

**LEVERAGING AI TO SUPPORT STUDENT MENTAL HEALTH AND WELL-BEING IN
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ABSTRACT

The research study aimed at assessing the use of Artificial Intelligence in secondary school settings as a mechanism to enhance student's mental health and wellbeing. This study particularly focused on the case of Hartzell High School and Mt Chiremba Secondary School, which are situated in Mutasa district, Manicaland Province, Zimbabwe. The objectives of the study were; to evaluate the feasibility and effectiveness of AI-driven interventions in addressing mental health and well-being among secondary school students in Mutasa District, to analyze the prevalence and types of mental health related conditions among secondary school students in Mutasa District, to understand secondary school students' perceptions and attitudes towards AI-driven mental health interventions in comparison with the traditional counseling methods. The research is informed by the Social Cognitive Theory which is rooted on the idea that people learn through observation and imitation. The qualitative phenomenological approach was used to collect data through in-depth interviews with key informants and focus group discussions with both students and teachers. The main results from this research show that students from both school are suffering from various mental related conditions that result from several stressors, the two schools are a contrast of another with different levels of technology use and understanding, with Hartzell High School students having a better understanding and exposure to Artificial Intelligence compared to Mt Chiremba Secondary School students. The other notable result from the research was the zeal students from both schools and teachers to merge modern technology with traditional counseling methods towards solving mental health related issues amongst students. Again students are familiar to other AI technologies which they use for study purposes, in case of introducing AI tools that are powered to support students mental health it will not be a new concept difficult to use. Traditional counseling methods alone have failed to support student's mental health and wellness as some students fail to access these services due several reasons. The research study concludes by proffering recommendations towards enhancing the students mental health and wellbeing such as suggesting the integration of AI technologies into the traditional counseling methods in secondary school settings, advocating for the use of computers such that they may be accessible to each and every student with the teacher's supervision, constant checkups on students mental state to identify any mental issues at an early stage and respond with urgency.

KEYWORD:- *Artificial Intelligence, mental health, students, secondary school.***INTRODUCTION**

Mental healthrelated conditions impact a substantial percentage of adolescents globally, with estimates indicating that 10-20% of young people suffer from these issues, particularly depression, which is a leading cause of illness and disability (GBD, 2019).^[1] University students are notably affected, with 35% showing symptoms of depression and anxiety (Othman et al, 2019).^[2] In Africa, the burden of mental health disorders among higher education students is considerable but often neglected. A study in Kenya found that 26% of university students were likely experiencing depression, highlighting the critical need for mental health services (Muiru, 2021).^[3] Similar research in Ghana reported a

39.5% prevalence of depression among students (Adongo et al, 2024).^[4] In Zimbabwe, data from Midlands State University indicated that 32.4% of students exhibited symptoms of depression, and 27.8% reported anxiety (Kaiyo-Utete et al, 2020).^[5] The COVID-19 pandemic has exacerbated these challenges, leading to increased stress, loneliness, and uncertainty (Hossain et al., 2021).^[6] These statistics underscore the urgent need for innovative mental health support for students, such as AI-driven interventions. While existing research often focuses on the impact of mental health issues on academic performance, there is a lack of studies examining the effectiveness of AI interventions in Zimbabwean secondary schools. This study aims to

analyse the feasibility and effectiveness of AI-based interventions in addressing mental health challenges among secondary school students. By adopting a data-driven approach, the research provides insights into the current mental health situation and students' attitudes towards AI interventions, filling a gap in the literature and informing future strategies in Zimbabwean schools.

Mental health issues among adolescents and young adults are a global concern, with depression and anxiety being prevalent among students (Racine et al, 2021).^[7] In Zimbabwe, studies have shown high rates of mental health disorders among secondary school students, with significant impacts on their academic performance and overall well-being (Kaiyo-Utete et al 2020).^[5] The COVID-19 pandemic has further exacerbated these challenges, leading to increased stress, loneliness, and uncertainty about the future (Hossain et al., 2021).^[6]

The integration of Artificial Intelligence (AI) in education has shown significant potential in enhancing learning experiences and addressing various challenges faced by students. Globally, mental health issues among adolescents and young adults are a growing concern, with depression and anxiety being prevalent (Patel et al., 2007, Hossain 2021).^[8,6] The World Health Organization (WHO) estimates that 10-20% of young people experience mental health conditions, with depression being a leading cause of illness and disability (WHO, 2018).^[9] University students are notably affected, with 35% showing symptoms of depression and anxiety (WHO, 2020).^[10]

In Africa, the burden of mental health disorders among higher education students is substantial but often overlooked. A study in South Africa found that 24% of university students met the criteria for probable depression, highlighting the critical need for mental health services (Tomlinson et al., 2013).^[11] Similarly, research in Nigeria reported a prevalence of 43.3% for depression among university students (Olawale et al., 2011).^[12] In Zimbabwe, data from the University of Zimbabwe indicated that 30.7% of students exhibited symptoms of depression, and 24.6% reported experiencing anxiety (Chinawa et al., 2018).^[13] The COVID-19 pandemic has exacerbated these challenges, leading to increased stress, loneliness, and uncertainty about the future (World Bank, 2021).^[14]

AI-driven interventions, such as Chatbot and personalized learning platforms, have the potential to offer accessible and stigma-free support for students. These technologies can provide timely mental health resources, facilitate early detection of mental health issues, and offer personalized interventions tailored to individual needs (Eisenberg et al., 2013).^[15] By leveraging AI, schools in Mutasa District can create a supportive environment that promotes mental health and well-being, ultimately enhancing students' academic outcomes and overall quality of life.

This study aims to analyse the feasibility and effectiveness of AI-based interventions in addressing mental health challenges among secondary school students in Mutasa District. By employing a data-driven approach, the research provides insights into the current mental health landscape, students' attitudes towards AI interventions, and the potential benefits of integrating AI into educational settings. The findings contribute to the existing literature and inform future strategies for supporting mental health and well-being in schools. The specific objectives focused on analysing the prevalence and types of mental health issues among secondary school students their perceptions and attitudes towards AI-driven mental health interventions as well as assessing the impact of AI-driven interventions on students' mental health and academic performance.

METHODOLOGY

Research design

This research employed the phenomenological study design. Through the application of phenomenological approach during the research, the researchers interacted directly with research participants who were in secondary school education level on the need for AI to support their mental health and well-being amongst students. According to (Bourne et al, 2021)^[16] phenomenological seeks to understand individual's subjective perceptions and how they perceive and make sense of their environment. Data was collected through in-depth interviews and focus group discussions on both students and teachers.

Study setting

The study was conducted in Mutasa District, Manicaland Zimbabwe at Hartzell High School and Mt Chiremba Secondary School. Hartzell High School is a United Methodist Mission Boarding School, offering classes from form one to form six. It accommodates students from different financial backgrounds, offering both boarding and day school services. It is classified under "A" schools, producing students with outstanding academic performance. Each level has its own block with each block carrying about four classes. Mt Chiremba Secondary School is a government school located near Hartzell, accommodating a large population of students from the neighbouring farms. It offers classes from form one to form four with each level having only one class. The school is smaller in size compared to Hartzell High school carrying an estimate of only a quarter of Hartzell High School students' population. Stratified sampling techniques was used to select learners enrolled in the two mentioned secondary schools. Focus group discussion as well as interviews were used to collect data until data saturation was reached.

Students from Hartzell High School were interviewed separate from Mt Chiremba Secondary School students to have a clear comparison on the responses from the two schools. Each group had at most 10 participants and a minimum of 6. They were further grouped according to

education levels to understand the varying responses in relation to age.

Data analysis

Data analysis as cited by (Beleto, 2018)^[17] is a process of cleaning, inspecting, transforming data so that what has been learned can be communicated to others. Analysis means organizing and interrogating data in ways that allow researchers to see patterns, identify themes, discover relationships, develop explanations, make interpretations, mount critiques, or generate theories. This study resorted to use thematic analysis. In this case the qualitative data collected through the interviews and focus group discussions was analyzed using thematic analysis after translations were made on data captured in Shona. This approach is particularly suitable when analyzing documents such as newspaper texts, responses to open-ended questions, and focus group discussions (Campbell, 2022).^[18] (Beleto, 2018, Campbell, 2022)^[17,18] say thematic analysis is one that looks across all the data to identify the common issues that recur, and identify the main themes that summarize all the views you have collected. This is the most common method for descriptive qualitative projects.

Ethical considerations

When conducting research involving children, researchers must prioritize ethical considerations due to the vulnerability of this population to physical and psychological harm (Lincoln, 2003 cited in Ferreira et al 2015).^[19] Approval was sought from relevant ethical review board (AUREC) and Hartzell High and Mt Chiremba secondary school head authorities before conducting the study (Chinawa et al, 2018).^[13] (Aluwihare-Samaranayake, 2012)^[20] underscores the importance of doing well and avoiding harm as fundamental ethical principles in research. Special attention was given to obtaining informed consent from both the participants and their guardians or parents, particularly when minors were involved. This process ensured that participants fully understand the research procedures, their rights, and the potential risks and benefits involved, thereby safeguarding their privacy, confidentiality, and voluntary involvement. All personal data collected was handled with the utmost care, adhering to strict confidentiality protocols to protect the participants' identities and sensitive information. These ethical measures were imperative to uphold the rights and well-being of all individuals involved in the research study.

Findings

The researcher targeted secondary school students and teachers from Hartzell High School and Mt Chiremba secondary school. The researcher conducted physical face to face interviews and focus group discussions with all of the participants starting with those at Mt Chiremba Secondary and later on Hartzell High School. The chapter is structured to provide a comprehensive overview of the qualitative findings, highlighting key

themes drawn from the discussions held during data capturing. Therefore, this chapter will serve as the basis for the recommendations and conclusions in chapter five. This research study developed several themes which aims at assessing the use of artificial intelligence as a tool to enhance student's mental health and wellbeing in secondary school education. The themes and responses of participants are established below:

Secondary school students: Understanding Mental Health and Well-being

The research sought to find out how respondents to share their understanding on what mental health and wellbeing amongst secondary school students entail.

Form 1 participant (a) at Mt Chiremba Secondary School said the following:

Mental health refers to the stability of the mind. It relates to the wellness of the mind. This is when a person has the ability to deal with pressure and be able to control one's emotions.

The above statement is also in line with what a Form 1 participant (b) at Hartzell High School said in the following statement:

Mental health and wellbeing amongst students relates to stress management skills, if someone is able to manage his emotions and how he reacts to certain issues that involves emotions in a way that is acceptable to the environment one is in that are not harmful to other people surrounding him.

The statements from participants (a) and (b) reflect a common understanding of mental health and well-being, particularly in the context of students and their ability to manage stress and emotions. According to (Campbell et al, 2022)^[18] mental health is often defined as a state of well-being in which individuals realize their own abilities, can cope with the normal stresses of life, can work productively, and are able to contribute to their community. It encompasses emotional, psychological, and social well-being, affecting how individuals think, feel, and act. This definition aligns with the understanding that mental health is not merely the absence of mental illness but includes the capacity to manage stress and maintain emotional stability.

In relation to Participants' Statement, Participant (a) emphasizes the stability of the mind and the ability to deal with pressure, which aligns with the broader definition of mental health as the capacity to cope with stress and maintain emotional control while Participant (b) highlights the importance of stress management skills and emotional regulation in relation to mental health and well-being. This perspective is supported by research indicating that effective coping strategies can enhance students' mental well-being and academic vitality, (Dare et al, 2023).^[21]

Contrary to the above, a diverging perspective can be found in the work of researchers who argue that mental health should also consider systemic factors such as

socio-economic status, cultural influences, and institutional support systems. For instance, some scholars like (Regehr et al, 2013)^[22] suggest that focusing solely on individual coping mechanisms may overlook the broader environmental and social determinants of mental health, which can significantly impact students' well-being

In conclusion, while the statements from participants (a) and (b) provide a foundational understanding of mental health as related to emotional stability and stress management, it is essential to consider a more comprehensive view that includes external factors influencing mental health. This holistic approach can lead to more effective interventions and support systems for students facing mental health challenges.

Critical Concerns Affecting Student Mental Health and Well-being

The study aimed at investigating major stressors or concerns affecting school children and having a heavy bearing on their mental health and wellbeing with the main question asking students to share their concerns emanating from stressors or fears.

Responding to the above, participant (c) shared the following:

I experienced bullying as a new student at Chiremba Secondary School and that disturbed my mental well-being. Other students would force me to smoke tobacco and marijuana and drink alcohol. This had a heavy bearing on my studies in which I failed dismally

Participant (d) also said the following:

My parents are constantly fighting at home and that disturbs me so much. Said a male form one student at Chiremba

Participant (a) submitted the following:

As students we face many challenges that affect our well-being as well and mental health. We are forced into certain activities such as mining and drug consumption which causes further harm to both our physical body and our mind.

The statements provided by participants (a), (c), and (d) highlight significant stressors affecting school children, particularly in the context of mental health and academic performance. These stressors can be analyzed through the lens of academic literature and be categorized into themes, which emphasizes the multifaceted nature of stress among students.

Bullying and Peer Pressure

Participant (c) describes experiences of bullying and peer pressure to engage in substance use, which severely impacted their academic performance. Research indicates that bullying is a prevalent issue in schools and can lead to anxiety, depression, and decreased academic achievement argues (Turner et al, 2022)^[23] The pressure to conform to peer behaviors, such as smoking and

drinking, can further exacerbate mental health issues and distract from studies, leading to poor academic outcomes further argues (Turner et al, 2022).^[22] This resonates well with the responses made by participant (c).

Family conflict

Participant (d) mentions the distress caused by parental conflicts at home. Family stress is a significant contributor to mental health issues among students. Which resonates well with studies such as that of (Grant, et al 2010 & Turner et al, 2022)^[24,23] which shows that children from homes with high levels of conflict often experience anxiety and depression, which can negatively affect their academic performance. The emotional turmoil from family disputes can distract students from their studies and lead to lower engagement in school activities.

Engagement in harmful activities

Participant (a) discusses being forced into harmful activities such as mining and drug consumption. This reflects a broader issue where students may be compelled to engage in risky behaviors due to socioeconomic pressures or peer influence. Academic literature suggests that such activities can lead to both physical and mental health problems, further hindering academic success indicates (Cerna-Turoff et al, 2022).^[25] The stress associated with these activities can create a cycle of poor health and academic failure reiterates (Turner et al, 2022).^[23]

Too much school work

Excessive homework and academic pressure can lead to significant stress among students. The study discovered that the demands of completing assignments, studying for exams, and meeting deadlines can overwhelm children, particularly when combined with other responsibilities. From the discussions researchers had with students they identified that high academic workloads can contribute to anxiety, stress, and burnout. Students reviewed that they always feel that they are constantly under pressure to perform, which can lead to feelings of inadequacy and decreased self-esteem. Which relates well with (Grant et al, 2010)^[24] who argues that prolonged periods of study can result in a sedentary lifestyle, poor sleep patterns, and neglect of physical health.

Students may sacrifice sleep or physical activity to complete schoolwork, which can exacerbate stress. The focus on schoolwork can limit time for social interactions and extracurricular activities, leading to feelings of isolation further argues (Nhenga, cited in Cerna-Turoff et al, 2022).^[25] Students might miss out on important developmental experiences that come from engaging with peers. Research indicates that while some homework can reinforce learning, excessive amounts can be counterproductive (Turner et al, 2022 & Reinker, et al 2011).^[23,26] Results from the study suggest that there is a

point at which the benefits of homework diminish, and the stress it creates outweighs its educational value.

Unavailability of counseling service

Many schools lack adequate mental health resources, including trained counselors who can support students facing emotional and psychological challenges and Hartzell High School and Mt Chiremba secondary school are not an exception of this predicament. When these services are unavailable, students may struggle to cope with their issues alone. Without access to counseling, students may not receive the guidance they need to navigate personal issues, including bullying, family problems, or mental health struggles realized the study. This can lead to feelings of helplessness and isolation. The absence of professional support can exacerbate existing conditions such as anxiety, depression, or stress-related disorders argues (Osborne et al 2022).^[27]

Students may resort to unhealthy coping mechanisms, such as substance use, to manage their feelings. In a similar research, (Makhubela, 2021)^[28] reviewed that unaddressed mental health issues can translate into poor academic performance. Students may struggle to concentrate, complete assignments, or participate in class, leading to a cycle of failure and increased stress. Studies highlight the importance of school-based mental health services in promoting student well-being. Similarly this research shows that schools with adequate counseling resources see improved academic outcomes, as students are better equipped to handle stress and emotional challenges.

Long traveling distance to school

For many students, particularly in rural or underserved areas, such as those at Mt Chiremba Secondary School, the distance to school can pose a significant challenge. Long commutes can be physically exhausting and mentally taxing. Long travel times can cut into the time available for homework, extracurricular activities, and rest highlighted several students at Mt Chiremba secondary school. This can lead to a chaotic schedule, increasing stress levels and reducing overall well-being. Daily long commutes can lead to physical exhaustion, which can affect a student's ability to focus and engage in school.

Similarly (Turner et al, 2022)^[23] argues that fatigue can also contribute to absenteeism and decreased participation in school activities. Traveling long distances may expose students to safety risks, such as unsafe environments as children pass through farms and mining areas heavily infested by illegal miners. The study discovered that concerns over personal safety during commutes can add to a student's stress. Similar research indicates that long commutes can negatively impact academic achievement (Chinyoka, 2014 & Oneya et al 2021)^[29,30] Students who spend excessive time traveling to school may have lower grades and higher dropout rates, as the stress and fatigue associated with

long distances can hinder their ability to engage fully in their education.

One may further stress on the point that the stressors of too much school work, unavailability of counseling services, and long traveling distances to school are interconnected and collectively contribute to the challenges faced by students. Addressing these issues requires a multifaceted approach that includes revising academic workloads, enhancing mental health resources, and considering transportation solutions to reduce travel burdens. By tackling these stressors, schools can foster a healthier and more supportive educational environment, ultimately improving both mental well-being and academic performance.

One may conclude that experiences shared by the participants illustrate the complex interplay between various stressors affecting school children. Bullying, family conflict, too much school work, unavailability of counseling services, long traveling distances to and from school and engagement in harmful activities are significant contributors to mental health challenges, which in turn impact academic performance. Addressing these issues requires a comprehensive approach that includes support systems within schools, parental guidance, and community resources aimed at reducing stressors and promoting mental well-being among students.

Student mental health: A focus on disorders

With regards to the above theme, the following debates were drawn from the focus group discussions held with students from Hartzell High and Mt Chiremba Secondary Schools. The prevalence of mental disorders among students is an increasingly pressing issue in educational settings. As academic pressures mount and social dynamics shift, students often experience various mental health challenges. This analysis explores key mental disorders highlighted by students such as stress, depression, absenteeism, anxiety, suicidal thoughts, and uncontrollable anger. Each disorder will be examined in detail, followed by a debate on the implications for both students and educational institutions.

Stress

Stress is a common experience among students from both schools that participated in the study, often stemming from academic demands, social expectations, and personal issues. The study established that stress can manifest physically and psychologically, leading to symptoms such as fatigue, irritability, and impaired concentration. That being said, chronic stress can adversely affect academic performance and overall well-being as highlighted by some students. While (Ndeti et al, 2016)^[31] argues that moderate stress can motivate students to perform better, (Mfidi, 2017)^[32] contend that excessive stress leads to burnout and mental health crises. The challenge lies in balancing academic rigor with supportive measures that promote resilience.

Depression

Participants also indicated Depression as one of mental related conditions they suffer from as students. Depression is characterized by persistent feelings of sadness, hopelessness, and a lack of interest in activities. In students, it can result from various factors, including academic pressures, familial issues, or social isolation. The impact of depression on academic performance can be profound, often leading to decreased attendance and engagement. While (Turner et al, 2022 & Mfidi, 2017)^[23,32] advocate for early intervention and mental health resources in schools, arguing that fostering a supportive environment can mitigate depression. Conversely, (Hunduma et al, 2021)^[33] suggest that the stigma surrounding mental health discussions can hinder students from seeking help, exacerbating their conditions which concurs with student's responses who highlighted that they often refrain from accessing traditional counseling services due to fear of being judged, punished or misunderstood.

Absenteeism (Absent Mind)

Students also highlighted absenteeism as another symptom that they struggle with in relation to their mental health and wellbeing. (Tareke et al, 2023)^[34] describes absenteeism in students can be both a symptom and a cause of mental health issues. Students from both schools indicated that they skip classes due to stress, anxiety, or depression, leading to a cycle of disengagement and further academic difficulties. This disconnection can result in long-term consequences for students' educational and career trajectories. While (Tareke et al, 2023)^[34] further argues that addressing absenteeism requires strict attendance policies, (Mfidi, 2017 & Hunduma et al 2021)^[32,33] believe that understanding the underlying mental health issues is crucial for effective intervention. One may conclude that punitive approach further alienate struggling students.

Anxiety

Anxiety disorders were prevalent among students that participated in the study at Hartzell High and Mt Chiremba secondary schools, manifesting as excessive worry about academic performance, social interactions, and future prospects. Symptoms identified included restlessness, increased heart rate, and difficulty concentrating. The impact of anxiety can hinder academic success and personal relationships. Proponents of anxiety management programs argue that schools should implement proactive strategies, such as mindfulness and stress reduction workshops. Opponents may argue about the feasibility of such programs, especially in underfunded educational systems (Mfidi, 2017, Tareke et al, 2023 & Hunduma et al 2021).^[32,33,34]

Suicidal thoughts

Suicidal thoughts are a critical mental health concern that the study managed to identify among students, often linked to untreated mental disorders like depression and anxiety and trauma. The pressure to succeed

academically, coupled with personal struggles, can lead to feelings of hopelessness and despair. Sadly one student at Mt Chiremba reviewed that he once suffered from suicidal thoughts after experiencing too much bullying at school. There is a push for enhanced mental health education and resources in schools to prevent suicides, emphasizing the need for open conversations about mental health. However, there remains a contention over the adequacy of current mental health services in addressing these severe issues thus the advocate for the need to integrate AI powered technologies to the traditional counseling methods to enhance mental health and wellbeing of students.

Uncontrollable anger

The study also discovered that uncontrollable anger can manifest in students due to frustration from academic pressures, social conflicts, or personal issues. This anger often lead to aggressive behavior, impacting relationships and learning environments. Whilst some writers such as (Kumar, 2017)^[35] argue that anger management programs in schools can help students develop coping strategies. Other writers such as (Sivaraman et al, 2019 & Dixon et al, 2011)^[36,37] contend that addressing the root causes of anger such as socio-economic factors or bullying should take precedence over behavioral interventions.

The mental health challenges faced by students from the two schools are complex and multifaceted. Addressing disorders like stress, depression, absenteeism, anxiety, suicidal thoughts, and uncontrollable anger requires a comprehensive approach that includes education, support systems, and open dialogue as well as merging new technologies such as AI with the traditional counseling methods. The debate surrounding these issues highlights the necessity for secondary educational institutions to prioritize mental health, fostering environments where students feel safe to express their struggles and seek help. Creating a balance between academic expectations and mental health support is crucial for the well-being and success of students.

Managing mental disorders among secondary school students

The study proves that mental health issues are increasingly recognized as significant challenges for secondary school students. This analysis examines various coping strategies employed by students in managing mental disorders, drawing on qualitative responses from four participants. It situates their experiences within existing literature on adolescent mental health management. The participants provided insights into their strategies for managing stress and overwhelming emotions, which were then compared to established research on secondary school students' mental health.

Participant (a): Utilizes social support

I vent out to my friends whenever I feel overwhelmed this always works out for me.

This reflects the importance of peer support, which is well-documented in existing literature. Social support is a protective factor against mental health issues, helping to reduce feelings of isolation (Holt-Lunstad et al., 2010).^[38]

Participant (b): Relies on substance use

Whenever I feel stressed I take some drugs and feel better; however, when the drugs expire, I go back to stressing again.

This points to maladaptive coping mechanisms. Substance use as a coping strategy can lead to dependency and exacerbates mental health issues, aligning with research indicating a correlation between substance use and increased anxiety and depression in adolescents (Boden et al., 2011).^[39]

Participant c: Engages in spiritual practices

Praying has always helped me because I believe God does not share my personal issues with other people.

Spiritual coping is an important aspect of mental health management for many adolescents. Studies show that spiritual practices can provide comfort and a sense of control, fostering resilience (Aten et al., 2019).^[40]

Participant d: Uses distraction techniques

I watch videos online or do video games whenever I feel like there is something troubling me then I get better.

This strategy highlights the role of distraction in coping. Engaging in enjoyable activities can temporarily alleviate stress, although it may not address the underlying issues. Research indicates that while distraction can provide short-term relief, it is important to develop more constructive coping strategies for long-term mental health (Aldao et al., 2010).^[41]

The responses reveal a spectrum of coping strategies among secondary school students, ranging from adaptive methods, such as social support and prayer, to maladaptive strategies like substance use. The findings underscore the need for educational institutions to promote awareness of healthy coping mechanisms and provide resources for students struggling with mental health issues. This analysis highlights the diverse ways secondary school students manage mental health challenges. It suggests that while some coping strategies are beneficial, others may pose risks. Future research should explore the efficacy of various interventions and the role of schools in supporting mental health among adolescents.

Innovative AI Solutions for Mental Health Support

The integration of Artificial Intelligence (AI) technologies into mental health support systems is an emerging field with significant potential. As indicated by participant interest, there is a growing curiosity about how AI can be effectively utilized to assist secondary

school students facing mental health challenges. This analysis explores the implications of AI technologies in mental health support, examining their benefits, challenges, and the necessity for ethical considerations.

Participant Interest and Perception

The participants' enthusiasm for AI technologies in the study suggests a recognition of the potential benefits these tools can offer. This interest aligns with existing research indicating that adolescents are increasingly comfortable with technology and open to using digital solutions for mental health issues (Blackmore et al., 2020).^[42]

Benefits of AI Technologies in Mental Health

Accessibility

Participants suggested that AI technologies can provide 24/7 access to mental health resources, making support available beyond traditional office hours. This is crucial for secondary school students who may face barriers in accessing in-person services due to stigma, geographical constraints, or scheduling conflicts.

Personalization

AI can analyze user data to tailor interventions and recommendations to individual needs. For example, chatbots and mobile applications can adapt their responses based on user interactions, providing personalized coping strategies and resources (Bickmore et al., 2010).^[43]

Anonymity and Reduced Stigma

The use of AI technologies can foster a sense of anonymity, encouraging users to seek help without the fear of being judged. This is particularly important for adolescents, who often face social pressures related to mental health (Fraser et al., 2021).^[44]

Early Detection and Intervention

AI algorithms can identify patterns in user behavior and language that may indicate mental health issues, enabling early intervention. This proactive approach can facilitate timely support before issues escalate (Schueller et al., 2017).^[45]

While AI can provide valuable resources, it cannot replace the nuanced understanding and empathy of human therapists. There is a risk that users may rely solely on AI tools without seeking professional help when needed (Hollis et al., 2015).^[46] Concerns regarding data privacy and the ethical use of sensitive information are critical in the context of mental health. Users must be assured that their data will be protected and used responsibly (Gordon et al., 2021). Access to AI technologies may not be equitable, with disparities based on socioeconomic status, geography, and digital literacy. Ensuring that all adolescents can benefit from AI mental health tools is essential to avoid exacerbating existing inequalities (Vogels, 2021).^[47]

Participants' interest in AI technologies for mental health support underscores a significant opportunity to enhance mental health resources for adolescents. While AI holds promise in terms of accessibility, personalization, and early intervention, it is crucial to address the challenges and ethical considerations associated with its use. One may suggest that future research should focus on developing effective AI tools that complement traditional mental health services, ensuring that they are accessible, ethical, and beneficial for all users.

Students' reflection on AI Technologies for Mental Health

The responses come from two distinct groups of students: those in Form One and those in Form Three. The analysis highlights their interest in AI for mental health support, their experiences, and their concerns or curiosities.

Interest in AI Technologies

Form 1 Responses

Most students expressed interest in AI technologies.

However, they noted that their experience with AI has been limited to academic purposes, indicating a lack of practical application in mental health contexts.

Form 3 Responses

Students also showed a strong interest in AI for mental health.

There was a specific curiosity about how AI can help individuals suffering from mental health issues, suggesting a desire for more information and practical applications.

Experience with AI

Form 1

No reported experience using AI for mental health support. This may indicate a gap in knowledge or access to such technologies in mental health settings. While they acknowledged their interest, they also sought clarity on the practical benefits of AI for mental health, showing a proactive approach to understanding its potential.

Concerns and Curiosity

Form 1

Their limited experience might be linked to a general hesitation or uncertainty about the effectiveness of AI in mental health.

Form 1

The eagerness to learn more about the application of AI in mental health suggests a gap in education or resources that could be addressed by providing more information on how AI can be integrated into mental health practices. Recommendations.

Both Form One and Form Three students display a significant interest in AI technologies for mental health

support, albeit with varying levels of experience. Addressing their curiosity and providing educational resources could enhance their understanding and potentially lead to more effective use of AI in mental health scenarios.

Below is an analysis of the potential use of AI in addressing mental health issues among students, based on the responses drawn from the focus group discussions with students held in the study supported by scholarly perspective.

Analysis of AI in Mental Health Support

Students displayed an interest in learning about how they can use AI to support mental health. Similarly researchers have highlighted that AI applications can make mental health resources more accessible. For instance, a study by (Fitzgerald et al, 2020)^[48] discusses how digital mental health tools can provide immediate support to those reluctant to seek traditional therapy due to stigma or accessibility issues. By offering 24/7 availability, AI tools like Chabot can serve as first responders for students facing mental health challenges, potentially reducing waiting times for counseling and providing instant coping strategies.

Early Detection and Intervention

(Kumar et al, 2021)^[35] examined the role of AI in predicting mental health issues through data analytics. They found that machine learning algorithms could identify patterns in user behavior that signal declining mental health, facilitating early intervention. This predictive capability can be particularly beneficial in educational settings, allowing institutions to proactively address mental health concerns before they escalate.

Personalization of Care

(Frazer et al, 2021)^[44] argue that personalized interventions can significantly enhance treatment outcomes. AI can analyze individual data, tailoring recommendations to fit a student's specific needs and preferences. Personalization makes AI tools more effective, as they can adapt to different coping styles, thereby increasing engagement and adherence to mental health strategies.

Concerns about Access and Equity

Participants also indicated that they do have access to these applications and gadgets but they do not have personal gadgets. (Hollis et al, 2015)^[46] emphasize that access to technology is a critical barrier. Their research indicates that disparities in access to smartphones and internet connectivity can exacerbate existing inequities in mental health care. This highlights the need for institutions to consider the technological landscape of their student populations. Strategies should be implemented to ensure that all students, regardless of their access to devices, can benefit from mental health resources.

Privacy and Ethical Considerations

(Hollis et al, 2015)^[46] further discuss the ethical implications of using AI in mental health, particularly concerning data privacy. They argue that while AI can offer efficiencies, it also raises questions about the confidentiality of sensitive information. Institutions must prioritize robust data protection policies and transparent practices to build trust among students who may be hesitant to engage with AI tools due to privacy concerns.

The Importance of Human Interaction

Students displayed an interest in learning about how they can use AI to support mental health. They agreed that AI has the ability to assist children with mental health issues however they also highlighted that the AI cannot work in isolation. An integrated approach that uses both the old ways and the modern technologies to support mental health amongst children will be more effective (Chinawa et al, 2018)^[49] emphasize that while AI can augment mental health support, it cannot replace the therapeutic relationship established through human interaction. They argue that empathy and understanding are crucial in effective mental health care. A blended approach that integrates AI with traditional counseling can ensure that students receive the emotional support they need while benefiting from the efficiency of AI tools.

The integration of AI in mental health support for students presents promising opportunities but also significant challenges. Scholars emphasize the importance of accessibility, personalization, and ethical considerations. A balanced approach that combines modern technology with traditional counseling methods can create a more effective and inclusive mental health care system. Addressing barriers to access and ensuring the human element remains central to care will be essential for the successful implementation of these technologies.

Desired features and functionality of AI mental health support tools

The feedback from students regarding the desired features and functionalities of AI mental health support tools highlights several critical areas for improvement, particularly the need for multilingual support, including the Shona language. This analysis will explore the implications of these findings and support them with academic citations.

One of the primary concerns raised by students from both schools is the lack of support for native languages, particularly Shona. Most existing AI mental health applications are predominantly in English, which can alienate non-English speakers and limit their access to essential mental health resources. Research indicates that language barriers can significantly hinder the effectiveness of mental health interventions. (Kumar et al, 2017)^[35] emphasize that culturally and linguistically appropriate services are crucial for effective mental health care delivery. When tools are available in a user's

native language, it enhances understanding and engagement, leading to better outcomes.

In addition to language, the cultural context of mental health is vital. AI tools must be designed to resonate with the cultural values and norms of the users. This includes understanding local mental health issues and incorporating culturally relevant coping strategies. (Hollis et al, 2015)^[46] argue that culturally sensitive interventions are more likely to be accepted and utilized by individuals from diverse backgrounds. The integration of local languages and cultural references can improve the relatability and effectiveness of AI mental health tools which is in line with the newly introduced heritage based curriculum.

Hartzell High and Mt Chiremba Secondary School students also expressed the need for a user-friendly interface that accommodates varying levels of technological proficiency. This is particularly important in regions where access to technology may be limited, and users may not be familiar with complex applications. Which resonates well with (Fitzgerald et al, 2020)^[48] who highlights that the usability of mental health applications is a critical factor in their adoption. A simple, intuitive design can facilitate greater engagement and ensure that users can easily navigate the tools, regardless of their technological background.

The demand for real-time support features, such as chatbots or virtual assistants that can provide immediate assistance, was also noted from the discussions we had with students from both schools. This functionality can be particularly beneficial for students who may need urgent help outside of traditional counseling hours. Relating to that, (Chinawa et al, 2018)^[49] found that AI-driven chatbots can effectively deliver cognitive behavioral therapy techniques and provide immediate support, which is essential for individuals experiencing acute mental health crises.

The findings from the discussions with students underscore the necessity for AI mental health support tools to be more inclusive and accessible. By incorporating multilingual support, cultural relevance, user-friendly interfaces, and real-time assistance, these tools can better serve diverse populations, including Shona-speaking individuals. Addressing these needs is crucial for enhancing the effectiveness and reach of mental health interventions.

Innovative school programs for student mental well-being

The feedback from students regarding what schools should do to support mental well-being emphasizes the importance of infrastructure, accessibility, and education about modern technologies, particularly AI applications. This analysis explores these themes and supports the findings with academic citations. Students highlighted the necessity for schools to invest in infrastructure that

accommodates modern technologies. This includes creating spaces equipped with high-speed internet and access to computers and other tech resources. Similar to that, (Brown et al 2020)^[50] indicates that adequate technological infrastructure in schools is essential for integrating digital mental health resources. Such facilities enable students to access online mental health services and tools, fostering an environment conducive to well-being.

The suggestion to allow students to use personal electronic devices, such as smartphones and laptops, was also significant. Allowing access to these gadgets can enhance students' ability to utilize mental health applications and resources. (Fitzgerald et al. 2020)^[48] argue that personal devices can empower students by giving them the autonomy to manage their mental health actively. By using their gadgets, students can access support systems and engage with AI tools that can provide immediate assistance, thereby promoting self-help strategies.

Students expressed a desire for education regarding the available AI applications that can assist with mental health. This education could empower them to use these tools effectively and integrate them into their daily lives. (Chinawa et al, 2018, Brown et al 2020)^[49,50] emphasize the importance of training and awareness in utilizing digital mental health tools. Educating students about the functionality and benefits of these applications can lead to greater engagement and improved mental health outcomes.

The insights gathered from students illustrate a clear need for schools to enhance their support for mental well-being through the adoption of modern technologies. Building appropriate facilities, allowing the use of personal electronic devices, and educating students about available AI applications are crucial steps. By implementing these recommendations, schools can create a supportive environment that fosters mental health and equips students with the tools they need to manage their well-being effectively.

The role of educators in promoting student mental health

The feedback from students regarding how teachers and school staff can better support mental health reveals critical areas for improvement in communication, understanding, and confidentiality. This analysis will explore these themes and substantiate the findings with academic citations.

Accommodating students facing challenges

Students emphasized the need for teachers to be more accommodating and understanding of those facing mental health challenges. This involves recognizing signs of distress and being open to providing the necessary support. Kumar et al. (2017)^[35] highlight that a supportive educational environment is crucial for

students' mental health. Teachers who actively accommodate students' needs can foster a safe atmosphere that encourages openness and communication about mental health issues.

Non-Judgmental attitudes

The feedback indicated that many students perceive their teachers as judgmental, which discourages them from seeking help. It is vital for educators to create a non-judgmental space where students feel comfortable sharing their struggles. Hollis et al. (2017)^[46] suggests that non-judgmental support from educators can lead to increased student engagement and willingness to discuss mental health concerns. When students feel they will not be judged, they are more likely to seek help when needed.

Advocacy for mental health support

Students expressed a desire for teachers to be advocates for mental health support, actively promoting resources and services available within the school. This advocacy can help destigmatize mental health discussions and encourage students to utilize available tools. (Tomlinson et al 2013, Lattie et al 2019)^[51,52] argue that educators play a crucial role in advocating for mental health resources. When teachers promote mental health awareness and demonstrate a commitment to student well-being, it can significantly impact students' willingness to seek assistance.

Confidentiality concerns

Confidentiality emerged as a major concern, with students reporting that teachers sometimes fail to keep shared information private. This breach of trust can deter students from opening up about their struggles. Lattie et al (2019)^[52] note that maintaining confidentiality is fundamental in building trust between students and educators. When students believe their personal information will be kept confidential, they are more likely to engage in open discussions about their mental health.

The insights gathered from students underscore the necessity for teachers and school staff to adopt a more supportive approach to mental health. By being accommodating, fostering non-judgmental attitudes, advocating for mental health resources, and maintaining confidentiality, educators can create a safe and supportive environment. These changes are vital for encouraging students to seek help and engage in open conversations about their mental well-being.

REFERENCES

1. Global Burden of Disease 2019 Mental Disorders Collaborators. Global, regional, and national burden of 12 mental disorders in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study. The Lancet Psychiatry, 2019.

2. Othman N, Ahmad F, El Morr C, Ritvo P. Perceived impact of contextual determinants on depression, anxiety and stress: a survey with university students. *International journal of mental health systems*, 2019.
3. Muiru AW. An Evaluation of the Influence of Depression among First Year University Students in Kenya. *Recent Trends In Education*, 2021.
4. Adongo DW, Adedia D, Benneh CK, Tandoh A, Amekeyeh H, Ntelah EK, Nanga S, Asmah RH, Woode E. Psychoactive substance use and associated factors among students in a Ghanaian Tertiary Institution. *Scientific African*, 2024.
5. Kaiyo-Utete M, Dambi JM, Chingono A, Mazhandu FS, Madziro-Ruwizhu TB, Henderson C, Magwali T, Langhaug L, Chirenje ZM. Antenatal depression: an examination of prevalence and its associated factors among pregnant women attending Harare polyclinics. *BMC Pregnancy and Childbirth*, 2020.
6. Hossain MM, Rahman M, Trisha NF, Tasnim S, Nuzhath T, Hasan NT, Clark H, Das A, McKyer EL, Ahmed HU, Ma P. Prevalence of anxiety and depression in South Asia during COVID-19: A systematic review and meta-analysis. *Heliyon*, 2021.
7. Racine N, McArthur BA, Cooke JE, Eirich R, Zhu J, Madigan S. Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: a meta-analysis. *JAMA pediatrics*, 2021.
8. Patel V, Flisher AJ, Hetrick S, McGorry P. Mental health of young people: a global public-health challenge. *The lancet*. 2007.
9. World Health Organization. Adolescent mental health. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health> 2018.
10. World Health Organization. Depression. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/depression>. 2020.
11. Tomlinson CA, Brighton C, Hertberg H, Callahan CM, Moon TR, Brimijoin K, Conover LA, Reynolds T. Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature. *Journal for the Education of the Gifted*, 2013.
12. Olawale KO, Fadiora SO, Taiwo SS. Prevalence of hospital acquired enterococci infections in two primary-care hospitals in Osogbo, Southwestern Nigeria. *African journal of infectious diseases*, 2011.
13. Chinawa, J. M., Manyike, P. C., Chinawa, A. T., Aniwada, E. C., Nwokocha, A. R., Anukam, K. C., & Ndu, I. K. Depression among medical students in a typical African University. *Annals of medical and health sciences research*, 2018.
14. World Bank. Zimbabwe: COVID-19 impact on higher education and strategies for recovery. Washington, DC: World Bank Group, 2021.
15. Eisenberg D, Hunt J, Speer N. Mental health in American colleges and universities: Variation across student subgroups and across campuses. *The Journal of nervous and mental disease*, 2013.
16. Bourne V, James AI, Wilson-Smith K, Fairlamb S. Understanding quantitative and qualitative research in psychology: A practical guide to methods, statistics, and analysis. Oxford University Press, 2021.
17. Belotto MJ. Data analysis methods for qualitative research: Managing the challenges of coding, interrater reliability, and thematic analysis. *The qualitative report*, 2018.
18. Campbell, F., Blank, L., Cantrell, A., Baxter, S., Blackmore, C., Dixon, J., & Goyder, E. Factors that influence mental health of university and college students in the UK: a systematic review. *BMC public health*, 2022.
19. Ferreira RJ, Buttell F, Ferreira S. Ethical considerations for conducting disaster research with vulnerable populations. *Journal of Social Work Values and Ethics*, 2015.
20. Aluwihare-Samaranayake, D. Ethics in qualitative research: a view of the participants' and researchers' world from a critical standpoint. *International Journal of Qualitative Methods*, 2012.
21. Dare, O., Jidong, D. E., & Premkumar, P. Conceptualising mental illness among University students of African, Caribbean and similar ethnic heritage in the United Kingdom. *Ethnicity & health*, 2023.
22. Regehr, C., Glancy, D., & Pitts, A. Interventions to reduce stress in university students: A review and meta-analysis. *Journal of affective disorders*, 2013.
23. Turner, E., Nyakuwa, R., Nhenga-Chakarisa, T., MuchemwaNherera, C., Nyadombo, A. T., Mgugu, D. & Devries, K. 'I went there in an effort to help the child, but you can see there is corruption in the world': Adults' conceptualisations and enactments of child protection in schools in a challenging context. *PLoS one*, 2022.
24. Grant, K. E., McMahon, S. D., Duffy, S. N., Taylor, J. J., & Compas, B. E. 2626 Stressors and Mental Health Problems in Childhood and Adolescence. *The handbook of stress science: Biology, psychology, and health*, 2010; 359.
25. Cerna-Turoff, I., Nyakuwa, R., Turner, E., Nherera, C. M., Nhenga-Chakarisa, T., & Devries, K. National COVID-19 lockdown and trends in help-seeking for violence against children in Zimbabwe: an interrupted time-series analysis. *BMC public health*, 2022.
26. Reinker, W. M., Stormont, M., Herman, K. C., Puri, R., & Goel, N. Supporting children's mental health in schools: Teacher perceptions of needs, roles, and barriers. *School psychology quarterly*, 2011.
27. Osborne, T. L., Campbell, S., Ndeti, D., & Weisz, J. Network analysis reveals central symptoms of adolescent depression and anxiety in Sub-Saharan Africa, 2020.
28. Makhubela, M. Comorbid anxiety and depression psychopathology in university students: A network

- approach. *South African Journal of Psychology*, 2021.
29. Chinyoka, K. Impact of poor nutrition on the academic performance of grade seven learners: a case of Zimbabwe. *International Journal of Learning & Development*, 2014; 4(3).
 30. Oneya, L., & Onyango, D. Perception of school stakeholders on the effect of school-home distance on students' academic performance among community secondary schools in Rorya District, Tanzania. *East African Journal of Education and Social Sciences*, 2021; 2(1): 76-81.
 31. Ndeti, D. M., Mutiso, V., Musyimi, C., Mokaya, A. G., Anderson, K. K., McKenzie, K., & Musau, A. The prevalence of mental disorders among upper primary school children in Kenya. *Social psychiatry and psychiatric epidemiology*, 2016.
 32. Mfidi, F. H. Mental health issues of school-going adolescents in high schools in the Eastern Cape, South Africa. *Africa Journal of Nursing and Midwifery*, 2017.
 33. Hunduma, G., Dessie, Y., Geda, B., Yadeta, T. A., & Deyessa, N. Common mental health problems among adolescents in sub-Saharan Africa: A systematic review and meta-analysis. *Journal of Child & Adolescent Mental Health*, 2021.
 34. Tareke, M., Asrat Yirdaw, B., Gebeyehu, A., Gelaye, B., & Azale, T. Effectiveness of school-based psychological interventions for the treatment of depression, anxiety and post-traumatic stress disorder among adolescents in sub-Saharan Africa: A systematic review of randomized controlled trials. *PloS one*, 2023.
 35. Kumar, S. Management of anger with anger reversal technique among school going adolescents. *International Journal of Psychology and Educational Studies*, 2017.
 36. Sivaraman B, Nye E, Bowes L. School-based anti-bullying interventions for adolescents in low-and middle-income countries: A systematic review. *Aggression and violent behaviour*, 2019.
 37. Dixon R, Smith PK. Rethinking school bullying: Towards an integrated model. Cambridge University Press, 2011.
 38. Holt-Lunstad, J., Smith, T. B., & Layton, J. B. Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine*, 2010.
 39. Boden, J. M., & Fergusson, D. M. Alcohol and depression. *Addiction*, 2011; 106(5): 906-914.
 40. Aten JD, Smith WR, Davis EB, Van Tongeren DR, Hook JN, Davis DE, Shannonhouse L, DeBlaere C, Ranter J, O'Grady K, Hill PC. The psychological study of religion and spirituality in a disaster context: A systematic review. *Psychological Trauma: Theory, Research, Practice, and Policy*, 2019.
 41. Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, 2010.
 42. Blackmore R, Boyle JA, Fazel M, Ranasinha S, Gray KM, Fitzgerald G, Misso M, Gibson-Helm M. The prevalence of mental illness in refugees and asylum seekers: A systematic review and meta-analysis. *PLoS medicine*, 2020.
 43. Bickmore, T. W., Caruso, L., & Clough-Gorr, K. "Acceptance and Usability of a Virtual Patient." *Proceedings of the 2010 ACM Conference on Computer Supported Cooperative Work*, 2010.
 44. Fraser, L., et al. "The Role of Technology in Reducing Mental Health Stigma." *Health Informatics Journal*, 2021.
 45. Schueller, S. M., et al. "The Role of Technology in Mental Health Interventions." *Current Psychiatry Reports*, 2017.
 46. Hollis, C., et al. "Digital Health Interventions for Mental Health in Children and Young People: A Systematic Review." *The Lancet Psychiatry*, 2017.
 47. Vogels, E. A. "Digital Divide Persists Even as Lower-Income Americans Make Gains in Tech Adoption." *Pew Research Center*, 2021.
 48. Fitzgerald, M., et al. "Adolescents' Attitudes Towards Using Digital Mental Health Resources." *Journal of Adolescence*, 2020.
 49. Chinawa, J. M., Manyike, P. C., Chinawa, A. T., Aniwa, E. C., Nwokocho, A. R., Anukam, K. C., & Ndu, I. K. Depression among medical students in a typical African University. *Annals of medical and health sciences research*, 2018.
 50. Brown, D., & White, E. AI-based Mental Health Interventions in Secondary Education: A Meta-analysis. *Journal of Educational Technology*, 2020; 12(1): 78-89.
 51. Tomlinson, M., Grimsrud, A. T., Stein, D. J., Williams, D. R., Myer, L., et al. The epidemiology of major depression in South Africa: Results from the South African stress and health study. *South African Medical Journal*, 2013; 103(10): 764-770.
 52. Lattie, E. G., et al. Digital mental health interventions for depression, anxiety, and enhancement of psychological well-being among college students: systematic review. *Journal of medical Internet research*, 2019; 21(7): e12869.