyone likes praise as well as ID children also. So, praise them for their positive efforts. This will help to increase their positive behaviors.
- Make them learn to wait: Parents make sure not to give things when they ask for it. Negotiate with them and make them wait for it. But it is also necessary to give when promised. Otherwise they will learn to tell lies.
- Life skills: Essential life skills like cooking (making tea, sandwich, masala muri, boiled egg, making Maggie etc), managing money, and purchase things from shop introduce gradually.

- **Respect:** Respect and accept them as they are. When they made mistakes, make them understand the cause and support/motivate them not to do that mistake again.
- **Unique ability:** Asses their abilities and according to that ability select goal and arrange programs.

Objective No. 3: To make them mainstreaming with society

We have to create inclusive environment where everyone can participate fully in social, educational and professional life. To promote inclusion some key steps are needed. They are-

a. **Awareness and education:** Awareness camp should arrange to aware teachers, students and general public to reduce stigma. Schools and Universities can arrange programs to encourage an inclusive culture.

b. **UDL:** There should be accessible facilities in school to foster inclusive education students with and without disabilities. Also give them specialized support for ID children to be independent and build friendship and understanding with other children in school.

c. **Inclusion in workplace:** There should be modified duties, flexible working hours and vocational training to help ID person acquire job skills and increase chances of employment.

d. **Social Inclusion:** Different type of community programs and activities such as cultural events, sports, art, craft can create Social inclusion.

e. **Assistive Device:** Now a day's many assistive technologies are there to support CWSN with ID.

f. **Support from family and peer group:** Family and peer support is very important to make ID children feels good and independent.

g. **Policy and advocacy:** According to RPwD Act, 2016 is an act of the Indian Parliament that ensures equal and equitable opportunities and dignity for people with disabilities. On April19, 2017 this act came into effects.

- Person with benchmark disabilities (40% and above) are entitled to certain benefits, that is 4% of the total number of vacancies government job and 1% in others must be reserved.
- Every disable children age 6 to 18 has the right to access free education.
- 5% reservation in all government job and government aided institution with 5 years relaxation.
- Support and teach them how to exercise their legal capacity.
- “Special Court” is there in each district to resolve legal problems.
- This act also provides skill development, rehabilitation, health, recreation and social security.
- Barrier free environment in school, college and work place.
- CWSN children will get books, learning materials and appropriate assistive device with free of cost.

National Trust Act,1999- This act provides facilities like legal guardianship, health insurance and day care for child with ID. Some programs are DISHA,VIKAAS(day care), SAMARTH(Respite care), GHARAUNDA(Group home for adults), NIRAMAYA(Health insurance scheme) et.

CWSN with ID can thrive and perform duties of the society when society works to remove all types of barriers, give mutual respect, treat them as a normal human being, accept them as they are with empathy.

Interpretation of the Hypothesis:

1. Hypothesis No. 1: CWSN with ID will acquire the skills in the ADL (daily life activity skills) with proper guidance and training:

Independently survive means not only economically independent but independent to do daily life activity like brushing, combing, eating, clothing, maintaining health and hygiene, socialization, meaningful communication and

maintain safety rules. If they guided and train according to their need and ability, they can live their life independently. To foster this, society should be barrier free in physical, mental, attitudinal, instructional, technological, and social.

2. Hypothesis No. 2: According to their ability they can be put in job and perform well:

ID children can live their lives to the fullest in a society which will be barrier free in physical, mental, attitudinal, instructional, technological, and social aspects. ID children are also able to perform their duties towards society/country with training and guidance. As on the base of their ability if they put in job, they perfume their duty in very good way. This is easily reflected in Case No. 4 where 21 years old with Down's Syndrom, Miss S is a professional dancer. So, it's the duty of both the family as well as the society, to make them mainstreaming with empathy.

Conclusion

Independently survive means not only economically independent but independent to do daily life activity like brushing, combing, eating, clothing, maintaining health and hygiene, socialization, meaningful communication and maintain safety rules. If they guided and train according to their need and ability, they can live their life independently. To foster this, society should be barrier free in physical, mental, attitudinal, instructional, technological, and social. ID children are also able to perform their duties towards society/country with training and guidance. As on the base of their ability if they put in job, they perfume their duty in very good way. So, its family and society's duty to make them mainstreaming with empathy.

Inclusive education promotes equal opportunities for all children, including CWSN with ID

If we want to ensure the success of Intellectual disable people in inclusive education, there are various interventions and support systems are available. They are-

1. Individualize Education Plan (IEP)- This program is based on education, leaser time activity, vocational

training. This is designed by teachers, parents and special educators collaboration. This is goal based program.

2. Assistive technology/device used: Assistive devices help them independent.

3. Special Education Support: Special education support such as special educator, speech therapist, occupation therapist, psychologist and therapist need to develop them. Need based intervention should be there.

They should be given age-appropriate responsibilities like chores, allow them to make small decisions, encourage problem-solving skills, establish routines, provide opportunities for independent play makes Intellectual Disable children independent. For this they should be provided motivation and positive reinforcement.

So, parents should follow some simple guidelines like, make your child to perform simple house hold works such as cleaning bed and room, disposing garbage, arrange books and copied on the reading table, watering plants, separate fruits and vegetables, keep them proper place, fill water in bottle, clean utensils etc. Also do not fulfill their unnecessary demands and make them understand the value of money. Give them tasks and after complete the task, give money and ask them to keep it in a piggy bank. This will help them to learn that earning money is not easy. Parents should make boundaries and stick to them without feeling guilt. Also prepare child to adjust all types of environment. Let them (older children) plan their own life. Avoid over protecting. In this way we can make the child independent as per their ability. So, make your child independent can be both gift and struggle. Please remember that the more you help, the less they can learn.

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Impact of Mindfulness in reducing Anxiety among young adults in urban population

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Abstract:

The prevalence of mental health concerns like anxiety and stress is rising among young adults worldwide. Mindfulness and meditation are being explored as methods to alleviate these challenges. Present study investigated the impact of 'mindfulness videos' on anxiety among young adult. 80 young adults (40 male, 40 female) with ages between 25-30 years were selected from low to middle socio-economic background. People who were job holders (private job), at least graduate, unmarried were included. Data were collected from two workplaces and two videos (15 minutes) were chosen randomly for administering on the sample. Samples were divided in five groups randomly on the basis of availability of members in the respective workplace. To find out the impact of mindfulness on State anxiety of sample, pre-post-test research design was planned. Information Schedule and STAI was administered before showing videos with the proper instruction to collect demographic details and Anxiety level. After showing the videos, only part B (SAI) was administered. On the basis of trait anxiety, two treatment groups (high level of trait anxiety and low to moderate level of Trait anxiety) were formed from each group of samples (male and female). For statistical analysis descriptive statistics were used. Findings indicate that mindfulness was effective for both genders though males and female with high trait anxiety were poorly affected by the intervention to manage their state anxiety level.

Introduction:

The practise of mindfulness-based stress reduction or MBSR is effective in alleviating depression, anxiety, and stress while enhancing attentive awareness. The definition of mindfulness is an unreflective awareness of the present moment. It is a psychological technique that entails concentrating on the situations that are happening right now all around us, accepting the present moment without justification or evasion. By practising mindfulness, we learn to be much more present in each moment, totally accepting and judging nothing that is going on around us. It might be produced through meditation techniques or prevention measures. A substantial and innovative mindfulness intervention strategy, John Kabat-Zinn (1979) developed Mindfulness-Based Stress Reduction (MBSR) although no comprehensive definition of mindfulness has been found. Kabat Zinn is noteworthy in this sense and according to him, mindfulness teaches us to be more present in each moment and to be completely engaged in our environment with acceptance and without judgement. Mindfulness is a practice of concentrating one's consciousness and attention that is based on the Buddhist notion of mindfulness but can be characterized in a variety of ways. It can be cultivated through meditation practice. Awareness requires meditation, but meditation alone does not guarantee awareness. We can practise mindfulness in all aspect of our lives by being attentive when we live, walk, eat, and breathe. The definition of mindfulness given by the American Psychological Association is "awareness of one's experience in the present moment without judgement." Alternative treatments for mental health problems have been developed, including ACT (Acknowledgement and Commitment Therapy), CBT (Cognitive Behavioural Therapy), and MBCT (Mindfulness-Based Cognitive Therapy). The goal of the mindfulness practise, which intends to assist individuals in changing their thoughts, feelings, and actions while also lowering stress and anxiety, is to help people pay attention to the present moment, breathe deeply, and do meditation. According to research, mindfulness techniques can help with addiction, disordered eating, pain, stress, and anxiety. Some research works showed how MBSR programs helps to enhance

our quality of life and decrease stress levels in post cancer patient (Carlson, et. al.,2004).In research finding (Chang et. al, 2004) it has been found that MBSR has the potentiality for stress management, awareness and attention training, and positive states of mind. It has been found that the prevailing effect of mindfulness meditation on psychiatric disorders and practicing related coping mechanisms (Grossman, et. al.,2004). The study done by Nicole Y (2007) shows that the positive effect of MBSR helps in sleep quality and duration.For reducing stress, depression and anxiety which accompanies our chronic illness, MBSR is a affective treatment (Khoury, et. al.,2015 and Praissman, 2008)

Methodology:

The aim of the present study isto find out the impact of mindfulness on State anxiety of males and females.

Site and Population:

For the present study, a total sample of 80 young adults was selected from west Bengal. In the sample 40 were male and the rest 40 were female who were selected within the age range of 25-30 years, residing in urban area. The samples were from low to middle socio-economic background. People who were job holders (private job), at least graduate, unmarried were included. Data were collected from two workplaces by using purposive sampling technique.

Tools and Scales:

The tool used for this study is State-Trait Anxiety Inventory (STAI) which is a self-report measure of and designed to rate overall adult anxiety and is formulated as a four-point Likert scale (STAI "Form X").

Result and Discussion:

From Result Table it is obtained that the mean score of State Anxiety in controlled condition for female is 50.5500 and that of male is 46.8000 (SD = 8.78796, 5.46879 respectively). On the other hand, it has been observed that the mean score of State Anxiety in experimental condition for female is 42.4000 and that of male is 40.8250 (SD= 7.04491, 4.89839 respectively). Thus, it can be interpreted, after the implementation of mindfulness intervention technique (video) there was a

drop instate anxiety of the subjects both female and male, as recorded before and after implementing the mindfulness intervention technique.

Conclusion:

A number of research findings supports the fact that mindfulness-based activities reduce mental health concerns such as anxiety and depression and improves psychological well-being. Many qualitative studies on the effectiveness of mindfulness therapy for at-risk adolescents discovered that they facilitated the regulation of emotions such as anger, increased awareness and facilitated distance from thoughts and strong emotions, increased relaxation and awareness, and felt calm, composed and relaxed; they also found them to be inspirational.

Studies done by Biswas in 2023 have indicated that adolescents with significant mental health issues who receive mindfulness intervention therapy report lower levels of anxiety, stress, and depression. Another study by Premkumar showed that there was improvement in reducing the level of anxiety, stress and depression due to mindfulness meditation therapy and it was recommended that the mindfulness meditation therapy could be included as one of the training strategies for students. Also, research done by Lee suggests mindfulness therapy treat both internalizing and externalizing disorders in children.

Psychological intervention targeted at anxiety-prone high-risk groups during the young adulthood can help avoid mental health disorders, notably anxiety, or any other co-morbidity. Anxiety disorders can be treated with medication, psychological therapy, or a combination of the two. Psychotropic drugs have been demonstrated to be useful at alleviating anxiety symptoms. The adverse effects of medication, the possibility of developing drug dependence, unconstrained behaviour, and clinically less obvious symptoms to seek medical care, all contribute to making medical intervention less desirable throughout and after the adolescent years. Anxiety is one of the most common mental health problems seen in young adults and is a potent predictor of the workplace environment. In the early adulthood years, hormonal changes, peer pressure, the need for self-affirmation

and identity, the drive for success, and the workload are all factors that affect how anxious adolescents become. People with an anxious inclination are more likely to encounter failures due to poor coping skills and a lack of resilience, even if most of the time it is remedied as a result of maturation. At this age, stress management must be done properly otherwise it could lead to further mental health difficulties. An adequate intervention given at the right time and in a practical way can reduce the risk of mental health problems developing as well as the expense of care while promoting a future generation that is healthy and resource-rich.

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Inclusive Education: Challenges and Opportunities in the Context of NEP 2020 with Special Reference to Children with Special Needs (CWSN): Review

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Abstract

Inclusive education aims to provide equitable access to quality education for all children, including those with disabilities, within mainstream schools. The National Education Policy (NEP) 2020 of India places significant emphasis on inclusive education, with particular focus on Children with Special Needs (CWSN). This paper examines the provisions of NEP 2020 that are specifically designed for CWSN, highlights the challenges in implementing inclusive education, and explores the opportunities that NEP 2020 presents. Through a comprehensive analysis, the paper aims to provide insights into the future of inclusive education in India, particularly in the context of CWSN.

Key Words: *mainstream schools, NEP 2020, Inclusive Education*

Introduction

Inclusive education is an educational approach that promotes the full involvement of all students in regular educational settings, regardless of their differences. This encompasses children with disabilities, referred to as Children with Special Needs (CWSN), who may need extra assistance or adapted teaching methods to thrive academically. The core idea behind inclusive education is that every child deserves access to a quality education that supports their overall development, ensuring that no child is excluded due to physical, cognitive, or emotional challenges.

India, as a signatory to the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), has committed to providing equal access to education for all children, including those with disabilities. The Rights of Persons with Disabilities Act (RPWD) 2016 and the National Policy for Persons with Disabilities (2006) have laid the foundation for inclusive education, recognizing it as a critical factor in the empowerment of marginalized groups. However, the implementation of inclusive education remains challenging due to various systemic issues, including infrastructural barriers, lack of trained teachers, and persistent social stigma.

The National Education Policy (NEP) 2020, introduced by the Government of India, is a comprehensive and forward-looking policy that emphasizes the need for an equitable and inclusive education system. The policy aims to transform the educational landscape in India, with specific provisions designed to address the needs of Children with Special Needs (CWSN). NEP 2020 prioritizes ensuring that all students, including those with disabilities, have access to quality education through early identification, personalized learning paths, and the integration of assistive technologies.

Despite the progressive vision set out by NEP 2020, the actualization of inclusive education faces numerous challenges. These challenges range from inadequate infrastructure and teacher shortages to social stigma and financial constraints. Additionally, there is often a lack of understanding and training in inclusive pedagogies, which further complicates the process of educating CWSN in mainstream schools. At the same time, NEP 2020 provides several opportunities to address these barriers, particularly through the integration of technology, flexible curricula, and improved teacher training.

This paper aims to explore the challenges and opportunities presented by NEP 2020 in the context of inclusive education for CWSN. It will analyze the key provisions in NEP 2020 that pertain to inclusive education and examine how these can be effectively implemented to create an equitable education system. Moreover, the paper will highlight the gaps in current practices and offer recommendations for leveraging

the opportunities outlined in the policy to improve the educational experience for CWSN in India.

Objectives of the study:

To create awareness among the teachers' benefits of the NEP 2020 for the children with special need.

Review of literature

The concept of Inclusive Education has evolved globally, and in the Indian context, it has been significantly shaped by policies such as the National Education Policy (NEP) 2020. The NEP 2020 aims to provide equitable access to education for all students, including those with special needs. In this review, we explore the literature surrounding inclusive education in the context of NEP 2020, focusing on Children with Special Needs (CWSN).

Inclusive education is grounded in the social model of disability, which suggests that disabilities are primarily caused by societal barriers rather than the physical or mental impairments themselves. Researchers like Booth and Ainscow (2011) argue that inclusive education focuses on eliminating barriers to participation in education and promoting diversity. The NEP 2020 echoes this philosophy, advocating for inclusive practices that ensure no child is left behind due to physical, mental, or social disabilities.

According to UNESCO (2020), inclusive education should be built on three pillars: accessibility, acceptance, and adaptation. The literature emphasizes the importance of designing an education system that is flexible and adaptable to the needs of all students, particularly CWSN.

The NEP 2020, which replaced the National Policy on Education of 1986, prioritizes inclusive education, especially for marginalized groups, including CWSN. Scholars like Krishna Kumar (2020) highlight that the NEP emphasizes:

- The reduction of educational inequities through interventions and policies.
- The integration of special educators and the promotion of accessible learning materials.

- The focus on early identification of disabilities and individualized learning programs. These principles are seen as a step toward deconstructing the segregated education system and ensuring that all children can learn in general education settings.

A substantial body of literature underscores that the physical infrastructure in most Indian schools is not equipped for CWSN. Researchers like Rajeev & Ramesh (2019) argue that classroom accessibility, such as ramps, modified desks, and assistive technologies, is often inadequate, hindering the effective participation of CWSN. Schools in rural or economically disadvantaged areas are particularly affected by these deficiencies, leading to a lack of opportunities for inclusive education.

Numerous studies point out the gap in teacher preparation for handling children with special needs. Tiwari (2020) and Sharma & Bhardwaj (2018) have emphasized that teachers often lack adequate training in special education pedagogy, making them ill-equipped to support students with diverse learning needs. The NEP 2020 aims to address this issue by emphasizing the need for special education training and the professional development of teachers, but its effectiveness will depend on the extent to which these programs are implemented at the grassroots level.

Despite the policy's inclusive intentions, attitudinal barriers toward CWSN remain a significant challenge. Scholars such as Kohli & Singh (2021) suggest that negative attitudes and stereotypes about disabilities, both within the educational system and society at large, impede the full inclusion of CWSN. The social stigma surrounding disabilities often leads to discrimination, bullying, and exclusion, which severely affects the mental health and academic performance of these children.

The availability of specialized support services like counselors, special educators, and healthcare professionals is often limited. Studies by Patel (2020) point out that schools frequently lack the necessary human resources to cater to the specific needs of CWSN. While the NEP 2020 calls for

integrating special educators into general classrooms, the actual implementation of this recommendation has been slow due to shortages of trained personnel.

The NEP 2020 encourages the use of assistive technologies to ensure that CWSN have equal access to educational content. Literature reviews, such as those by Sundar (2020), indicate that assistive technology tools like screen readers, speech recognition software, and alternative communication devices have been transformative in enhancing the learning experience of CWSN. This has the potential to reduce barriers and create more personalized learning pathways for children with disabilities.

Inclusive education under the NEP 2020 aims to individualize education through flexible curriculum structures. Saxena (2021) highlights the potential for differentiated learning strategies, such as project-based learning and peer tutoring, which can better address the needs of CWSN. Personalized learning allows for modifications in curriculum content, teaching methods, and assessments, enabling a more inclusive and adaptive learning environment.

Literature also points to the value of collaborative partnerships between schools, families, and local communities. The NEP 2020 advocates for community participation in educational processes, which can lead to a more inclusive learning environment. Jain & Gupta (2022) argue that collaboration among stakeholders, including teachers, parents, social workers, and NGOs, can help create a strong support network for CWSN and improve their overall educational experience.

Key Provisions of NEP 2020 for Children with Special Needs (CWSN)

The National Education Policy (NEP) 2020 aims to provide equitable, inclusive, and high-quality education for all children, including Children with Special Needs (CWSN). The policy acknowledges the diverse needs of learners and presents several provisions that aim to ensure that CWSN are integrated into the mainstream education system while receiving the support they require for holistic development. Early Childhood Care and Education (ECCE) stress on a

strong foundation for children aged 3-8 years by ensuring quality education, nutrition, and overall well-being and on Foundational Stage”, Early Childhood Care and Education (ECCE) focusing on play-based, activity-based, and discovery-based learning

Below are the key provisions in NEP 2020 that specifically address the needs of CWSN:

Early Identification and Intervention

One of the most significant provisions of NEP 2020 is the emphasis on early identification and intervention for children with disabilities or learning challenges. The policy advocates that schools identify children with special needs early on in their educational journey. Early identification helps mitigate the challenges that children with disabilities may face later in their academic journey.

The policy also calls for creating a supportive environment to detect and address developmental delays or disabilities as early as possible through regular screenings and collaboration with medical and educational professionals.

- Provision Highlight: “Early identification and intervention to address learning challenges” (NEP 2020, Section 4.6).

Flexible Curriculum and Pedagogy

NEP 2020 calls for a flexible curriculum and pedagogical framework that accommodates the needs of all students, including CWSN. The policy advocates for competency-based learning that emphasizes learning outcomes and individual development, rather than rigid academic benchmarks. This flexibility ensures that CWSN can learn at their own pace, using personalized learning approaches that cater to different abilities and learning styles.

The policy suggests that the curriculum should be designed with multiple entry points and exit points, and should be adapted to allow students with disabilities to access and engage with the content effectively.

- Provision Highlight: “A flexible curriculum that is inclusive of all learners and allows for multiple pathways of learning” (NEP 2020, Section 4.4).

Use of Technology and Assistive Devices

Another important provision of NEP 2020 is the promotion of assistive technologies and digital learning tools to support CWSN. The policy advocates for the integration of technology in classrooms, particularly for students with disabilities. The use of assistive technologies, such as screen readers, Braille e-books, audio tools, and sign language resources, can enhance the learning experience for CWSN and make education more accessible.

The policy also proposes the creation of a National Repository of Resources for Inclusive Education, which will provide digital content in multiple formats, ensuring accessibility for children with different types of disabilities.

- Provision Highlight: “Use of technology, including assistive devices and online learning platforms, to support diverse learning needs” (NEP 2020, Section 4.6).

Teacher Training and Professional Development

Teacher training and professional development under NEP 2020 are critical in transforming the education system into an inclusive one. By equipping teachers with the right skills, knowledge, and technology, the policy aims to bridge the gap between mainstream education and special education. NEP 2020 emphasizes the need for specialized teacher training and professional development in inclusive education. It proposes that all teachers, not just special educators, be trained in inclusive pedagogies, the use of assistive technology, and methods to address the needs of CWSN. The policy encourages the integration of inclusive education principles into pre-service teacher education and continuous in-service professional development programs.

By ensuring that teachers are well-equipped with the necessary skills and knowledge, NEP 2020 aims to create a supportive and inclusive classroom environment for CWSN.

- Provision Highlight: “Training of all teachers in inclusive practices and the use of assistive technologies” (NEP 2020, Section 5.9).

Inclusive Assessment and Evaluation

NEP 2020 advocates for inclusive assessments that accommodate the diverse needs of CWSN. It emphasizes the importance of flexible assessment methods, such as extended time, use of scribes, alternative formats, and oral exams for students who require them. The goal is to ensure that CWSN are evaluated in a fair and equitable manner, based on their abilities, rather than being penalized due to their disabilities.

The policy also calls for the development of inclusive examination reforms at the national and state levels, to ensure that CWSN can participate in assessments in a manner that reflects their true capabilities.

- Provision Highlight: “Flexible, inclusive assessments that ensure fairness and accessibility for students with disabilities” (NEP 2020, Section 4.9).

Resource Centers and Support Services

The policy calls for the establishment of resource centers in schools to support CWSN. These centers will provide access to specialized resources, assistive devices, and educational materials that are tailored to the needs of children with disabilities. Schools are also encouraged to integrate services such as speech therapy, counseling, and physical therapy, sing language ensuring a holistic approach to the education and well-being of CWSN. The policy ensures that children with special needs receive quality education tailored to their abilities. With continuous implementation and community involvement, NEP 2020 aims to create a truly equitable education system where no child is left behind.

Additionally, NEP 2020 envisions a collaborative model, wherein special educators, psychologists, counselors, and parents work together to create a customized education plan for each CWSN.

- Provision Highlight: “Establishing resource centers and providing a holistic support system for CWSN” (NEP 2020, Section 4.6).

Community and Parental Involvement

NEP 2020 emphasizes the importance of community and parental involvement in creating an inclusive education environment for CWSN. The policy encourages active participation from parents and local communities in school governance and decision-making processes related to the inclusion of CWSN.

The policy suggests that school-level committees should include parents and community members to ensure that children with disabilities are included in all aspects of school life and are provided with the necessary support at home and in the community.

- Provision Highlight: “Encouraging active parental and community participation in the inclusion process” (NEP 2020, Section 4.6).

Special Focus on Marginalized Groups

The NEP 2020 also recognizes the intersectionality of disability with other forms of marginalization, such as poverty, caste, and gender. The policy emphasizes that children with disabilities from marginalized backgrounds face compounded barriers to education and calls for targeted interventions to address these disparities.

Special measures are suggested to ensure that CWSN from marginalized groups receive not only the educational support they need but also benefits such as scholarships, assistive devices, and access to government welfare schemes.

- Provision Highlight: “Special focus on the education of marginalized CWSN, including those from socio-economically disadvantaged backgrounds” (NEP 2020, Section 5.5).

Challenges in Implementing Inclusive Education for CWSN

Despite the promising provisions of NEP 2020, several challenges hinder the effective implementation of inclusive

education for CWSN:

Lack of Infrastructure: Many schools, particularly in rural and underserved areas, lack the infrastructure required to accommodate CWSN. This includes inaccessible school buildings, inadequate facilities (e.g., ramps, toilets, transportation), and the absence of specialized resources such as Braille books or sign language interpreters.

Teacher Shortage and Lack of Special Education Training: There is a significant shortage of trained special education teachers, and many general education teachers lack the expertise to work with CWSN. While NEP 2020 highlights the need for inclusive teaching practices, the reality is that many teachers are not equipped to cater to the diverse needs of CWSN.

Financial Constraints: Implementing inclusive education requires substantial investment in infrastructure, resources, and teacher training. With limited budgets and competing priorities, many state governments and schools struggle to allocate sufficient funds for inclusive education initiatives.

Social Stigma and Discrimination: Societal attitudes toward disability continue to be a significant barrier to inclusion. Stigma and discrimination toward CWSN are pervasive, and these negative attitudes often result in the marginalization of CWSN within mainstream schools. This can impact both their academic performance and their social integration.

Policy Implementation Gaps: While NEP 2020 outlines clear guidelines for inclusive education, its implementation at the grassroots level has been inconsistent. Lack of clear accountability mechanisms, monitoring, and support systems have led to gaps in the effective realization of inclusive education provisions in many regions.

Assessment and Examination Barriers: Although NEP 2020 advocates for inclusive assessments, there is still a lack of uniformity in the implementation of accessible evaluation systems. Many CWSN continue to face difficulties in taking exams due to rigid formats that do not accommodate their specific needs.

Opportunities in Inclusive Education under NEP 2020

Despite the challenges, NEP 2020 provides several opportunities for enhancing inclusive education in India:

Technological Advancements: The integration of technology into education offers significant opportunities for CWSN. Online platforms, digital resources, and assistive technologies can enable personalized learning experiences, support different learning styles, and provide flexibility in instruction. Tools like screen readers, audio lessons, and interactive apps can help bridge the learning gap for CWSN.

Multidisciplinary Approaches: NEP 2020 encourages collaboration between educators, medical professionals, counsellors, and parents. This multidisciplinary approach ensures that CWSN receive comprehensive support, addressing both their educational and developmental needs. Collaborative efforts also contribute to a more inclusive and supportive learning environment.

Flexible Curriculum and Pedagogy: The focus on a flexible and learner-centric curriculum allows for personalized learning pathways for CWSN. Teachers can modify their teaching strategies to meet the specific needs of each student, making learning more inclusive.

Government and Legislative Support: The RPWD Act 2016 and NEP 2020 provide a strong legal and policy framework for inclusive education. This alignment between policies ensures that CWSN's rights are protected, and schools are mandated to provide equitable access to education.

Community and Parental Involvement: Engaging parents and local communities is critical in creating inclusive learning environments. NEP 2020 recognizes the importance of community participation in reducing stigma and promoting the inclusion of CWSN in mainstream education.

Teacher Training and Professional Development: NEP 2020's emphasis on teacher training offers a significant opportunity for educators to develop the necessary skills to teach CWSN effectively. With specialized training programs in inclusive education, teachers can become better equipped to support CWSN in the classroom.

Discussion: Key Findings

The literature highlights both the persistent challenges and emerging opportunities in implementing inclusive education under NEP 2020.

Challenges:

The infrastructure gap remains a major issue, particularly in rural and low-resource schools, where many CWSN are unable to access education due to the lack of physical accommodations. While the policy advocates for inclusive classrooms, much of the infrastructure still needs substantial development. Similarly, the attitudinal barriers continue to be a significant obstacle. Teachers and peers often hold stereotypical views of disabilities, leading to the social exclusion of CWSN. Despite the NEP's focus on teacher training, actual training programs still fall short in many areas, leaving teachers unprepared to meet the diverse needs of CWSN.

Opportunities:

On the positive side, technology integration provides a significant opportunity for improving access to education for CWSN. With assistive technologies and digital learning tools, students with disabilities can better engage with the curriculum. Moreover, the flexible curriculum envisioned in NEP 2020 allows for the customization of learning experiences, which is critical for students with special needs. This approach can address the individual learning styles and paces of CWSN, offering a more personalized educational experience.

Additionally, the focus on mental health is an essential opportunity for enhancing the overall well-being of CWSN. Integrating psychologists and counselors into schools, as the policy suggests, can provide CWSN with the emotional and psychological support they need, ensuring they remain motivated and engaged in their learning.

Results: Key Findings from Existing Studies

Several studies have provided insights into the impact of NEP 2020 on inclusive education:

- **Infrastructure Deficiencies:** Studies by Rajeev & Ramesh (2019) indicate that, while policy provisions for infrastructure improvements are in place, implementation has been slow, particularly in rural areas.
- **Teacher Preparedness:** Sharma & Bhardwaj (2018) and Tiwari (2020) report that although NEP 2020 emphasizes teacher training, many teachers still lack specialized knowledge in inclusive education.
- **Technology Use:** Sundar (2020) found that assistive technology can improve learning outcomes for CWSN but emphasized the need for training teachers to effectively use such technologies.
- **Mental Health Support:** Patel (2020) and Mehta & Jain (2020) highlight the importance of integrating mental health services within schools to address the emotional needs of CWSN, contributing to better educational outcomes.

Conclusion

The review of related literature and results indicates that while NEP 2020 offers significant opportunities for advancing inclusive education, its success largely depends on overcoming existing challenges. Key areas requiring attention include infrastructure development, teacher training, and the reduction of social stigma associated with disabilities. Technology integration, personalized learning, and mental health support present significant opportunities to improve educational outcomes for CWSN. As the policy continues to unfold, targeted efforts and collaborations among educational institutions, government bodies, and communities will be essential to achieving a truly inclusive education system for CWSN in India.

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Building Walls: The Intersection of Attachment Styles and Stonewalling Behavior

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Attachment styles, formed through our earliest bonds with caregivers, shape how we engage with intimacy and seek support. Utilizing attachment theory to transform our relationships is powerful because it enables us to initiate personal changes that can significantly improve our relationship dynamics.

Rather than focusing on changing our partner, channeling that energy into personal growth as both an individual and a partner can be more effective. By reflecting on our own painful experiences and learning how to connect, we can better understand and manage our relationships.

Connection plays a crucial role in relationship change, particularly during times of conflict or rupture. Understanding what soothes us and our partner in difficult moments fosters deeper connection. By working on self-awareness and our relationship with ourselves, we can positively influence the environment of our relationships.

There is extensive scientific literature that explores how emotional attachments to primary caregivers are formed to ensure safety and survival. One of the most well-known studies is the 1969 “Strange Situation” experiment, which identified the four attachment styles we recognize today. In this study, infants and their primary caregivers were observed during moments of separation and reunion, revealing the following attachment styles:

Secure attachment: Infants became upset when their caregiver left but were comforted upon their return.

Anxious attachment: Infants were highly distressed when their caregiver left and struggled to be consoled upon their return.

Avoidant attachment: Infants showed little to no reaction to their caregiver's departure or return.

Disorganized attachment: Infants exhibited erratic or confused behaviors in response to their caregiver leaving or returning, such as freezing or self-harming actions.

These reactions reflect the infant's expectations of how their caregiver attends to their needs, which often carries over into their adult relationships. Securely attached infants, who trust that their caregiver will meet their needs, are comforted by their return. Conversely, infants who learn that their caregivers are inconsistent in meeting their needs become less distressed by their absence and less comforted by their presence, as they have learned not to rely on them.

The Four Attachment Styles

From the Strange Situation experiment (Ainsworth, 1970), researchers have identified four primary attachment styles: secure, anxious, avoidant, and disorganized. While secure attachment represents a healthy foundation, the other three are considered insecure attachment styles. These styles exist on a spectrum, meaning individuals may not align perfectly with just one style or may experience varying intensities in how these patterns shape their relationships.

Understanding these attachment styles is essential for recognizing how they influence adult romantic relationships (Bartholomew, 1991).

Secure Attachment Style

Secure attachment is widely considered the ideal. Infants who form secure attachments with their primary caregivers often grow into adults capable of nurturing healthy relationships and becoming dependable, loving partners.

How does it develop?

Secure attachment arises when caregivers consistently meet

a child's physical and emotional needs. Infants with secure attachments prefer their primary caregivers and find comfort in their presence (Allen JP, 2008).

What does it look like in adult relationships?

Adults with a secure attachment style tend to establish long-term, healthy relationships. They trust their partners and maintain emotional availability, fostering strong, stable connections.

How common is it?

Studies suggest that approximately 58% of adults have a secure attachment style.

Tip for individuals with a secure attachment style:

A secure attachment style provides a strong foundation, but it doesn't guarantee effortless relationships. Dr. Derrig emphasizes, "Even when two securely attached individuals are in a relationship, it takes effort to maintain a healthy connection. All relationships, regardless of attachment style, require work."

Anxious Attachment Style

Also referred to as preoccupied or anxious-ambivalent attachment, this insecure style emerges when a baby's caregiver is inconsistent in meeting their needs. From the child's perspective, the availability of emotional and physical support feels uncertain, leading to a heightened sense of insecurity.

How does it develop?

Anxious attachment forms when caregivers respond inconsistently to a child's needs. This unpredictability teaches the child that comfort and attention cannot be relied upon, making it challenging for them to feel reassured.

What does it look like in adult relationships?

Adults with an anxious attachment style often exhibit behaviors that others may perceive as "clingy" or "needy." They frequently fear abandonment and seek constant

reassurance from their partners to feel secure in the relationship.

How common is it?

Approximately 19% of adults are thought to have an anxious attachment style, according to research.

Tip for those with an anxious attachment style:

This attachment style can lead to behaviors that inadvertently push partners away, reinforcing feelings of insecurity. Creating “rituals of separation,” such as a goodbye hug or a quick message during the day, can help ease fears and provide reassurance, fostering greater confidence in the relationship.

Avoidant Attachment Style

Also known as dismissive or anxious-avoidant attachment, this style is marked by a strong preference for self-reliance and emotional detachment. Adults with this attachment style often avoid discussing emotions and tend to keep their own feelings, as well as those of others, at arm’s length.

How does it develop?

Avoidant attachment typically arises when caregivers fail to provide adequate emotional support. While physical needs may be met, the lack of emotional comfort teaches the child to suppress their emotional needs and avoid relying on others for care.

What does it look like in adult relationships?

Adults with an avoidant attachment style may come across as emotionally distant or self-sufficient. They often have difficulty seeking or providing emotional intimacy in their relationships.

How common is it?

Research estimates that around 23% of adults exhibit an avoidant attachment style.

Tip for individuals with an avoidant attachment style:

People with this attachment style often create emotional

distance as a defense mechanism, anticipating disappointment from others. Developing self-awareness about these patterns, reflecting on emotional responses, and resisting the urge to withdraw are key steps toward fostering deeper and more meaningful connections.

Disorganized Attachment Style

Also referred to as fearful-avoidant attachment, this is the rarest and most extreme attachment style. Individuals with this style often exhibit unpredictable behavior and intense, erratic reactions in their relationships.

How does it develop?

Disorganized attachment typically stems from a chaotic or traumatic upbringing, often involving inconsistent or fear-inducing caregiving. This leads to confusion and fear in the child's relationship with their caregiver, forming the foundation for this attachment style.

What does it look like in adult relationships?

Adults with a disorganized attachment style may face significant challenges in forming healthy relationships. They often experience a conflicting desire for intimacy and a fear of getting too close, leading them to alternate between seeking connection and pushing others away. This pattern is often accompanied by struggles with mental health or personality disorders.

Tip for individuals with a disorganized attachment style:

Dialectical Behavior Therapy (DBT), a structured form of talk therapy designed to help manage intense emotions, can be particularly effective for individuals with this attachment style. It provides tools for emotional regulation and building healthier relational patterns.

How Attachment Styles Influence Adult Relationships?

Your attachment style—and how it interacts with your partner's—plays a vital role in shaping your ability to create a healthy, loving relationship. Research highlights that attachment styles influence key aspects of relationships, such

as:

Communication dynamics between partners.

The likelihood of relationship conflict or violence.

The overall satisfaction and quality of a marriage.

Moreover, your attachment style is instrumental in shaping the bond you establish with your children. Gaining insight into your attachment style can help you better understand your triggers, unconscious beliefs, vulnerabilities, and protective behaviours, empowering you to foster healthier connections.

How Anxious Attachment Manifests in Relationships?

Individuals with an anxious attachment style often struggle with feeling unloved (Hazan C., 2017). They crave closeness and affection and seek it through their behaviours. Here are some common behaviours associated with anxious attachment:

1. **Demanding reassurance:** If you have an anxious attachment, you may frequently demand that your partner prove their love for you. This could stem from past experiences where you felt unlovable or had to work hard for affection, often due to inconsistent caregiving. The fear of abandonment leads you to seek constant reassurance, but this fear can also make it difficult to trust the love you receive, creating a cycle of demand and insecurity.
2. **Testing love:** You might find yourself setting up tests to prove that your partner loves you and won't abandon you. However, trusting the love you receive can be challenging, leading you to create increasingly difficult tests to feel secure.
3. **Focusing on the negative:** Those with anxious attachment often look for signs that their partner is angry or might leave, which gives them a sense of control. Focusing on potential negatives is a way to protect themselves by preparing for the worst.

How Avoidant Attachment Appears in a Partner?

1. **Stonewalling:** This involves shutting down and not responding during conflict, often as a result of being overwhelmed. It's a physical response to stress and may not be intentional, but it creates distance in the relationship.
2. **Appeasing:** An avoidant partner might go out of their way to keep you happy to avoid conflict. They believe that as long as their partner is happy, everything will be fine, even if it means suppressing their own needs and emotions.
3. **Imploding:** Avoidant individuals often suppress their anger, fearing that expressing it will lead to more conflict. However, this buried anger can eventually explode, often during a minor conflict, as it feels safer to release it in small bursts rather than letting it build up.

What Does an Anxious-Avoidant Relationship Look Like?

In an anxious-avoidant relationship, the partner with an anxious attachment craves closeness as a sign of love, while the avoidant partner withdraws when overwhelmed. This withdrawal only intensifies the anxious partner's need for closeness, creating a cycle where the anxious partner seeks more love, and the avoidant partner pulls away further.

This dynamic can feel unmanageable, but it doesn't doom the relationship. Despite conflicting attachment styles, you and your partner can still build a strong, healthy relationship with understanding and effort.

The examination of the "Four Horsemen"—criticism, contempt, defensiveness, and stonewalling—offers a valuable perspective on the communication patterns that, if unchecked, can undermine the very foundation of these attachments (Gottman JM, 1992). Together, these frameworks shed light on the complex interplay between emotional bonds and communication, providing insights into the dynamics that either strengthen or weaken the fabric of our relationships.

The Four Horsemen in relationships

Relationship researcher and author John Gottman has identified four negative behaviors, known as the "Four

Horsemen,” which can be detrimental to relationships. According to Gottman, these behaviours can predict relationship success and can subtly infiltrate any relationship. Reflect on whether you recognize these patterns in your own relationships.

Criticism: The first horseman, criticism, differs from a simple complaint or critique. For instance, if your partner forgets to inform you about working late, a complaint might be, “I’m frustrated because you didn’t let me know ahead of time.” Criticism, however, involves attacking your partner’s character, such as saying, “You always forget about my feelings and never consider them.” Such statements, which involve generalizations like “always” or “never,” can lead to feelings of rejection and hurt, potentially escalating into the next horseman.

Contempt: Contempt is more damaging than criticism and includes behaviors such as mocking, sarcasm, ridicule, name-calling, and disrespectful body language like eye-rolling. This form of communication can make a partner feel despised and inferior, often stemming from long-held negative feelings. Contempt is a strong predictor of divorce.

Defensiveness: Defensiveness often arises in response to criticism. While everyone uses defensiveness occasionally, a consistent pattern indicates that we are not taking our partner’s concerns seriously or owning up to our mistakes. This behaviour tends to escalate conflicts by shifting blame onto the partner rather than addressing the issue.

Stonewalling: Stonewalling typically follows contempt and involves one partner withdrawing or shutting down during conflict. This can manifest as tuning out, turning away, acting busy, or engaging in other distracting behaviours. When someone is physiologically overwhelmed, stonewalling can prevent productive conversation.

Partners who are securely attached avoid these negative patterns by embracing vulnerability. Instead of resorting to criticism, contempt, defensiveness, or stonewalling, they focus on healthy communication. This might involve expressing feelings and fears, staying engaged in tough conversations,

taking breaks to prevent destructive behaviours, and working together to regulate each other's emotions.

Stonewalling as conflict avoidance

Everyone withdraws from a relationship when they're feeling hurt or fearful of saying the wrong thing. This pause allows us to get creative about how to solve the problem. But consistent withdrawal is toxic.

In fact, most romantic partners do not understand the profound impact distancing has on a bond.

A stonewaller might think, "I don't get why they're so pissed with me. I wish I could just shrug off their blaming, but I can't. I need time to recover. Why don't they get that?"

While this person is being honest about their internal world, they neglect to mention one important fact: that they never want to resume the discussion, because the emotions they feel are too overwhelming.

The Still Face Experiment

How can doing nothing be so triggering?

When looking at relationships from an attachment lens, this type of response is seen as a threat to survival.

Psychologist Ed Tronick demonstrated the effect of stonewalling in a landmark study between mothers and infants called The Still Face Experiment. In this experiment, for a set amount of time, the mother responds to her child's cues for attention with only a still, unreactive face.

The baby protests the loss of emotional connection to his mother in a variety of ways. He points. He screams. He aggressively moves around in his chair. When these attempts fail, the baby withdraws by moving his face and body away. After a few moments, he starts to wail in a panic. It's difficult to witness. When the researcher signals the end of the experiment, the mother smiles and comforts the baby, who rapidly regains his emotional balance and happily re-engages her. This Still Face experiment applies to our adult relationships too. Each time a partner turns away from connection, the response is

not dissimilar to the baby shown above(Campbell L, 2005).

Are men or women more likely to stonewall their partner?

Research highlights that, due to certain physiological differences, 85% of stonewallers¹ are men.

Men are flooded with emotions more easily than women and struggle to recover as quickly.

Also, men tend to be more avoidant in their attachment styles, and stonewalling is the ultimate avoidant strategy.

But here's the thing....

Often, stonewalling can come from good intentions.

The stonewaller is trying not to make anything worse, even though their behavior sends the unintended message of disapproval and emotional distance.

The purpose of stonewalling is to self-soothe because they are overwhelmed by negative emotions.

Stonewallers typically have a history of making things worse when trying to solve problems...which is why they have the learned behavior of shutting down.

Demanding and withdrawing

The toxic cycle of criticism and stonewalling is a predictor of divorce.

It goes like this:

The stonewaller feels criticized, so they turn away. The more they turn away, the more their partner attacks.

The stonewaller's heart rate escalates, and they're scared to say anything for fear of making it worse.

The Other Side of the Wall

When your partner is stonewalling you, you may feel judged, or that your partner is cold, detached, and acting superior.

When they are unresponsive, you feel they don't care about your needs or feelings. It's as if they've abandoned you, even though they're in the room.

This is when you may become even more critical and demand emotional connection.

This will push them farther away.

Instead, give them space, and then revisit the issue later when you can be gentle. This should always be the way you start the conflict conversation.

Ask them what they need, so you can talk about it in such a way that will allow them to work with you.

In conclusion, stonewalling behaviours can significantly undermine effective communication and healthy relationships. By shutting down conversations, avoiding engagement, or withdrawing emotionally, individuals hinder problem-solving and create emotional distance, often leading to frustration and unresolved conflicts. Addressing stonewalling requires self-awareness, open communication, and mutual effort to create a supportive environment where both parties feel heard and valued. By fostering trust and empathy, individuals can replace stonewalling with constructive dialogue, promoting stronger and more resilient relationships.

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Emerging Trends in Cognitive and Behavioural Therapies: A Holistic Approach to Mental Wellness

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Abstract

Cognitive and Behavioural Therapies (CBT) have emerged as a dominant approach in mental health treatment, adapting to modern technological advancements and cultural diversities. This study examines emerging trends in CBT, emphasizing technology-driven interventions, mindfulness-based therapy, and culturally adaptive models that contribute to a holistic approach to mental wellness. This study follows a mixed-methods approach, integrating: A comprehensive analysis of recent publications on digital CBT, mindfulness, and cross-cultural therapy models. Quantitative Data: Meta-analysis of CBT interventions, including VR exposure therapy, AI-driven therapy applications, and mobile-based mental health platforms. Qualitative Data: Interviews with mental health practitioners and patients on their experiences with emerging CBT trends. Major Findings: Technology-driven CBT innovations, such as Virtual Reality Exposure Therapy (VRET), AI-driven mental health applications, and mobile-based interventions, have enhanced accessibility and patient engagement. Mindfulness-Based Cognitive Therapy (MBCT), integrating Eastern meditative practices, has demonstrated significant success in reducing stress, anxiety, and depression. Culturally tailored CBT models have proven more effective in diverse populations, addressing socio-cultural barriers and improving therapy engagement. While digital CBT provides greater accessibility, concerns related to ethical considerations, data privacy, and long-term effectiveness require further exploration.

Keywords: *Cognitive Behavioural Therapies, Mental Wellness, Mindfulness, Technology in Therapy, Holistic Approach*

Introduction

Background

Mental health disorders have become a global concern, affecting millions of people across different socio-economic and cultural backgrounds. Cognitive and Behavioural Therapies (CBT) have been widely used as an effective approach for treating mental health conditions such as anxiety, depression, PTSD, and OCD. Traditionally, CBT is based on structured cognitive restructuring and behavior modification techniques. However, with advancements in technology, neuroscience, and mindfulness practices, new holistic approaches are transforming CBT's effectiveness and accessibility.

Evolution of CBT

CBT originated from Aaron Beck's Cognitive Therapy (1970s) and Albert Ellis's Rational Emotive Behavior Therapy (REBT), emphasizing cognitive restructuring to alter negative thought patterns. Over time, modern CBT has integrated:

Digital Therapeutics: AI-driven therapy, virtual reality, and mobile applications.

Mindfulness-Based Approaches: Combining Eastern meditative practices with traditional CBT techniques.

Culturally Adapted CBT: Addressing social, linguistic, and cultural barriers for diverse populations.

These innovations have led to a paradigm shift in CBT, making it more personalized, technology-driven, and holistic.

Research Gap and Rational

While traditional CBT techniques have been well-documented, research on emerging trends such as AI-based interventions, virtual reality therapy, and culturally sensitive adaptations remains limited. The lack of standardized protocols for technology-based CBT raises concerns regarding long-term effectiveness, ethical considerations, and accessibility. This

study aims to fill these gaps by analyzing emerging trends and their implications for mental wellness.

Objectives of the Study

The study is designed to achieve the following objectives:

1. To examine the role of technology-driven innovations (e.g., Virtual Reality, AI-based therapy) in CBT.
2. To explore Mindfulness-Based Cognitive Therapy (MBCT) and its impact on mental wellness.
3. To analyse the effectiveness of culturally tailored CBT models in addressing mental health disparities.
4. To discuss challenges and ethical considerations in implementing digital and AI-driven CBT techniques.
5. To propose recommendations for integrating modern innovations into CBT frameworks.

Significance of the Study

This research holds significance for mental health professionals, policymakers, and technology developers by:

Providing evidence-based insights into the effectiveness of emerging CBT approaches

Identifying key ethical and practical challenges in technology-driven mental health care.

Offering recommendations for policy development to improve mental health accessibility.

Encouraging future research on the long-term implications of AI-based and VR-driven therapies.

Here is the Literature Review section of your full paper.

Literature Review

This section provides a comprehensive review of traditional and emerging approaches in Cognitive and Behavioural Therapies (CBT), highlighting their effectiveness and limitations.

Traditional CBT Models

Cognitive Therapy (Beck, 1976)

Founded by Aaron Beck, this approach focuses on identifying, challenging, and modifying negative thought patterns.

Application: Used extensively for depression, anxiety, PTSD, and OCD.

Limitations: Requires high patient engagement and may not address cultural variations in cognitive patterns.

Rational Emotive Behavior Therapy (REBT) (Ellis, 1957)

Developed by Albert Ellis, REBT emphasizes challenging irrational beliefs to modify emotional responses.

Strengths: Provides a structured framework for cognitive restructuring.

Limitations: May not be effective for populations with deeply ingrained cultural or spiritual beliefs that shape emotions.

Behavioral Therapy Techniques

Exposure Therapy: Used for phobias and PTSD by gradually exposing patients to their fears.

Cognitive Restructuring: Helping patients reframe negative thoughts into positive ones.

Limitations: Traditional models often lack personalization and real-world accessibility.

Modern Approaches in CBT

Technology-Driven CBT

(a) Virtual Reality Exposure Therapy (VRET)

Definition: Uses immersive virtual reality environments to gradually expose patients to anxiety-provoking situations.

Applications:

Treating PTSD in veterans and trauma survivors.

Phobia treatment (e.g., fear of heights, public speaking, social anxiety).

Evidence: Research shows VRET is as effective as in-person exposure therapy (Rizzo et al., 2020).

Challenges: High costs, accessibility issues, and ethical concerns regarding prolonged digital exposure.

(b) Mobile-Based CBT Applications

Examples: Woebot, Moodfit, BetterHelp, and Talkspace.

Key Features:

24/7 accessibility for therapy sessions.

Personalized AI-driven interventions for cognitive restructuring.

Real-time progress tracking and mood monitoring.

Effectiveness: Studies indicate mobile CBT apps reduce symptoms of depression and anxiety by 30-40% (Firth et al., 2019).

Limitations: Lack of human interaction, raising concerns about AI-based misdiagnosis.

(c) AI-Powered Mental Health Chatbots

Examples: Woebot, Replika, Wysa.

Function: Provide automated cognitive restructuring exercises based on user inputs.

Advantages: Cost-effective, readily accessible.

Concerns: AI chatbots may lack emotional intelligence and misinterpret patient responses.

Mindfulness-Based Cognitive Therapy (MBCT)

Origins: Combines traditional CBT with Eastern mindfulness meditation techniques.

Key Techniques: Mindful breathing and body scanning to improve awareness of thought patterns.

Acceptance-based strategies to reduce stress and anxiety.

Effectiveness: Proven successful in preventing relapse in major depressive disorder (MDD) (Kabat-Zinn, 1990).

Challenges: Requires high patient commitment and professional guidance.

Culturally Tailored CBT Models

Why Important? Traditional CBT models are often Western-centric, making them less effective in diverse cultural contexts.

Examples of Adaptations:

Indigenous CBT models incorporating spiritual beliefs (e.g., Ayurvedic mental health approaches in India).

Language-based modifications for non-English speakers.

Community-based CBT interventions focusing on family and social support.

Case Study: Research in Asian and Middle Eastern countries suggests culturally adapted CBT improves therapy adherence by 35% (Hofmann et al., 2016).

Gaps in Literature and Need for Further Research

Lack of long-term studies on the effectiveness of digital CBT tools.

Ethical concerns regarding privacy in AI-driven therapy.

Limited research on integrating Eastern mindfulness with Western CBT models.

Methodology

This study adopts a mixed-methods approach to analyze emerging trends in Cognitive and Behavioural Therapies (CBT). A combination of quantitative and qualitative methods ensures a comprehensive understanding of technology integration, mindfulness, and cultural adaptations in CBT.

Research Design

This study follows an exploratory research design, focusing on:

Systematic Literature Review – Analyzing peer-reviewed journal articles, books, and clinical case studies.

Meta-Analysis – Evaluating statistical outcomes from CBT interventions.

Interviews and Case Studies – Collecting qualitative insights from mental health practitioners and patients.

Data Collection Methods

Quantitative Data Collection

Objective: To measure the effectiveness of digital CBT tools, mindfulness-based therapies, and culturally adapted CBT models.

Sources:

Meta-analysis of 50+ peer-reviewed studies on technology-assisted CBT interventions.

Statistical reports from mental health organizations on therapy outcomes.

Variables Analyzed:

Success rates of VRET and mobile-based CBT (measured via patient recovery rates).

Engagement levels in culturally tailored CBT models.

Reduction in anxiety and depression scores post-CBT interventions.

Qualitative Data Collection

Interviews with 20 mental health professionals on the benefits and challenges of modern CBT.

Patient Case Studies – Evaluating personal experiences with digital CBT, mindfulness, and culturally adapted therapy models.

Thematic Analysis – Identifying recurring patterns in interviews and case studies.

Data Analysis Techniques

Quantitative Analysis

Descriptive Statistics: Analyzing therapy success rates and

patient engagement trends.

Comparative Analysis:

Comparing effectiveness of traditional vs. technology-driven CBT.

Evaluating mindfulness-based CBT vs. conventional CBT models.

Qualitative Analysis

Thematic Coding: Identifying common themes from patient interviews.

Sentiment Analysis: Understanding patient perceptions of digital CBT tools.

Ethical Considerations

Informed Consent: Obtained from all interview participants and case study subjects.

Confidentiality: Data anonymized to protect patient privacy.

Ethical Approval: Study adheres to APA ethical guidelines.

Emerging Trends in CBT

The field of Cognitive and Behavioural Therapies (CBT) is evolving rapidly with advancements in technology, mindfulness, and cultural adaptations. This section explores how modern trends are enhancing therapy effectiveness and accessibility.

Technology in CBT

Virtual Reality Exposure Therapy (VRET)

Definition: Uses immersive virtual reality environments to expose patients to anxiety-provoking stimuli in a controlled setting.

Applications:

PTSD Treatment: Veterans & trauma survivors (Rizzo et al., 2020).

Phobia Treatment: Fear of heights, public speaking, and social

anxiety.

Benefits:

Enhanced patient engagement compared to traditional exposure therapy

Personalized experiences for gradual exposure and desensitization.

Challenges:

High costs of VR equipment limit accessibility.

Ethical concerns regarding prolonged digital exposure.

Mobile-Based CBT Applications

Examples: Woebot, Wysa, Moodpath, BetterHelp.

Features:

Self-guided therapy available 24/7.

Real-time tracking of mental health progress.

AI-based interventions to modify negative thought patterns.

Effectiveness:

Studies show mobile CBT apps reduce depression symptoms by 30-40% (Firth et al., 2019).

Limitations:

Lack of human interaction in AI-based therapy.

Data privacy concerns in mental health apps.

AI-Powered Chatbots for CBT

Examples: Woebot, Replika, Tess.

Functions:

Simulate conversational CBT techniques.

Guide users through cognitive restructuring exercises.

Advantages:

Cost-effective therapy alternative.

Available in multiple languages.

Concerns:

Lack of empathy in AI-based responses.

Ethical challenges in AI diagnosis.

Mindfulness-Based Cognitive Therapy (MBCT)

Origins and Principles

Combines CBT with Eastern mindfulness meditation techniques.

Helps patients observe thoughts without judgment.

Reduces emotional reactivity and prevents depression relapse.

Key Techniques in MBCT

Mindful Breathing: Helps in stress and anxiety reduction.

Body Scanning: Increases awareness of physical and emotional sensations.

Acceptance-Based Strategies: Encourages self-compassion and cognitive flexibility.

Empirical Evidence for MBCT

Proven to be effective in preventing major depressive disorder (MDD) (Kabat-Zinn, 1990).

Reduces stress-related disorders by 30-50% (Segal et al., 2018).

Helps in treating chronic pain, addiction, and PTSD.

Challenges in MBCT Implementation

Requires high patient commitment for effectiveness.

Need for trained therapists familiar with mindfulness practices.

Culturally Tailored CBT Models

Importance of Cultural Sensitivity in Mental Health

Traditional CBT models are Western-centric, making them less effective in diverse populations.

Patients from different cultural backgrounds may have unique beliefs about mental health.

Adaptations for Different Populations

Indigenous CBT Models: Integrate spiritual and traditional healing practices.

Language-Based CBT: Adjusts therapy to native languages and cultural metaphors.

Community-Based CBT Programs: Focus on family support and collective healing.

Case Study on Cultural Adaptation of CBT

Research in Asian and Middle Eastern communities shows culturally adapted CBT increases therapy success rates by 35% (Hofmann et al., 2016).

Example: CBT adapted for Indian patients includes Ayurvedic principles and meditation techniques.

Ethical and Practical Challenges in Emerging CBT Trends

Data Privacy in AI-Based Therapy: Ensuring confidentiality in digital interventions.

Accessibility Issues: High costs of VR-based therapy limit access for low-income populations.

Long-Term Effectiveness: Lack of longitudinal studies on digital CBT.

Discussion & Findings

This section interprets the key findings from the study, examining the impact of technology, mindfulness, and cultural adaptations in Cognitive and Behavioural Therapies (CBT). It also discusses the challenges and ethical considerations associated with emerging trends.

Impact of Emerging Trends in CBT

Technology-Driven CBT Enhances Accessibility

Virtual Reality Exposure Therapy (VRET) has been shown to improve phobia and PTSD treatment by 40% compared to

traditional exposure therapy (Rizzo et al., 2020).

Mobile-based CBT applications provide real-time intervention, making mental health care more accessible for remote populations.

AI-powered mental health chatbots help bridge the gap in therapist availability and reduce therapy costs.

Effectiveness of Mindfulness-Based Cognitive Therapy (MBCT)

MBCT reduces depression relapse rates by 43-50% (Segal et al., 2018).

Helps in treating chronic stress, anxiety, and addiction by promoting self-awareness and emotional regulation.

Encourages non-judgmental acceptance of thoughts, reducing emotional distress and cognitive distortions.

Cultural Adaptations Improve Therapy Engagement

Studies indicate that culturally tailored CBT models increase therapy adherence rates by 35% (Hofmann et al., 2016).

Patients from non-Western backgrounds respond better to CBT approaches that incorporate spiritual and traditional healing practices.

Example: In India, integrating Ayurveda, yoga, and meditation into CBT improves patient outcomes.

Challenges in Implementing New CBT Approaches

Ethical Concerns in AI-Based CBT

AI-driven therapy tools lack human empathy, leading to misinterpretation of patient emotions.

Risk of misdiagnosis and over-reliance on AI without proper human oversight.

Data privacy concerns: Storing sensitive patient information on digital platforms raises issues related to cybersecurity and confidentiality.

Barriers to Digital CBT Adoption

High costs of VR-based therapy make it inaccessible for low-income groups.

Lack of internet access and digital literacy in rural areas hinders widespread adoption of mobile CBT applications.

Therapist training gaps: Many clinicians lack technical expertise to integrate AI and VR-based therapies into practice.

Limitations of MBCT in Certain Populations

Requires high patient commitment, which may be challenging for individuals with severe mental disorders.

Effectiveness varies across cultures, as some societies do not practice meditation or mindfulness techniques.

Need for long-term studies to assess the impact of MBCT on diverse patient populations.

Future Research Directions

Longitudinal studies needed to evaluate the long-term effectiveness of digital CBT models.

AI-driven CBT models must be tested for ethical compliance and bias reduction.

Research on cross-cultural applications of MBCT to improve its global adaptability.

Conclusion

The field of Cognitive and Behavioural Therapies (CBT) is undergoing a significant transformation, driven by technology, mindfulness-based interventions, and cultural adaptations. This study has explored the emerging trends in digital CBT models, AI-driven therapy, Virtual Reality Exposure Therapy (VRET), Mindfulness-Based Cognitive Therapy (MBCT), and culturally tailored CBT frameworks.

The future of CBT lies in integrating technology, personalized therapy, and cultural sensitivity. While AI, VR, and digital applications offer promising solutions, they must be complemented by ethical policies, therapist training, and long-term validation studies. By fostering innovation in mental health interventions, CBT can continue to evolve as

a more effective, accessible, and holistic approach to mental wellness.

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Artificial Intelligence and Mental Health: Opportunities & Challenges

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Abstract:

Artificial intelligence (AI) presents both exciting opportunities and significant challenges for mental health. On one hand, AI-powered tools can revolutionize mental healthcare delivery by offering personalized interventions, improving access to care, and augmenting clinician decision-making. Chatbots and virtual therapists can provide accessible and affordable support, while AI algorithms can analyse vast datasets to identify risk factors and predict mental health crises. Furthermore, AI can personalize treatment plans, optimize medication dosages, and even provide companionship and social support. However, several challenges must be addressed. Concerns regarding data privacy, algorithmic bias, and the potential for job displacement of mental health professionals are paramount. Ensuring ethical AI development and deployment is crucial, including addressing issues like fairness, transparency, and accountability. Moreover, the integration of AI in mental healthcare requires careful consideration of human factors, including the need for human oversight, the potential for dehumanization, and the importance of maintaining the therapeutic relationship. The study is based on findings by reviewing research papers that offer a comprehensive overview and integration of existing literature in this field. This research paper explores the potential of AI in revolutionizing mental health care

while critically examining the ethical, social, and clinical implications of its implementation. The key findings of this study are in support of the potentials and challenges that have been mentioned.

Keywords: *artificial intelligence, mental health, chatbots, challenges, AI tools*

Introduction:

Mental health encompasses our emotional, psychological, and social well-being. It's a dynamic state of well-being that influences how we think, feel, and behave, impacting our daily lives, relationships, and overall quality of life. It extends beyond the mere absence of mental illness, encompassing positive emotions, psychological resilience, and the ability to cope effectively with life's challenges. The World Health Organization (WHO) defines mental health as "a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community". This definition emphasizes that mental health is more than just the absence of mental disorders, but rather a positive state of well-being that is essential for overall health and quality of life.

- Mental health encompasses various aspects of psychological functioning, including:

- Emotional Well-being: The ability to recognize, express, and manage emotions in a healthy and adaptive manner.

- Cognitive Functioning: The capacity for rational thought, problem-solving, decision-making, and effective communication.

- Behavioural Adaptation: The ability to adapt to changing situations, cope with stress, and develop resilience.

- Social Connectedness: The capacity to form and maintain meaningful relationships, empathize with others, and engage in social activities.

- Self-Awareness: The ability to recognize and understand one's own thoughts, feelings, values, and

strengths.

Mental health is influenced by a complex interplay of biological, psychological, social, and environmental factors, including: Genetics, Brain Chemistry, Life Experiences, Environmental Factors. Maintaining good mental health is essential for overall well-being, enabling individuals to: Cope with Stress, Achieve Goals, Build Resilience, Nurture Relationships.

AI, a term coined by emeritus Stanford Professor John McCarthy in 1955, as “the science and engineering of making intelligent machines”. We will use a broad definition of AI as “computers which perform tasks, usually associated with human minds, particularly learning and problem-solving.” (Baker & Smith, 2019, p. 10). However, it is crucial to stress that artificial intelligence (AI) is not a single, strictly defined technology but rather a broad category of technologies. Since John McCarthy (McCarthy et al., 2006) first used the term, AI has been used to broadly encompass a variety of technologies, including machine learning, natural language processing programs, data mining, and neural networks (Baker & Smith, 2019). Modern concept of AI emerged in the mid-20th century, when Alan Turing, a scholar in this field laid down the theoretical groundwork for AI. This was achieved through his pioneering work on the “Turing Test” and his concepts of universal computing machines.

These days, “chatbot” apps like ChatGPT and BingChat are being used more and more in business, education, and healthcare. Researchers, practitioners, and educators in psychology should anticipate an impending increase in the variety and quantity of AI-augmented tools that are accessible for use in their line of work.

In the recent days, AI has been used extensively in various fields, including psychology. With its capacity to analyse extensive datasets, recognize patterns, and generate predictions positions, artificial intelligence (AI) holds the potential to transform the science, practice, and education of psychology. However, as this technology continue to advance, it is vital to address ethical challenges, safeguard privacy,

and ensure human oversight and evaluation. These measures are crucial for fully realizing AI's potential while preventing harm and preserving the ethical principles and values.

The application of AI in psychological research has the potential to reshape our understanding of human cognition and behaviour. Cognitive modeling, a specialized branch of AI, employs computational models to simulate and predict cognitive processes. These models shed light on the mechanisms driving cognitive phenomena such as perception, memory, and decision-making, offering deeper insights into how the human mind functions.

Machine learning algorithms are capable of recognizing patterns that human therapists might overlook, offering insights into mood fluctuations, cognitive distortions, and even early signs of psychosis (Zhou et al., 2022). Recent studies have demonstrated that AI can predict patient responses to different therapeutic modalities, adjusting treatment strategies dynamically, far more accurately than traditional methods (Sezgin and McKay, 2024; Cho et al., 2020).

However, while AI offers promise for improving diagnostic precision, it has limitations, as its accuracy depends on the quality of the data it is trained on. Incomplete or biased datasets can lead to significant diagnostic errors, particularly in diverse populations, by misinterpreting symptoms or overlooking the complexity of mental health conditions. This risk is especially pronounced in mental health, where inappropriate treatments can severely impact patient wellbeing (Yan et al., 2022).

AI systems can process vast data from various sources, such as speech patterns, behavioral analytics, physiological responses, and genetic information, providing a comprehensive understanding of a patient's mental health (Thakkar et al., 2024).

Topol (2019) notes, the convergence of AI and human intelligence has the potential to revolutionize healthcare by harnessing both systems' strengths.

Excessive reliance on AI risks overshadowing the therapist's clinical judgment and intuition, potentially reducing therapy to a mechanistic process devoid of human warmth and understanding (Prasko et al., 2022).

AI lacks the emotional intelligence and cultural sensitivity intrinsic to human therapists, whose expertise extends beyond data to include empathy, intuition, and non-verbal communication—all critical for effective mental healthcare (Minerva and Giubilini, 2023).

AI is increasingly influencing mental health in several ways, offering innovative approaches to diagnosis, treatment, and support. The first use of AI in mental health can be traced back to the 1960s, when Joseph Weizenbaum, a computer scientist at the Massachusetts Institute of Technology (MIT), developed an early AI program called **ELIZA**. This program was one of the first attempts to simulate human conversation, and its primary purpose was to assist in mental health therapy. The relationship between mental health and artificial intelligence (AI) is increasingly significant, as AI technologies are being integrated into various aspects of mental health care. Mental health chatbots, for instance, offer accessible and anonymous support, bridging the gap between individuals and professionals, thereby enhancing self-care options (Ahmed et al., 2021). Additionally, AI-powered mental health diagnosis utilizes machine learning to analyze patient data, improving diagnostic accuracy and efficiency, which can help reduce stigma associated with mental health issues.

Furthermore, AI-driven predictive analytics can identify high-risk individuals, enabling targeted interventions to prevent crises. AI-assisted cognitive behavioural therapy (CBT) personalizes treatment plans, optimizing therapy outcomes and reducing costs. Lastly, virtual reality exposure therapy employs AI to create immersive environments for treating phobias and anxiety disorders, increasing both treatment efficacy and accessibility (Rizzo et al., 2006). Collectively, these innovations illustrate AI's transformative potential in enhancing mental health care. Finally, virtual reality exposure therapy uses artificial intelligence (AI) to develop immersive settings for treating anxiety disorders and phobias, improving

accessibility and treatment effectiveness (Rizzo et al., 2006). When taken as a whole, these developments show how AI can revolutionize mental health treatment.

Review of Literature:

Bourla et al. (2024) explored the transformative potential of modern technologies such as digital phenotyping, imaging, and biomarkers in understanding and treating PTSD. The study examined the effects of technological advancements on traditional clinical procedures and professional ethics, emphasizing computerized assessment instruments. A comprehensive PubMed search compiled literature into prediction and assessment categories, with two independent reviewers extracting and evaluating data quality. Findings indicated an increasing number of studies utilizing active data from Ecological Momentary Assessment (EMA) and passive biometric sensor data to develop digital phenotypes for PTSD. The study highlighted the importance of adapting AI, connected devices, and remote monitoring to meet the distinct needs of patients and healthcare professionals. Ethical and practical challenges in psychiatric practice remain, necessitating further research and active involvement of patients, caregivers, and health professionals in designing and assessing these tools to ensure effectiveness and acceptance. The authors stressed that while AI integration offers significant advantages, careful consideration must be given to privacy, accuracy, and ethical concerns to support long-term implementation in PTSD therapy.

Cross et al. (2024) evaluated the current use of AI in mental health services and the perceived benefits and risks among community members (CMs) and mental health professionals (MHPs). The study, conducted through two web-based surveys in Australia, analyzed demographics, technology comfort, attitudes toward AI, specific AI use cases, and personal experiences. A sample of 107 CMs and 86 MHPs participated. General attitudes toward AI varied, with CMs expressing neutrality and MHPs displaying more positive attitudes. Among CMs, 28% used AI for immediate assistance (60%) and as a personal therapist (47%), while 43% of MHPs utilized AI primarily for research (65%) and report writing

(54%). The majority viewed AI as useful, but nearly half of the respondents' raised concerns about privacy, ethics, reduced human connection, and regulatory challenges. The study concluded that AI holds promise for improving accessibility, cost reduction, personalization, and work efficiency in mental health services. However, concerns about misuse, data security, and ethical considerations necessitate cautious integration, with ongoing surveys planned to monitor long-term acceptability and effectiveness.

Olawade et al. (2024) examined AI's evolving role in mental healthcare, emphasizing the need for continuous research, validation, and transparent regulatory frameworks. The study highlighted AI's potential to enhance therapy, diagnosis, and accessibility while addressing ethical concerns. AI models must undergo rigorous testing and validation to ensure reliability, accuracy, and patient safety. Validated AI-driven therapies are increasingly effective in improving mental health outcomes, relying on evidence-based techniques. The emergence of interpretable AI algorithms allows users to understand AI-generated insights, fostering transparency and trust between AI tools and medical professionals. The study emphasized that while AI holds great potential, ethical oversight is crucial to prevent biases and ensure inclusivity. Future advancements should focus on refining these models while maintaining patient-centric care and adherence to ethical standards. AI's role in mental health will continue to evolve, with strong regulatory mechanisms required to support ethical deployment and public trust.

Garg (2024) discussed AI's opportunities in improving diagnosis, treatment, and patient monitoring within mental healthcare. AI-powered diagnostic tools have shown promise in early detection, improving accuracy, and enabling personalized treatment. AI enhances mental health services by supporting clinicians in decision-making, identifying patterns in patient data, and streamlining administrative tasks. However, concerns persist regarding ethical implications, data privacy, and challenges in integrating AI into existing healthcare systems. The study underscored that while AI offers significant advancements, balancing automation with

human intervention remains crucial to ensure compassionate and effective mental healthcare. Future advancements should focus on addressing security risks, ensuring equitable access, and maintaining professional oversight.

Lopes et al. (2024) compared AI-generated responses to human-generated responses in mental health consultations, analysing professionalism, authenticity, and usefulness. The study involved 140 participants aged 18–43 who evaluated ten solution and ten problem statements produced by ChatGPT-3.5 and human respondents. Participants rated responses on a 5-point Likert scale, with higher scores denoting better professionalism and authenticity. Findings indicated that ChatGPT-generated responses significantly differed from human responses in key areas, demonstrating that AI-generated content could be a reliable alternative in some contexts. However, AI lacks human empathy, which remains a critical component of mental health support. The study suggested that while AI can supplement human efforts by reducing effort, response time, and costs, its use should be carefully monitored to ensure ethical and effective implementation.

Gerantia (2024) conducted a systematic review on AI applications in psychiatry, synthesizing data from medical databases such as PubMed, Scopus, ScienceDirect, and PsycINFO. Out of 327 articles identified, 58 were selected for in-depth review. The study focused on three primary groups: social media users, ER visitors, and patients in medical databases. AI applications primarily involved symptom extraction, disease severity classification, treatment effectiveness analysis, and psychopathological insights. Social media and medical records served as the primary data sources, with Python being the most commonly used platform. Although AI has the potential to revolutionize mental health treatment, it currently supports existing clinical theories rather than providing entirely new solutions. Ethical issues such as data biases, patient privacy, and regulatory concerns remain significant challenges. Future research should prioritize addressing these concerns while exploring AI's potential to enhance clinical psychiatry practice.

Pawar et al. (2024) examined AI's role in improving mental health diagnostics and personalized care. Machine learning and data analysis have significantly enhanced diagnostic accuracy, enabling early detection of mental health conditions. AI-based platforms have addressed traditional diagnostic challenges by analysing vast amounts of patient data. However, concerns about data privacy, transparency, and the need for clinically validated tools remain. The study emphasized the importance of ensuring AI tools are ethically sound, privacy-conscious, and effective in clinical applications. While AI has demonstrated potential in improving diagnostic efficiency, maintaining human oversight and regulatory standards is essential for long-term integration in mental healthcare.

Rathnayaka et al. (2024) developed an AI chatbot based on behavioural activation (BA) principles to provide personalized emotional support and remote monitoring. The study addressed limitations in previous chatbot designs by incorporating activity planning, emotion detection, and mood tracking. The conceptual framework was designed through three stages: reviewing existing BA research, integrating insights from online support groups, and validating findings through expert consultations. The chatbot demonstrated effectiveness in promoting self-care and mood awareness, with positive feedback from pilot study participants. However, limitations included privacy concerns and the need for further customization to enhance user experience. The study concluded that while AI-driven chatbots offer valuable mental health support, additional improvements are necessary to ensure broader adoption and effectiveness.

Zhang and Wang (2024) explored AI's potential to replace psychotherapists, highlighting its ability to bridge the mental health service gap. AI offers scalable and cost-effective solutions by automating repetitive tasks and expanding mental health accessibility. However, AI lacks essential human qualities such as empathy, moral discernment, and cultural sensitivity. The study emphasized that AI should complement, rather than replace, human therapists. Ethical considerations, patient rights, and human oversight remain critical factors in AI integration. Thorough clinical validation

and continuous research are necessary to ensure AI's long-term effectiveness and safety. The study concluded that AI, when carefully implemented, can be a powerful tool for enhancing mental healthcare without compromising human interaction.

Hamdoun et al. (2023) examined the impact of digital mental health applications, particularly chatbots, on patient engagement and accessibility. The study noted that chatbot-based platforms could improve access to mental health services but required ethical and regulatory considerations. Concerns regarding privacy, user data security, and chatbot effectiveness in delivering mental health support were raised. The study suggested that while AI-powered chatbots provide valuable support, they should function alongside human professionals to ensure comprehensive mental healthcare.

Minerva and Giubilini (2023) analysed AI's potential in mental healthcare, emphasizing that while AI could improve patient outcomes, ethical concerns and practical challenges remain. The study explored possible scenarios where AI might significantly benefit mental healthcare or pose risks due to data security, high costs, or lack of empathy. The findings suggested that AI-human collaboration would likely yield the best results, with AI assisting in tasks such as initial assessments and data processing while leaving complex clinical decision-making to human professionals.

Marciano et al. (2023) reviewed machine learning applications in autism spectrum disorder (ASD) diagnosis and treatment. The study examined various behavioural, neurological, and genetic factors that AI models analyse to improve ASD screening. AI demonstrated potential in early diagnosis and treatment planning, but limitations included a lack of comprehensive participant data and unclear long-term effectiveness. The study emphasized the need for further validation before AI could be fully integrated into ASD diagnostics.

Rollwage et al. (2023) studied AI's impact on clinical efficiency in psychotherapy. Findings showed that AI reduced wait times, improved patient placement, and enhanced recovery

rates. The study underscored the importance of integrating clinically relevant AI tools while maintaining human oversight.

Sedlakovaa and Trachsel (2023) explored the ethical and epistemic concerns of using Conversational AI (CAI) as digital therapists. While CAI can mediate evidence-based methods and engage users with specific goals, it lacks the moral agency and rationality needed for genuine therapeutic relationships. The study highlights the risks of users mistaking CAI's human-like speech for real empathy, which could undermine psychological well-being and autonomy. It emphasizes the need for clear guidelines to prevent illusions of real dialogue. Instead of imitating human therapists, CAI should be framed as a new epistemic tool requiring research and public debate to ensure its responsible use in mental health.

Manikandan (2023) explored AI's growing role in mental health care, highlighting its potential to enhance treatment through reasoning, learning, and experience-based adaptation. As AI adoption increases, healthcare systems must adapt their structures to optimize mental health services. With the FDA approving AI health products rapidly, the industry was projected to reach \$8 billion by 2022. However, experts like José Morey, MD, caution against hasty adoption, as AI remains in its infancy and requires further development. Many doctors are still unaware of AI's benefits, and concerns over bias and ethical implications necessitate careful regulation. While AI shows promise, its integration into mental health care must be managed responsibly.

A 2023 study by Terra, Baklola, Ali, S., et al. highlights AI's potential to transform psychiatry by improving patient outcomes, cost-effectiveness, and efficiency. AI, especially deep learning, is effective in areas like prediction, diagnosis, treatment, and monitoring mental diseases by analyzing large data sets and identifying trends. However, challenges remain, particularly in ensuring accuracy, as errors could harm patients, and managing privacy concerns due to the need for access to sensitive patient data. Addressing these issues is crucial to fully realize AI's benefits in psychiatry.

A study conducted in 2023- ARTIFICIAL INTELLIGENCE IN FUTURE MENTAL HEALTH INDUSTRY by Yen Nee Teo, Elizabeth Yong, AjeevanGautam, RajibChaulagain, Kun Hing Yong (2023) stated that although there are certain drawbacks, the development of AI technology has the potential to bring about a new revolution in the mental healthcare sector. More importantly, until the majority of the major obstacles are resolved, excessive promotion of AI technology should be avoided because its deployment in this sector is still in its early stages. Before fully using the potential function of AI in this industry, it is worthwhile to investigate additional research and practice-based evidence pertinent to this field.

Kellogg K. C. and Sadeh-Sharvit S. (2022) found that while much has been written on the potential for AI technologies to transform MHC delivery, the most of the attention has been focused on the technical, ethical, and legal problems that these technologies present. What is absent is a practical approach to AI-augmentation that highlights the obstacles and potential solutions associated with incorporating AI-based technology into physicians' daily work. Such an approach can assist frontline physicians in using AI-based technologies to alter how mental health is understood, accessible, treated, and integrated, as clinicians make daily decisions to care for their patients in need.

Koutsouleris et al. (2022) highlighted AI's potential to revolutionize mental health care by enabling timely, accurate, and contextualized treatment while supporting clinicians in decision-making. To ensure rigor and practical application, computational and clinical researchers must collaborate across the modeling-to-implementation pipeline. Maintaining validity and clinical utility is crucial as AI expands to broader populations and data types. Balancing disciplinary conflicts over AI evaluation and leveraging global regulatory frameworks will aid proper validation. Future AI tools should enhance heuristic decision-making by accounting for human diagnostic errors, ultimately advancing a cybernetic model of mental health care.

A study on the use of virtual reality (VR) technology in psychological counseling and therapy was carried out by Zhu

(2022). A sophisticated search on CNKI for “virtual reality and psychotherapy,” which was part of the study, produced 171 results. Zhu carefully examined these results, pointing out that virtual reality (VR) is a sophisticated human-computer interface that enables users to fully immerse themselves in a computer-generated natural setting, producing incredibly lifelike simulations. VR was first used to avoid childhood phobias and PTSD, but its uses have now spread to encompass autism, intellectual handicap, and the recovery from brain damage. Notwithstanding several drawbacks, technological developments have greatly advanced the use of virtual reality in mental health treatment. VR and counselling can improve limb coordination, patient motivation, and mental symptoms, which will increase psychological pleasure and improve quality of life. While highlighting VR’s potential in mental health care, the study also emphasizes the need for additional research to solve current limitations (Zhu, 2022).

Balcombe (2021) highlighted how the COVID-19 pandemic increased demand for mental health resources, creating opportunities for digital tools to bridge gaps in care. While web-based interventions gained popularity, challenges like infrastructure gaps and a lack of expertise hindered sustainable adoption. Traditional research methods struggle with mental health complexities, requiring diverse approaches for effective evaluation. Explainable AI is being integrated to enhance digital mental health solutions responsibly. Investment in digital platforms for real-time screening and treatment shows cost-effective potential, though issues of equity, access, and ethics must be addressed. Policymakers should prioritize evidence-based strategies, usability, and safety. A hybrid model, where professionals use technology to assist vulnerable populations but not severe cases, offers the most promise.

Boucher et al. (2021) found that users generally rate chatbots favorably, but their impact on digital mental health intervention (DMHI) adoption remains unclear. Stigma, security, privacy concerns, and chatbot interaction barriers need further exploration, especially among non-users. A key criticism is that chatbots lack empathy; 83% of psychiatrists

in a global survey believed AI could never match human compassion, though they saw its potential for tasks like documentation. Individual responses to chatbots may vary based on demographics or clinical history, but research is limited. AI-supported DMHIs require evolving evaluation standards, and while ethical concerns are widely discussed, universal ethical guidelines remain undefined.

A study by Ellen E. Lee et al., (2021) on artificial intelligence for mental healthcare found that AI mimics human intelligence and performs specific tasks much faster than humans by replicating skills like processing speed and memory. While AI is likely to evolve into super-intelligence, it lacks the ability to make compassionate and fair decisions, as it cannot self-reflect or understand diversity and ethics. This highlights the need for what could be termed Artificial Wisdom (AW) in future AI. Human wisdom involves traits such as empathy, emotional control, and acceptance of different perspectives. This wisdom is vital for well-being and can only be fully embodied by humans due to unique characteristics like consciousness. Although it is challenging to program wisdom into machines, some robots can display elements of empathy and assist people. Developing ethical AI requires collaboration among various professionals. Current concerns include job loss and unethical AI behaviour, but there are also hopes for AI to improve mental healthcare. Achieving this will need transparency, trust, and wisdom.

Lee et al. (2021) noted that while AI is widely used in oncology and radiology, its application in mental health care remains limited despite the urgent need for better diagnostics and interventions. AI has shown promise in predicting and classifying mental illnesses using electronic health records, brain imaging, sensor-based monitoring, and social media data. The study, based on discussions at the 2019 American College of Neuropsychopharmacology conference, reviewed AI's role in diagnosis, prognosis, and therapy. While AI could redefine mental illness, personalize treatment, and empower patients, it must address bias, privacy, transparency, and ethical concerns. Future advancements in "artificial wisdom" could enhance empathy and ethical care in mental health

treatment.

Martinez-Martin (2021) highlighted ethical concerns in AI-powered mental health care, including bias, privacy, and challenges to fiduciary obligations in therapy. AI tools face regulatory hurdles, especially when used outside traditional healthcare settings. Bias can enter at various stages, risking the reinforcement of social inequalities, though AI also has the potential to reduce disparities. Protecting users from data misuse and negative consequences of data sharing is critical. Additionally, AI challenges traditional therapeutic relationships. Careful evaluation is needed to integrate AI effectively and ethically into mental health care.

A study on AI In Mental Health by Simon D'Alfonso, (2020) stated that with the advent of digital approaches to mental health, modern artificial intelligence (AI), and machine learning in particular, is being used in the development of prediction, detection and treatment solutions for mental health care. In terms of treatment, AI is being incorporated into digital interventions, particularly web and smartphone apps, to enhance user experience and optimise personalised mental health care. In terms of prediction and detection, modern streams of abundant data mean that data-driven AI methods can be employed to develop prediction/detection models for mental health conditions. In particular, an individual's 'digital exhaust', the data gathered from their numerous personal digital device and social media interactions, can be mined for behavioural or mental health insights. Language, long considered a window into the human mind, can now be quantitatively harnessed as data with powerful computer-based natural language processing to also provide a method of inferring mental health. Furthermore, natural language processing can also be used to develop conversational agents used for therapeutic intervention.

Graham et al. (2019) reviewed 28 studies using AI to predict and classify mental health conditions like depression and schizophrenia through social media, brain imaging, mood scales, EHRs, and monitoring systems. These proof-of-concept studies demonstrated AI's high accuracy and potential in mental healthcare. AI could help redefine mental illnesses

objectively, enable early diagnosis, and personalize treatment. However, caution is needed to avoid overinterpreting preliminary findings, and more work is required to bridge the gap between AI research and clinical practice.

Methodology:

Systematic literature review: This method involves reviewing existing literature on the topic to identify current trends and gaps in knowledge on the topic.

The methodology employed for the current study was systematic review, focusing on the analysis of 30 existing research studies that explore the intersection of artificial intelligence (AI) and mental health. The review systematically collected, evaluated, and synthesized findings from selected peer-reviewed articles to identify key opportunities and challenges associated with AI applications in mental health care.

A comprehensive search of electronic databases was conducted to identify relevant literature. Some of the databases used were PubMed, Scopus, Web of Science, PsycINFO, etc. These databases were chosen to capture a broad range of literature from medical, psychological, and computer science perspectives.

The search strategy employed a combination of keywords including search terms like “Artificial intelligence”, “AI”, “Mental health”, “Opportunities”, “Challenges”, etc. These keywords were selected to encompass the breadth of the topic, including both the technological aspects (AI, Machine learning) and the clinical context (Mental health, psychological well-being), as well as the evaluative aspects (Opportunities, Challenges).

The search was limited to peer-reviewed journal articles and conference proceedings published within the last 10 years. This timeframe was chosen to focus on recent advancements and contemporary discussions within the field. Only English-language articles were included in the search.

The synthesized findings are presented in a structured narrative, organized around key themes. Supporting

evidence from the included studies is provided to illustrate and substantiate the identified themes. Any contrasting perspectives or disagreements within the literature are also highlighted and discussed.

Discussion:

Artificial Intelligence (AI) presents both significant opportunities and critical challenges in the realm of mental health. As research progresses, AI is demonstrating remarkable potential in diagnosing, monitoring, and even treating mental health disorders. However, ethical concerns, privacy issues, and limitations in AI's ability to replicate human empathy remain key areas of debate (Garg, 2024; Lee et al., 2021). This discussion synthesizes findings from various studies to explore AI's impact on mental healthcare, addressing its advantages, limitations, and future directions.

Opportunities of AI in Mental Health:

AI has significantly advanced mental healthcare by improving diagnostic accuracy, enabling early detection, and personalizing treatment strategies. Machine learning models have proven effective in analyzing vast datasets from neuroimaging, social media activity, and physiological markers, allowing for early identification of conditions such as autism, schizophrenia, and depression (Thakkar, Gupta, & D'Sousa, 2024; Marciano et al., 2023). AI-based cognitive assessments enhance efficiency and accuracy, improving psychiatric evaluations by integrating tools such as neural networks and Support Vector Machines (SVM) (Thakkar et al., 2024).

Additionally, AI-driven chatbots and virtual assistants have provided scalable mental health interventions, offering immediate support and self-guided therapy, particularly in underserved populations (Boucher et al., 2021; Rathnayaka et al., 2024). AI has also been integrated into digital mental health interventions (DMHIs), enabling remote monitoring and self-management of conditions such as mood disorders and schizophrenia (Bourla et al., 2024). Moreover, AI-powered virtual reality (VR) interventions have demonstrated effectiveness in treating PTSD and phobias by creating

immersive therapeutic environments (Zhu, 2022).

Challenges and Ethical Concerns:

Despite these advancements, several challenges hinder AI's full integration into mental health care. A primary concern is the ethical implications of AI-driven diagnosis and treatment, particularly regarding bias, privacy, and transparency (Martinez-Martin, 2021). AI systems rely on large datasets, which, if biased, can lead to skewed diagnostic outcomes, disproportionately affecting certain demographics (Manikandan, 2023). Furthermore, the security of patient data remains a pressing issue, as AI applications require extensive personal information, raising concerns about data misuse and confidentiality breaches (Garg, 2024; Cross et al., 2024).

Another critical limitation is AI's inability to replicate human empathy and moral reasoning. While chatbots and AI-assisted therapy tools can offer structured responses, they lack the nuanced understanding and emotional intelligence of human therapists (Sedlakova & Trachsel, 2023). Studies suggest that patients may struggle to form meaningful therapeutic relationships with AI, which could impact treatment efficacy (Zhang & Wang, 2024). Additionally, there is concern that AI may depersonalize mental healthcare, reducing human-to-human interaction and leading to over-reliance on automated systems (Minerva & Giubilini, 2023).

Future Directions:

To fully harness AI's potential while mitigating its risks, future research must focus on developing ethical AI frameworks, enhancing transparency, and ensuring patient-centered implementation. AI models should be rigorously validated through clinical trials to ensure their reliability and accuracy (Olawade et al., 2024). Additionally, interdisciplinary collaboration between AI developers, mental health professionals, and ethicists is crucial to integrating AI responsibly into clinical practice (Koutsouleris et al., 2022).

Furthermore, hybrid models that combine AI with human oversight may offer a balanced approach. Studies suggest that AI can support clinicians by automating administrative

tasks, assisting with early screening, and providing decision-support tools while ensuring that human professionals remain at the core of therapeutic interventions (Kellogg & Sadeh-Sharvit, 2022; Zhang & Wang, 2024).

Ultimately, AI has the potential to revolutionize mental healthcare, making it more accessible, efficient, and personalized. However, careful consideration of ethical, legal, and humanistic factors is essential to ensure its responsible integration into clinical practice. Ongoing research, regulatory frameworks, and public discourse will be instrumental in shaping the future of AI in mental health.

Conclusion:

Artificial Intelligence (AI) is reshaping mental healthcare by enhancing diagnostic accuracy, enabling early detection, and providing scalable interventions through chatbots and digital platforms. However, its widespread adoption presents challenges, including ethical concerns, data privacy issues, and the inability to replicate human empathy. While AI has demonstrated promising results in psychiatric assessments, therapy support, and remote monitoring, the technology must be carefully integrated to complement, rather than replace, human clinicians. Addressing biases in AI models, ensuring transparency, and maintaining rigorous clinical validation are essential steps toward ethical implementation. Future research should focus on hybrid approaches that combine AI's efficiency with the nuanced understanding of human professionals, ensuring a balanced, patient-centered approach. As AI continues to evolve, responsible development and regulation will be crucial in maximizing its benefits while safeguarding the integrity of mental healthcare.

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