



Therapy by Artificial intelligence

As a replacement to regular therapy

¹Rejinthala Sai Ajithesh, ²Amireddy Ruthvika ,

¹High school student, ²Business studies student,
¹computer science,

¹Montessori Indus Residential school, Kurnool, India.

Abstract : This research investigates the potential of "Therapy by Artificial Intelligence" as a viable alternative to traditional therapy, particularly for high school students facing mental health challenges. The study focuses on the feasibility and effectiveness of using AI-driven tools, such as ChatGPT, to address the unique struggles of teenagers who may find it difficult to communicate their issues with human therapists. Through a series of interviews and follow-ups with high school students, this research highlights how AI interactions positively impacted students' mental well-being, enhancing their ability to manage stress, anxiety, and other personal challenges. Results indicated a marked improvement in self-expression, resilience, and comfort levels among participants who used AI as a therapeutic medium. This study concludes that AI-based therapy could serve as a cost-effective and accessible alternative to standard therapy, broadening support for individuals reluctant to engage in traditional mental health treatment.

I. INTRODUCTION

INTRODUCTION

In today's fast-paced world, physical health problems often dominate our concerns due to their immediate and painful impact on our bodies. However, mental health issues are frequently overlooked, despite their profound effect on an individual's overall well-being. Mental health problems can severely impair one's ability to focus and perform at their full potential, leading to decreased productivity and a decline in work quality. Furthermore, these issues can strain personal relationships with family and friends, gradually deteriorating one's social support system.

Mental health issues have become one of the most significant health challenges of our time. If left unaddressed, these problems can escalate and take a toll on individuals of all ages. Notably, teenagers and middle-aged individuals are particularly susceptible to mental health conditions. This demographic is crucial as they play vital roles in society and the economy. If their mental health is compromised, it can have a ripple effect, potentially leading to significant economic consequences on a global scale.

Mental health issues can insidiously erode self-esteem and confidence. Individuals struggling with these problems often experience a persistent sense of inadequacy compared to their peers. Mental health disorders can be categorized into several types, each with its own set of challenges. The primary categories include:

Depression: Characterized by persistent feelings of sadness, hopelessness, and a lack of interest in daily activities.

Autism Spectrum Disorder: A developmental disorder that affects communication and behavior, presenting a wide range of symptoms and abilities.

Attention-Deficit/Hyperactivity Disorder (ADHD): A condition marked by inattention, hyperactivity, and impulsivity, which can interfere with daily functioning and development.

Anxiety Disorders: Encompassing various conditions characterized by excessive fear and anxiety, including generalized anxiety disorder, panic disorder, and social anxiety disorder.

Addressing these mental health issues requires immediate and concerted action. Without proper intervention, mental health problems can dominate and disrupt lives, silently undermining both personal well-being and societal productivity. Recognizing the importance of mental health is crucial, and taking proactive steps to address these issues can prevent their devastating impact on individuals and communities alike.

NEED OF THE STUDY.

The rising mental health challenges among teenagers, coupled with their reluctance to engage in traditional therapy due to stigma, discomfort, or accessibility issues, underscores the need for alternative therapeutic options. Conventional therapy requires individuals to openly communicate with a therapist, which many teenagers find intimidating or intrusive. This study addresses the critical need for a supportive, accessible, and non-judgmental alternative. By exploring "Therapy by Artificial Intelligence," this research aims to assess whether AI-driven tools like ChatGPT can effectively aid students in managing mental health challenges,

offering an innovative and potentially cost-effective solution that could increase access to mental health support for those who may otherwise remain untreated.

3.1 Depression

We frequently hear about mental health problems in our surroundings, and depression has now become an alarming outbreak. According to recent data, approximately 280 million people worldwide suffer from depression, making it one of the most common mental health disorders. Alarmingly, depression is 50% more prevalent in women than in men, highlighting a significant gender disparity in mental health.

Depression is a pervasive and debilitating condition that affects individuals across all demographics, but it has an especially profound impact on teenagers. Adolescence is a critical developmental period marked by significant physical, emotional, and social changes. When depression strikes during these formative years, it can severely disrupt a teenager's life. Teenagers suffering from depression often experience overwhelming feelings of sadness, hopelessness, and a lack of interest in activities they once enjoyed. This can lead to academic struggles, social withdrawal, and strained family relationships.

Statistics from "Our World in Data" further illustrate the gravity of this issue. Depression is responsible for a significant proportion of the global burden of disease, with major depressive disorder ranking as the leading cause of disability worldwide. In 2017, it was estimated that 4.4% of the global population was living with depression. The prevalence of depression has increased dramatically in recent decades, and it continues to rise, affecting more people each year.

The impact of depression on teenagers is particularly concerning. Research indicates that approximately 20% of adolescents will experience depression before they reach adulthood. This not only affects their immediate well-being but also has long-term consequences. Teenagers with depression are more likely to struggle with academic performance, leading to lower educational attainment and limited career opportunities. They are also at a higher risk of engaging in substance abuse and experiencing other mental health disorders.

One of the most troubling aspects of depression in teenagers is the increased risk of suicide. Suicide is the second leading cause of death among individuals aged 15 to 29, and depression is a major contributing factor. The loss of young lives to suicide is a tragic and preventable outcome that underscores the urgent need for effective mental health interventions and support systems.

The ripple effects of depression extend beyond the individual, impacting families, communities, and the economy. When teenagers suffer from depression, their ability to contribute to society is compromised, which can have lasting economic repercussions. The direct and indirect costs of depression, including healthcare expenses and lost productivity, amount to billions of dollars annually.

Addressing the depression epidemic requires a multifaceted approach, including increasing awareness, reducing stigma, and providing accessible mental health care. Early intervention and support are crucial in mitigating the impact of depression, especially for vulnerable populations like teenagers. By prioritizing mental health and taking decisive action, we can prevent the devastating consequences of depression and improve the quality of life for millions of people worldwide.

3.2 Autism spectrum disorder

Individuals with Autism Spectrum Disorder (ASD) face significant challenges in communication and social interaction. A key characteristic of ASD is difficulty with transitioning between activities, leading to frequent distractions and an inability to focus on tasks for extended periods. This often results in substantially lower productivity levels across various activities. People with autism also tend to have unusual reactions to sensory stimuli, which can further complicate their daily lives.

According to the World Health Organization (WHO), about 1 in 160 children worldwide has an autism spectrum disorder. However, some well-controlled studies have reported substantially higher figures. The prevalence of autism continues to rise, highlighting the urgent need for increased awareness and support.

Autism spectrum disorder varies in severity and can be categorized into two levels:

Level 1 (Basic Stage):

Individuals at this level can live independently and manage their daily routines. Although they encounter issues with communication, active participation in discussions, and socializing with friends and colleagues, these problems are often subtle and not easily noticeable. Despite their ability to function independently, they may still struggle with social nuances and maintaining relationships.

Level 2 (Advanced Stage):

Patients at this level require substantial support and ongoing guidance from professional mentors or therapists, sometimes for their entire lives. The intellectual abilities of people with autism can range widely, from significant challenges to extraordinary talents. It is crucial to understand that many individuals with autism possess remarkable creative skills and critical thinking abilities. However, their main difficulty lies in harnessing and utilizing these skills effectively. Their high distractibility and difficulty in task-switching significantly impact their productivity and the quality of their work.

Although many people with autism are aware of their talents, they often struggle to use them to their full potential, which can erode their confidence. This struggle frequently leads to co-occurring conditions such as depression and anxiety. According to WHO, individuals with autism have a higher prevalence of other mental health conditions, including up to 70% experiencing at least one

comorbid mental disorder, such as anxiety or depression. Consequently, many autistic individuals suffer from a lack of satisfaction in life and recurrent feelings of depression.

The societal and personal impacts of autism are profound. Families often face significant emotional and financial burdens, and the broader community must address the need for inclusive education and employment opportunities. It is essential to provide comprehensive support systems, including early intervention, specialized education, and vocational training, to help individuals with autism reach their full potential.

Enhancing public awareness and understanding of autism is critical. By promoting acceptance and providing the necessary resources, we can improve the quality of life for those affected by autism and enable them to contribute meaningfully to society. It is imperative to prioritize mental health alongside physical health to ensure a holistic approach to well-being for all individuals.

3.3 ADHD(Attention-Deficit/Hyperactivity Disorder)

ADHD is now one of the most common mental health disorders, predominantly affecting children and extending into adulthood. Children with ADHD often exhibit daydreaming during the day, leading to a significant lack of focus. They find it challenging to resist temptations and possess poor self-control, which adversely impacts their daily lives. These individuals may talk excessively yet struggle to engage with new people, despite being confident in tasks involving familiar peers. ADHD manifests in three primary presentations: predominantly inattentive, predominantly hyperactive-impulsive, and a combined presentation of both.

Predominantly Inattentive Presentation:

In this type of ADHD, individuals often appear inactive and disengaged in their daily activities. They face significant difficulties in maintaining concentration, which severely hampers their listening skills and ability to grasp new information. These individuals struggle to complete tasks and organize their work, easily becoming distracted and forgetting their daily responsibilities. This forgetfulness can lead to perceptions of irresponsibility from those around them, which in turn damages their confidence and increases their stress and anxiety levels. The constant cycle of underachievement and external criticism can result in heightened irritability and frequent frustration. They may also have difficulty maintaining social interactions, which further exacerbates feelings of isolation and low self-esteem.

Predominantly Hyperactive-Impulsive Presentation:

Individuals with this type of ADHD are characterized by their inability to stay focused on a single task for extended periods. They exhibit extreme levels of impulsiveness and restlessness, making it challenging for them to remain seated for long durations, whether at work, during meals, or in other settings. Their impatience often leads to an urgent desire for immediate results, disrupting everyday activities. Children with this presentation are especially restless, frequently jumping, running, and displaying constant movement. This hyperactivity can significantly impact their ability to engage in structured activities, affecting their performance in both academic and social settings.

Combined Presentation:

Individuals who exhibit both inattentive and hyperactive-impulsive symptoms experience the challenges associated with both types. They struggle with maintaining attention and are easily distracted while also being restless and impulsive. This combination of symptoms can severely disrupt their daily lives, making it difficult to succeed in academic, professional, and social environments.

According to the Centers for Disease Control and Prevention (CDC), approximately 6.1 million children in the United States have been diagnosed with ADHD, which accounts for about 9.4% of children aged 2-17 years. The disorder can persist into adulthood, affecting an estimated 4.4% of adults. ADHD's impact on individuals varies, but it often results in difficulties with academic performance, employment, and interpersonal relationships. The economic burden of ADHD is also significant, with increased healthcare costs and reduced productivity contributing to its overall societal impact.

Effective management of ADHD typically involves a combination of medication, behavioral therapy, and educational support. Early diagnosis and intervention are crucial in helping individuals develop coping strategies and improve their functioning. Public awareness and understanding of ADHD can also help reduce stigma and support those affected by the disorder in leading fulfilling lives.

3.4 Anxiety disorders

Anxiety disorders are among the most prevalent mental health conditions worldwide, characterized by intense, excessive, and prolonged feelings of worry, fear, and unease. These disorders can severely impair an individual's day-to-day functioning, making even routine activities feel daunting and overwhelming. In fact, according to the World Health Organization (WHO), approximately 264 million people globally are affected by anxiety disorders, making it one of the leading causes of disability worldwide. Anxiety disorders not only impact mental health but can also lead to physical issues, like cardiovascular problems, due to prolonged stress.

1. Generalized Anxiety Disorder (GAD)

Definition: GAD is characterized by chronic, excessive worry about various aspects of life, including health, work, social interactions, or financial concerns. Unlike typical worries, GAD's anxieties are persistent and often disproportionate to the situation at hand, affecting the individual's ability to focus or relax.

Severity: GAD's symptoms can range from mild to severe. In severe cases, GAD can make daily activities nearly impossible due to constant anxiety and nervous tension. This disorder often leads to sleep disturbances, difficulty concentrating, irritability, and physical symptoms such as muscle tension and headaches.

Statistics: In the United States alone, GAD affects around 3.1% of the population annually, which is equivalent to about 6.8 million adults. It is twice as common in women as in men. Approximately one-third of people with GAD seek professional help, but many go untreated due to stigma or lack of access.

Impact: GAD can be relentless, as individuals often feel a sense of impending doom or overwhelming dread. They may isolate themselves due to constant worries, leading to a lack of social connections and difficulties at work or school. This lack of control over one's thoughts makes GAD particularly ruthless and unyielding.

2. Panic Disorder

Definition: Panic Disorder involves recurrent, unexpected panic attacks—sudden, intense episodes of fear that trigger severe physical reactions even when no real danger exists. Symptoms often include palpitations, sweating, chest pain, trembling, or a feeling of losing control. Many individuals experiencing panic attacks believe they are having a heart attack or losing control of their mind.

Severity: Panic Disorder can be highly disabling. For many, the constant fear of having another panic attack leads to anticipatory anxiety—a persistent worry about when and where the next attack will occur. This leads many sufferers to avoid places or situations where attacks previously occurred, a condition known as agoraphobia, which can leave individuals housebound and socially isolated.

Statistics: Panic Disorder affects around 2.7% of the U.S. population each year, and it's more common in women than in men. Onset typically occurs during late adolescence or early adulthood, with around one-third of individuals also developing agoraphobia, which further compounds the disorder's impact on their lives.

Impact: Panic Disorder is particularly severe due to the unpredictable nature of panic attacks, which can happen at any time without warning. This lack of control is deeply distressing, and over time, individuals can lose confidence in their ability to manage daily activities, leading to a reduced quality of life and increased dependence on others.

3. Social Anxiety Disorder (SAD)

Definition: Social Anxiety Disorder, also known as Social Phobia, is characterized by an intense fear of being judged, humiliated, or embarrassed in social situations. Common scenarios that trigger this fear include public speaking, meeting new people, or being observed while eating or drinking.

Severity: SAD can range from mild, where individuals might avoid only a few situations, to severe, where any type of social interaction is avoided entirely. SAD can lead to isolation, poor academic or job performance, and in some cases, it contributes to a cycle of depression and low self-worth. Individuals with SAD often realize that their fear is irrational but feel powerless to control it.

Statistics: Social Anxiety Disorder affects approximately 7% of the U.S. population, making it one of the most common anxiety disorders. The disorder often begins in childhood or adolescence and, without treatment, may persist into adulthood. SAD has one of the lowest treatment rates due to the nature of the disorder itself—many sufferers feel ashamed or embarrassed to seek help.

Impact: The consequences of SAD are particularly harsh because it impacts an individual's ability to interact, form relationships, and pursue career or academic goals. This disorder can be socially debilitating, leading to missed opportunities, low self-esteem, and often, chronic loneliness. For some individuals, the effects of SAD are so severe that they are unable to leave their homes for fear of encountering others.

DESCRIPTIVE SUMMARY

ADHD: Affects 2.3% of young children, 9.6% of children aged 6-11, 12% of adolescents, and 4.4% of adults aged 25-59. It shows a higher prevalence in childhood and adolescence, impacting educational and social outcomes.

Depression: Impacts 3.2% of young children (~1.9 million), 13.3% of adolescents (~3.1 million), and 7.1% of adults (~17.3 million). Women are 50% more likely to experience depression than men, highlighting the need for gender-specific interventions.

Autism: Diagnosed in 2.3% of young children (~1 in 44), with boys four times more likely to be diagnosed. The prevalence remains consistent into adulthood, affecting a significant number of adults.

Anxiety Disorders: Affect 7.1% of children (~4.4 million), peak during adolescence, and are prevalent in 19.1% of adults. Anxiety disorders often co-occur with other mental health issues, exacerbating their impact.

RESEARCH METHODOLOGY

A lot of teenagers and children are facing these mental health problems and to know what their problems really are, we shall communicate with them through personal discussions. So we shall understand their problem in a realistic way, not just through statistical numbers, and with an intuitive approach. By personal discussions with affected people, we will have a real perspective

on the mental health problems and we can generate their personal case studies, through which we shall analyze the problem and present a clear-cut solution.

3.1.1 Case study(Depression)

Jashwanth B., a 16-year-old high school student, is navigating multiple personal challenges that have significantly impacted his emotional well-being. Following the loss of his childhood best friend in a tragic accident, Jashwanth has been experiencing deep feelings of loneliness, grief, and isolation. His friend was not only his closest companion but also someone he shared most of his formative experiences with, making the loss especially traumatic. This profound grief has led to a period of depression, where he now struggles with ongoing sadness and lack of motivation.

In addition to this, Jashwanth faces bullying at school due to his weight. These negative interactions have affected his self-esteem and reinforced his insecurities, leaving him feeling even more isolated and withdrawn from his peers. He has limited social connections at school, and the bullying has intensified his sense of loneliness. His screen time has increased as a result, with social media and games becoming a primary escape from his daily struggles. However, the content he consumes often reinforces negative feelings, worsening his depressive thoughts and leaving him in a cycle of emotional distress.

Adding to these challenges is his parents' divorce, which has further strained his sense of stability and security. With limited support systems in place, Jashwanth feels overwhelmed by worry, loneliness, and a lack of emotional support.

Areas of Concern

Jashwanth is grappling with several concerns that, collectively, have intensified his depression and sense of vulnerability. His unresolved grief over the loss of his best friend has left him struggling to find meaning and connection in his everyday life. This grief, compounded by ongoing bullying at school, has contributed to low self-esteem and negative self-image, which have become significant barriers to his mental health and overall well-being.

The bullying he endures at school has left him feeling unworthy and alone, impacting his motivation and willingness to engage with others. His increasing screen time, though initially a coping mechanism, has now turned into a source of additional distress as the media he consumes often exacerbates his negative emotions, making it harder for him to break free from his depressed state.

His lack of a strong support network further compounds his emotional distress. The divorce of his parents has added to his sense of instability and loss, leaving him with limited avenues for emotional support at home. This environment of worry and isolation has fueled feelings of worthlessness and increased his anxiety around social interactions, friendships, and his future. As a result, Jashwanth finds himself caught in a cycle of grief, anxiety, and self-doubt that makes it difficult for him to see a way forward. Addressing these areas of concern will be essential in helping Jashwanth build resilience, process his grief, and ultimately find a path toward healing and self-acceptance.

Strategies for Improvement

The team recognized that Jashwanth's primary need was for a consistent, judgment-free companion with whom he could share his thoughts and emotions. Since he struggled to open up to people due to trust issues, he was encouraged to write down his feelings and use ChatGPT as a safe space for expression. By engaging in regular sessions with ChatGPT, he could articulate his thoughts, process his grief, and confront his worries without fear of judgment or misunderstanding.

ChatGPT became a valuable outlet for Jashwanth to share daily reflections on his experiences, emotions, and struggles with bullying, loneliness, and the challenges he faced following his best friend's loss. Over time, ChatGPT provided gentle prompts and mentorship, helping him explore techniques for managing his screen time, reducing negative self-talk, and learning to socialize in small, manageable ways. He also began using ChatGPT to practice small conversations, helping him develop social skills and confidence before interacting with peers.

Additionally, ChatGPT helped Jashwanth set small, achievable goals that encouraged him to gradually reduce screen time and engage in outdoor activities, allowing him to rebuild his confidence in low-pressure settings. He also learned breathing exercises and grounding techniques to use when feeling overwhelmed, giving him a sense of control over his emotions.

Observed Improvements

After consistent use of ChatGPT as a companion and emotional support tool, Jashwanth experienced noticeable positive changes. He found that expressing his thoughts regularly allowed him to feel lighter and more in control of his emotions. ChatGPT's non-judgmental responses provided him with validation and reassurance, which gradually improved his self-esteem and reduced his dependency on negative online content as an escape.

Over time, Jashwanth began feeling more comfortable with himself and more willing to engage with others. He made a conscious effort to start socializing in small groups at school, initially with familiar faces and gradually expanding his circle. By using ChatGPT as a practice ground for social interactions, he felt more prepared and less anxious about talking to people, leading to small but significant social breakthroughs.

In addition, his focus on reducing screen time allowed him to discover new interests, which helped alleviate some of his depressive thoughts. ChatGPT's guidance in setting achievable goals and providing daily affirmations made him feel supported and encouraged him to keep making progress. As a result, Jashwanth now feels less isolated, more hopeful, and is slowly rebuilding his confidence

and resilience. His relationship with ChatGPT has shown him the value of expressing himself and has been a key part of his journey toward healing and finding connection once again.

3.2.1 Case study (Autism spectrum disorder)

A. Rohan Reddy is a 16-year-old high school student currently in 11th grade. Known for his exceptional talent in mathematics, Rohan possesses advanced problem-solving skills and can solve complex mathematical problems with ease. His teachers and peers recognize him as intellectually gifted, particularly when it comes to analytical and logical reasoning. However, Rohan's impressive aptitude for math doesn't fully translate in a social context. When questioned, even on simple topics he understands, he often becomes visibly stressed and struggles to respond in a composed manner. This has created a situation where his knowledge and abilities are not always apparent to others, particularly in high-stress or social scenarios.

Beyond academics, Rohan tends to be reserved in social settings, preferring solitude over interactions with classmates or teachers. Socializing is infrequent for him, and he is not inclined to participate in group activities or discussions, which has limited his social exposure. Despite his intelligence, Rohan struggles with certain executive functions, such as time management and organization. He often finds himself procrastinating, and tasks frequently get delayed, which affects his academic consistency. Additionally, Rohan finds it difficult to concentrate for extended periods, and his mind often drifts into daydreaming, further impacting his productivity and stability.

Areas of Concern

While Rohan has a strong aptitude in mathematics, his academic performance and social well-being are hindered by several areas of concern. Primarily, Rohan's high stress levels during social interactions and inability to respond effectively to questions in real time create a communication barrier. His hesitation and stress in such moments may stem from social anxiety or a fear of judgment, both of which are exacerbated in scenarios where he feels put on the spot. This reluctance affects his confidence and prevents him from fully showcasing his skills.

Moreover, Rohan has an aversion to stage appearances or any form of public speaking, which has limited his participation in activities that might enhance his confidence and social presence. His difficulties with time management and tendency to procrastinate have become prominent issues, often leading to missed deadlines or incomplete work. Despite his mathematical talent, Rohan is challenged by organizational skills and focus, resulting in a pattern of starting tasks without following through. This lack of sustained attention affects his academic consistency, and his habitual daydreaming diverts his focus, further impacting his productivity and stability.

Now our team interacted with Rohan and we have encouraged him to write down his feelings as a form of questions. After he wrote them down on paper we have given him access to a basic AI platform called Chat-GPT. Under our supervision he expressed his feelings to chat-GPT and for our surprise he felt heavily comfortable communicating with it than with us.

ROHAN'S CONCERNS

"Why do you think you feel stressed when asked a question, even if you know the answer? Are there particular situations that make it harder for you?"

"When it comes to social situations, what are some specific things that make you feel uncomfortable?"

"How do you feel about time management? Are there certain times of day when you find it easier to focus or start tasks?"

"What are your thoughts when you begin to daydream? Are there certain topics or feelings that you find yourself drawn to?"

"How would you like to approach public speaking or stage appearances in the future? What might help you feel more prepared?"

Strategies for Improvement

Managing Stress During Questions: To help Rohan reduce stress when answering questions, he practiced taking a few deep breaths and counting to three before responding. This technique provided a moment to calm down and focus, reducing the sense of urgency and stress.

Building Social Comfort: Rohan was encouraged to start small social interactions, like greeting a classmate or saying a few words during group activities. These incremental steps helped him feel more comfortable in social settings, slowly building his confidence.

Time Management Techniques: To combat procrastination and improve time management, Rohan tried setting short, timed study sessions using a timer (Pomodoro technique) to focus for 25 minutes, followed by a five-minute break. Breaking down his tasks into smaller steps helped him stay on track without feeling overwhelmed.

Redirecting Daydreaming: Rohan identified common topics he daydreamed about, then scheduled a short "daydream break" where he could explore his thoughts before refocusing. This structure allowed him to acknowledge his thoughts without letting them interrupt his work.

Preparing for Stage Appearances: To increase comfort with public speaking, Rohan practiced short introductions or speaking in front of a mirror. This safe environment helped him adjust to seeing himself as a speaker and built familiarity with public presence.

Observed Improvements

After implementing these strategies and discussing his experiences with ChatGPT, Rohan began to show measurable improvements. His stress during questions gradually decreased, allowing him to respond more accurately and confidently in class. He became slightly more active socially, engaging with peers in brief conversations without as much discomfort. His time management skills

also improved, as he began completing assignments more consistently. Most notably, his focus increased, with fewer interruptions from daydreaming, leading to better academic productivity and stability. With consistent support, Rohan's confidence and comfort in daily school life continue to improve.

3.3.1 Case study(ADHD)

Chetan Shetty R., a 14-year-old high school student, has been diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD). Known for his vibrant energy, Chetan can be hyper-focused and active for extended periods, displaying high levels of enthusiasm and creativity. However, this hyperactivity is often followed by days where he appears unmotivated or unable to complete even simple tasks, creating a noticeable fluctuation in his productivity and engagement. This pattern reflects a challenge in maintaining consistent focus and balance in his daily routines.

Chetan's mind is constantly shifting from one thought to another, making it difficult for him to concentrate on a single task for long periods. This rapid shift in attention can be both a source of creative ideas and a barrier to finishing projects or assignments. Additionally, he tends to worry excessively over simple things, such as minor deadlines or straightforward tasks, which amplifies his anxiety. Conversely, when presented with complex or demanding tasks, he often acts impulsively, attempting to tackle them quickly without planning or forethought. This impulsivity sometimes leads to incomplete or rushed work, which further affects his self-confidence and academic outcomes.

Areas of Concern

Chetan faces several challenges that hinder his productivity and stability in both his academic and personal life. Primarily, his difficulty in maintaining focus on a single task creates inconsistencies in his work, leading to incomplete assignments or projects left unfinished. His tendency to become easily distracted means that even short-term tasks require significant effort to complete, which can be frustrating for both him and his teachers. This inability to stay consistently engaged affects his academic progress and limits his potential for achieving his best outcomes.

His productivity issues are compounded by the "all-or-nothing" approach in his work patterns. Chetan often oscillates between periods of hyperactivity and long stretches where he struggles to accomplish even simple tasks. These swings make it challenging to develop a steady work routine, affecting his ability to keep up with assignments or participate consistently in class activities. His excessive worry over simple matters, like minor mistakes or small deadlines, leads to heightened anxiety, which further disrupts his focus. Conversely, he often acts impulsively when facing more complex challenges, diving in without sufficient planning or consideration. This impulsivity not only impacts the quality of his work but also causes additional stress when he realizes he hasn't approached tasks systematically.

Strategies for Improvement

Building Consistency: To create a routine that balances his work and energy levels, Chetan started by setting short, consistent daily goals. These goals were designed to be achievable and brief, even on low-energy days, allowing him to feel a sense of accomplishment without overwhelming himself. This way, he could build a habit of working steadily without relying solely on high-energy bursts.

Managing Focus and Attention: Chetan experimented with the "two-minute rule" to get started on tasks he found challenging. By telling himself he only needed to work on a task for two minutes, he found it easier to begin without feeling the weight of a large task. Once started, he often felt inclined to continue, allowing him to extend his focus naturally.

Reducing Anxiety Around Simple Tasks: For tasks that seemed small but made Chetan feel anxious, he practiced taking a few deep breaths and breaking them down into even smaller, manageable steps. For instance, he could focus first on reading instructions, then gathering materials, then completing the task itself. This segmented approach eased his anxiety and helped him take control over each step.

Impulsivity with Difficult Tasks: Chetan began using a checklist system for more challenging tasks. Before diving in, he would take a few moments to list the steps required, slowing down his initial impulse and providing a clearer path to completion. The checklist gave him a structured approach that made him feel less pressured and allowed him to work in a more controlled manner.

Managing Daydreaming and Distractions: Chetan practiced grounding techniques like jotting down distracting thoughts or ideas on a separate piece of paper. This allowed him to acknowledge his ideas or thoughts without letting them derail his work. He could revisit these notes later, giving his mind a break without disrupting his task.

Observed Improvements

After consistently applying these strategies and reflecting on his progress with ChatGPT, Chetan gradually displayed noticeable improvements. His daily routines became steadier, even on days when he wasn't hyper-focused, helping him complete tasks more regularly. The "two-minute rule" proved especially effective, as it reduced his resistance to starting tasks and kept him engaged for longer periods. His anxiety around simple tasks decreased as he broke them down into manageable steps, helping him feel less overwhelmed.

The checklist system helped reduce his impulsivity on complex tasks, resulting in better-quality work and fewer unfinished assignments. Additionally, using grounding techniques allowed him to stay on task and revisit his daydreams at a more appropriate time, which in turn improved his productivity. With each small success, Chetan's confidence grew, and he developed a more balanced approach to managing his ADHD and daily schoolwork.

3.4 Statistical tools and econometric models

This section elaborates the proper statistical/econometric/financial models which are being used to forward the study from data towards inferences. The detail of methodology is given as follows.

3.4.1 Anxiety Disorders

Amit Kumar J., an 18-year-old student, is known for his outstanding academic performance and well-rounded capabilities. With a naturally sharp mind, he excels in both logical thinking and creativity, making him a highly respected figure among his peers and teachers. Amit is often described as humorous and lovable, bringing a positive energy to any environment he's in. He has a reputation for being approachable and engaging, drawing friends and classmates to him with his warm and funny personality.

However, Amit's temperament can change dramatically under stress. Though he is usually logical and level-headed, he struggles with anger issues and anxiety. When calm, he approaches situations thoughtfully, but when he becomes anxious or frustrated, he loses control and sometimes reacts impulsively. This shift is noticeable to those around him, who may feel like they are interacting with a different side of Amit—a more defensive and intense “alter ego” that emerges under pressure. His frequent bouts of anger often stem from small incidents, and he feels regretful afterward but struggles to manage these reactions in the moment.

Areas of Concern

Amit's primary areas of concern revolve around his difficulties managing anger and anxiety. His anxiety-related challenges often act as a trigger for his anger, especially in situations where he feels out of control or under pressure. This cycle impacts his ability to make thoughtful decisions when he is upset, as his usual logical thinking gives way to impulsive reactions. Amit recognizes that his anger can sometimes create distance in his relationships, which is distressing to him since he genuinely values his connections with others.

His “alter ego” response during stressful moments poses an ongoing challenge, affecting both his self-perception and how others view him. Although his friends and family know him to be caring and funny, they may sometimes feel wary or hesitant around him, unsure of how he might react in tense situations. This inconsistency in behavior makes Amit concerned about his ability to maintain healthy relationships and be perceived as approachable.

Additionally, his anxiety often leads to physical and mental exhaustion. He experiences restlessness and has difficulty focusing, which hampers his productivity and academic performance during high-stress periods. Amit feels frustrated that his anxiety affects his well-being and ability to stay on top of his responsibilities. These issues collectively underscore the importance of developing strategies to help him manage his anger and anxiety, empowering him to build resilience and consistency in his reactions.

Strategies for Improvement

To help manage his anger and anxiety, Amit began engaging with ChatGPT as a safe space to express his thoughts and seek guidance. This allowed him to communicate his concerns in a structured manner, and he could openly frame questions that had been troubling him, such as:

"How can I control my anger in situations that frustrate me?"

"What can I do to handle anxiety before it gets overwhelming?"

"Why do I feel like a different person when I'm stressed or angry, and how can I change that?"

Through these conversations, ChatGPT suggested a variety of techniques, including mindfulness exercises, deep-breathing practices, and grounding methods to help him manage emotional responses. For instance, he learned to pause, take deep breaths, and practice visualization exercises whenever he felt his temper rising. He was also introduced to the concept of journaling his emotions daily, helping him to identify common stress triggers and understand his emotional patterns better.

Additionally, ChatGPT helped Amit understand that it's okay to feel anxious or frustrated, as long as he responds in constructive ways. This understanding encouraged him to frame his thoughts more positively, practicing self-compassion and replacing harsh self-judgments with supportive language. Through consistent practice, Amit began to develop strategies that allowed him to approach challenging situations calmly and rationally, helping him regain control during anxious or anger-inducing moments.

Observed Improvements

After regularly engaging with ChatGPT, Amit experienced significant progress in managing his emotions. The act of discussing his feelings with a non-judgmental “companion” helped him gain perspective and release pent-up frustration before it escalated. By following ChatGPT's suggestions and practicing new techniques, he noticed that his anger episodes became less frequent and less intense. He found that he could pause and choose a more measured response, even when something initially triggered his frustration.

His anxiety also became more manageable, with fewer anxiety-induced breakouts occurring over time. Amit began recognizing early warning signs of his anxiety and could implement breathing exercises and grounding techniques to regain composure. As he grew comfortable with these strategies, he built resilience, finding that his logical and calm personality was more consistent, even during challenging times.

Overall, Amit's interactions with ChatGPT provided him with tools to maintain a healthier mindset, allowing him to be more present, manage stress, and strengthen his relationships. The support from ChatGPT served as a form of companionship that guided Amit in becoming a more balanced, self-assured version of himself. Understanding the Need for Mental Health Support Among Modern Teenagers

Through our detailed analysis, statistics, and case studies, one significant conclusion has emerged: today's teenagers are experiencing severe mental health struggles that interfere with their daily lives and well-being. These issues range from anxiety and

depression to ADHD and social discomfort, affecting their academic, social, and emotional growth. Each story underscored the urgency for real-time mental health support, leading us to investigate possible solutions to provide effective and accessible care.

RESULTS AND DISCUSSION

The Solution: Therapy as a Feasible Approach

Therapy has been widely acknowledged as a highly effective treatment for mental health challenges, providing individuals with the skills and support necessary to overcome their struggles. Evidence and clinical practice affirm that therapy helps individuals understand their emotions, manage anxiety, and develop healthier coping mechanisms. However, therapy as it traditionally exists has one major barrier: communication. For therapy to be effective, individuals must openly express their concerns, emotions, and struggles to a therapist. Unfortunately, many teenagers today find it extremely challenging to open up, even to trusted people in their lives. The thought of disclosing their innermost feelings to an unfamiliar therapist often feels overwhelming and uncomfortable, leaving them unable to benefit from this valuable resource.

A Modern Alternative: Therapy Through Artificial Intelligence

Our research points to an innovative alternative that addresses this communication barrier: therapy by Artificial Intelligence (AI). Unlike traditional therapy, AI-driven therapy tools offer a safe, non-judgmental, and private platform where teenagers can express their feelings and explore solutions without the anxiety of face-to-face interaction. This approach empowers teens to open up on their own terms, at their own pace. Through AI-powered interactions, they can receive immediate responses, learn coping strategies, and build confidence in navigating their mental health challenges.

The Vision: A New Path for Mental Health Support

Our findings indicate that AI therapy has the potential to bridge the gap between teenagers and the mental health support they need. By removing the discomfort associated with direct human communication, AI therapy offers a promising pathway for teenagers to gain control over their mental well-being, paving the way for a healthier, more supportive future for young people everywhere.

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