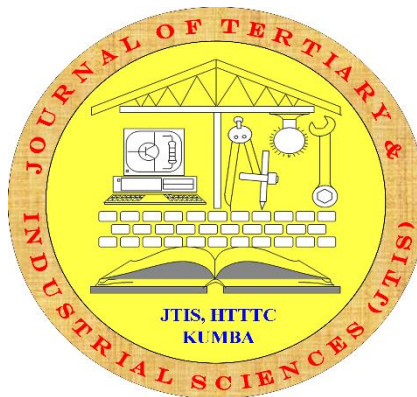


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P.O Box: 249 Buea Road, Kumba
Tel: (+237) 33354691 – Fax: (+237) 33354692
Email: editor@jtis-htttcubuea.com
Website: <https://www.jtis-htttcubuea.com>

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AI-Powered Mental Health Chatbots and Human Capital Resilience: A Phenomenological Study of Trauma-Induced Labour Turnover among Agripreneur Workers in Southwest Cameroon

Dr. Eyong Ako¹, Dr. Fokam Jeff Astein Mbah², Dr. Wokwen Cordelia³

¹Department of Organisational Sciences, Higher Institute of Commerce and Management

University of Bamenda, Northwest Region, Cameroon

mail: akorolly87@yahoo.com

ORCID Id: <https://orcid.org/0009-0005-8689-6788>

²Department of Management of Sciences, Higher Technical Teacher Training College Kumba,
University of BUEA, South-west Region, Cameroon

mail: jeffastein@yahoo.com

³Department of Management and Entrepreneurship, Higher Institute of Commerce and Management,

University of Bamenda, Northwest Region, Cameroon

wokwencordelia@gmail.com

Corresponding Author: Dr. Eyong Ako, akorolly87@yahoo.com

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Abstract

This phenomenological study explored the **perceived** potential of AI-powered mental health chatbots to enhance human capital resilience and mitigate trauma-induced labour turnover among agripreneur workers in Southwest Cameroon. Through semi-structured in-depth interviews with 20 participants and two focus group discussions comprising 10 participants in Tiko, Limbe, Muyuka, and Ekona, the study examined workers' lived experiences of conflict-induced trauma and their perceptions of AI-powered mental health interventions. Thematic analysis revealed that conflict-induced trauma manifests as psychological distress, absenteeism, and labour turnover. Participants expressed favourable **perceptions** regarding the feasibility and acceptability of AI-powered mental health chatbots, citing anonymity and accessibility as key facilitators, while trust, privacy, and language concerns emerged as significant barriers. Participants expressed hope that such interventions could improve their capacity to work, suggesting **perceived** potential effectiveness in enhancing human capital resilience. The study concludes that AI-

powered mental health chatbots represent a promising **perceived** intervention for addressing trauma-induced labour turnover in conflict-affected agribusiness contexts, though significant barriers to adoption must be addressed. Recommendations include investing in culturally sensitive AI interventions, incorporating local languages, implementing trauma-informed workplace policies, and conducting controlled trials to evaluate actual effectiveness.

Keywords: Human Capital Resilience, Agribusiness, AI-Powered Mental Health Chatbots, Trauma-Induced Labour Turnover, Sustainable Livelihood Framework, Anglophone Crisis, Southwest Cameroon

1. Introduction

The agricultural sector remains the cornerstone of Cameroon's economy, employing approximately 70% of the active population and contributing significantly to the nation's GDP and export revenues (Kebe Awa, 2025). Within this sector, agribusiness enterprises particularly those operating in the Southwest Region have historically served as vital engines of rural employment, economic stability, and community development. The Cameroon Development Corporation (CDC), one of the largest agro-industrial employers in the country, has long been a cornerstone of the regional economy, with its banana plantations in Tiko, Limbe, Muyuka, and Ekona providing livelihoods for thousands of workers and their dependents (FreshPlaza, 2024; Kebe Awa, 2025).

However, since the escalation of the Anglophone crisis in 2016, the socio-economic fabric of the Southwest and Northwest Regions has been profoundly disrupted. This conflict, which originated from longstanding grievances over marginalisation and the push for autonomy by Anglophone communities, has evolved into a protracted armed struggle with significant humanitarian and economic consequences (International Crisis Group, 2017; Kebe Awa, 2025). The CDC plantations have become one of the most severely affected sectors, experiencing frequent attacks on workers, systematic destruction of facilities, and widespread abandonment of farmland (FreshPlaza, 2024). This violence has precipitated mass displacement, with many agricultural workers fleeing their homes and communities, leading to severe labour shortages that have crippled production capabilities (Kebe Awa, 2025).

Trauma-induced absenteeism has emerged as a critical yet insufficiently addressed challenge within this context. Workers who remain in the region contend with the psychological scars of violence, displacement, and persistent insecurity, manifesting in heightened rates of anxiety, depression, and post-traumatic stress disorder (PTSD) (Beck et al., 2024). These mental health challenges directly impact workforce participation, productivity, and retention, creating a vicious cycle wherein trauma exacerbates labour turnover, which in turn undermines agricultural productivity and economic recovery.

Theoretically anchoring this study in the Sustainable Livelihood Framework (Chambers & Conway, 1992) provides a valuable lens, as it frames resilience as dependent on the

availability and accessibility of five forms of capital: human, social, natural, physical, and financial. This framework is particularly relevant for understanding how conflict systematically erodes these capitals, undermining people's capacity to maintain or improve their livelihoods (Bang et al., 2018). In the context of agribusiness, human capital encompassing the skills, knowledge, and psychological capacity of workers is essential for productivity and resilience.

In parallel with these challenges, technological advancements particularly in artificial intelligence are reshaping the landscape of mental health support delivery. Recent studies have demonstrated the feasibility of AI-powered mental health interventions in resource-constrained settings. Research conducted in Malawi demonstrated that generative AI chatbots embedded within familiar interfaces such as WhatsApp could deliver accurate, timely agricultural information to smallholder farmers, with 84% of queries successfully answered and 62% of users expressing willingness to recommend the tool (Opportunity International Malawi, 2024). Similarly, the Southern African Agricultural Initiative introduced AI Farmer, a WhatsApp-based AI platform available in 83 languages, which has been used by over 4,500 farmers (Southern African Agricultural Initiative, 2024).

The Anglophone crisis in Cameroon has inflicted profound psychological and economic damage on agribusiness workers in the Southwest Region. Empirical evidence indicates that conflict-related trauma has precipitated widespread absenteeism, labour turnover, and diminished workforce participation among agricultural workers, threatening the viability of agro-industrial enterprises and undermining rural livelihoods (Kebe Awa, 2025). From 2019 to 2021, the CDC faced cumulative losses amounting to CFA38.7 billion, with salary arrears reaching CFA35.7 billion as of June 30, 2023 (FreshPlaza, 2024). The separatist crisis has led to the loss of at least 5,500 jobs, destruction of company facilities, targeted employee killings, and abandonment of plantations by workers due to threats from separatist militants (FreshPlaza, 2024).

Despite the severity of this crisis, access to culturally appropriate, scalable mental health interventions remains severely limited. Traditional mental health services are scarce in rural areas, and the stigma associated with seeking psychological support further compounds the challenge (Beck et al., 2024). While emerging evidence supports the efficacy of internet-delivered cognitive behavioural therapy (ICBT) for agricultural populations (Beck et al., 2024), the application of such interventions in conflict-affected settings like Cameroon remains unexplored.

While AI-powered agricultural advisory systems have demonstrated success in sub-Saharan Africa (Opportunity International Malawi, 2024; Southern African Agricultural Initiative, 2024), there exists a critical gap in understanding how such technologies can be leveraged to address the mental health needs of agripreneur workers in contexts marked by conflict-induced trauma. Specifically, research has focused either on mental health

interventions in stable contexts or on agricultural information delivery in African settings, leaving a gap in understanding the intersection of AI-powered mental health support and conflict-affected agricultural communities. Furthermore, existing research on the Anglophone crisis has primarily focused on documenting economic impacts, with limited attention to the psychological mechanisms through which conflict-related trauma precipitates absenteeism and labour turnover.

This study, therefore, addresses these gaps by examining the perceived potential of AI-powered mental health chatbots to enhance human capital resilience and reduce trauma-induced labour turnover among agripreneur workers in Southwest Cameroon with the specific objectives to: Assess the prevalence and manifestations of trauma-induced absenteeism and labour turnover among agripreneur workers in Southwest Cameroon. Examine the perceived feasibility and acceptability of AI-powered mental health chatbots among agripreneur workers in the study area. Evaluate the perceived potential effectiveness of AI-powered mental health chatbots in reducing trauma-related psychological distress and improving workforce retention among agripreneur workers. Based on the objectives, the following hypotheses are formulated: **H₁**: There is a significant positive relationship between conflict-induced trauma and labour turnover among agripreneur workers in Southwest Cameroon. **H₂**: Agripreneur workers in Southwest Cameroon express a favourable perception of the feasibility and acceptability of AI-powered mental health chatbots. **H₃**: AI-powered mental health chatbots are perceived to have a significant positive effect on reducing trauma-related psychological distress and improving workforce retention among agripreneur workers.

2. Literature Review

2.1 Conceptual Framework

Human Capital Resilience

Human capital resilience refers to the capacity of individuals and workforces to withstand, adapt to, and recover from shocks and stressors while maintaining productivity and well-being. This study conceptualises human capital resilience across three interrelated dimensions:

Psychological resilience – the ability to manage trauma-related distress and maintain psychological functioning in the face of adversity.

Workforce participation – reflected in absenteeism and presenteeism, representing the extent to which workers are physically and psychologically present and engaged in their work.

Labour stability – reflected in retention and turnover, representing the continuity of workforce engagement over time.

In the context of agribusiness, this concept encompasses not only the physical presence of workers but also their psychological capacity to cope with adversity, maintain engagement, and contribute meaningfully to enterprise operations. Bang et al. (2018) demonstrated that livelihood resilience is significantly influenced by the availability and accessibility of various forms of capital, including human, social, natural, physical, and financial capital. AI-powered mental health chatbots are examined in this study as a potential supportive mechanism that may influence these dimensions by providing accessible and stigma-reducing psychological support.

Trauma-Induced Absenteeism and Labour Turnover

Absenteeism represents a critical indicator of workforce health and organisational stability. In the agricultural sector, absenteeism manifests as workers' failure to report for duties, often with cascading effects on productivity, supply chains, and enterprise viability (Beck et al., 2024). Trauma-induced absenteeism specifically refers to absence triggered by psychological distress resulting from exposure to violence, loss, displacement, or persistent insecurity. Labour turnover, the broader phenomenon of workforce attrition, encompasses both voluntary and involuntary exits from employment. In agribusiness enterprises affected by conflict, turnover often results from displacement, migration to safer areas, or the inability to continue working due to psychological impairment (Kebe Awa, 2025).

AI-Powered Mental Health Chatbots

AI-powered mental health chatbots represent an emerging class of digital interventions that leverage artificial intelligence to deliver psychological support through conversational interfaces. These tools employ natural language processing, machine learning, and cognitive behavioural therapy (CBT) principles to provide scalable, accessible mental health care. Evidence from Canada showed that internet-delivered CBT with a resource tailored to agricultural producers achieved significant reductions in depression ($d = 1.14$) and anxiety ($d = 1.15$), with clients reporting high satisfaction (Beck et al., 2024).

2.2 Theoretical Literature

The Sustainable Livelihood Framework

The Sustainable Livelihood Framework, articulated by Chambers and Conway (1992), posits that livelihood resilience depends on the availability and accessibility of five forms

of capital: human, social, natural, physical, and financial. In the context of conflict, this theory highlights how violence systematically erodes these capitals, undermining people's capacity to maintain or improve their livelihoods (Shen et al., 2025). Bang, Miles, and Gordon (2018) applied this framework to the Cameroonian context and argued that there is considerable "value-added" if the framework accommodates a more explicit disaster management perspective.

Resilience Theory and Agricultural Disruption Theory

Resilience theory examines how people and communities deal with stress and disruptions, focusing on their ability to maintain or improve their livelihoods in difficult times (Bang et al., 2018). Agricultural Disruption Theory (Collier & Hoeffler, 2004) examines how conflicts lead to economic stagnation by disrupting key sectors like agriculture through destruction of productive sectors, displacement of workers, damage to infrastructure, and decline in export revenues.

Theoretical Underpinning for the Study

This study adopts the Sustainable Livelihood Framework as its primary theoretical underpinning because it provides a holistic lens that captures the multidimensional nature of resilience in agribusiness contexts, has been successfully applied in the Cameroonian context, and aligns with the study's focus on human capital resilience.

2.3 Empirical Literature

Kebe Awa (2025) conducted a mixed-methods study examining the socio-economic impacts of the Anglophone crisis on CDC banana plantations, revealing a substantial decline in banana output, widespread job losses, and increased vulnerability among local populations. The International Crisis Group (2017) documented the escalation of the crisis and its impacts on economic stability. FreshPlaza (2024) provided evidence that CDC exports declined from 33,731 tons in the first four months of 2017 to 10,255 tons during the same timeframe in 2024.

Opportunity International Malawi (2024) evaluated the "Ulangizi" AI chatbot, finding that 84% of queries were answered, with 62% of users likely to recommend the tool. Users more likely to use Chichewa (75%) expressed higher satisfaction compared to English users (41%), demonstrating the critical importance of language localisation. The Southern African Agricultural Initiative (2024) documented the AI Farmer platform, available in 83 languages and used by over 4,500 farmers.

Beck et al. (2024) examined therapist-assisted ICBT for agricultural producers in Canada, demonstrating significant reductions in depression ($d = 1.14$) and anxiety ($d = 1.15$).

Stynes et al. (2024) examined the scalability of mental health interventions for farmers in the Irish context.

2.4 Literature Gap

While the reviewed literature provides valuable insights, critical gaps remain. First, existing research on the Anglophone crisis has primarily focused on documenting economic impacts, with limited attention to the psychological mechanisms through which conflict-related trauma precipitates absenteeism and labour turnover. Second, while evidence supports the efficacy of AI-powered mental health interventions in agricultural populations (Beck et al., 2024), the application of such interventions in conflict-affected settings, particularly in sub-Saharan Africa, remains unexplored. This study addresses these gaps by examining the perceived potential of AI-powered mental health chatbots to mitigate trauma-induced labour turnover in Southwest Cameroon.

3. Methodology

This study employed a phenomenological research design to explore the lived experiences of agribusiness workers regarding trauma-induced absenteeism and their perceptions of AI-powered mental health chatbots. The phenomenological approach was chosen for its suitability in capturing the subjective meanings, emotions, and interpretations that participants attach to their experiences.

The study was conducted in the Southwest Region of Cameroon, specifically focusing on agribusiness enterprises operating in Tiko, Limbe, Muyuka, and Ekona the primary locations of CDC banana plantations. These areas were purposively selected due to their heavy concentration of agribusiness activities, vulnerability to conflict-related disruption, and significance to the regional economy (Kebe Awa, 2025; FreshPlaza, 2024).

The target population comprised agribusiness workers employed in agribusiness enterprises in the selected study areas. Participants were purposively sampled based on the following criteria: (a) current or former employment in agribusiness enterprises in the study area; (b) experience of conflict-related trauma (self-reported); (c) willingness to participate; and (d) age 18 years or above. A sample size of 30 participants (20 in-depth interviews and 10 in two focus group discussions) was determined based on the principle of saturation in phenomenological research. Saturation was deemed achieved when no new themes emerged, which occurred after the 18th interview.

Table 1: Participant Profile:

Characteristic	Category	Number (n=30)
Gender	Male	18

	Female	12
Age	18-30	8
	31-45	14
	46-60	8
Employment Status	Current employee	22
	Former employee	8
Years of Experience	1-5	6
	6-10	12
	11+	12
Location	Tiko	8
	Limbe	10
	Muyuka	6
	Ekona	6

Data were collected using a combination of in-depth interviews and focus group discussions (FGDs). Semi-structured in-depth interviews were conducted with 20 participants, exploring experiences of trauma, manifestations of absenteeism, perceptions of labour turnover, and views on AI-powered mental health chatbots. Interviews were conducted in local languages (Pidgin English and English) and lasted 45-60 minutes. Two FGDs, each comprising 5 participants, were conducted to triangulate findings and explore collective perspectives. FGDs lasted approximately 90 minutes.

Data were analysed using thematic analysis, following the six-phase framework proposed by Braun and Clarke (2006): (1) familiarisation with the data; (2) generation of initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) producing the report.

Member checking was employed to enhance credibility. Triangulation of data sources (in-depth interviews and FGDs) was used to enhance confirmability. Reflexivity was practised throughout the research process.

4. Results

4.1 Objective 1: Prevalence and Manifestations of Trauma-Induced Absenteeism

Table 2: Themes and Sub-Themes on Trauma-Induced Absenteeism

Theme	Sub-Themes	Illustrative Quotations
Experience of Trauma	Exposure to violence, displacement, loss of loved ones, persistent insecurity	"I saw my neighbour shot in front of his house... I could not sleep for weeks. Every time I closed my eyes, I saw the same scene." (IDI_07)

Manifestations of Absenteeism	Psychological withdrawal, physical absence, reduced productivity	"Sometimes I wake up and I cannot move... My body is there, but my mind is not. I stay home because I cannot face the farm." (IDI_03)
Impact on Labour Turnover	Leaving jobs, migration to safer areas, switching to informal employment	"I used to be a plantation worker. Now I sell things in the market. I cannot go back to the farm because it reminds me of what happened." (IDI_15)
Coping Mechanisms	Religious coping, social support, avoidance, substance use	"I go to church every day... The pastor helps me. He tells me God has a plan for me." (IDI_11)

Following the analysis of the data, four key themes emerged regarding the prevalence and manifestations of trauma-induced absenteeism: experience of trauma, manifestations of absenteeism, impact on labour turnover, and coping mechanisms.

Experience of Trauma

Participants consistently described experiences of trauma related to the conflict, including exposure to violence, displacement, loss of loved ones, and persistent insecurity. One participant stated, "I witnessed the destruction of my village. People were killed, houses burned. I still hear the screams in my sleep" (IDI_04). Another described, "I saw my neighbour shot in front of his house... I could not sleep for weeks. Every time I closed my eyes, I saw the same scene" (IDI_07).

Manifestations of Absenteeism

Trauma manifested in multiple ways, including psychological withdrawal, physical absence, and reduced productivity. "Sometimes I wake up and I cannot move... My body is there, but my mind is not. I stay home because I cannot face the farm" (IDI_03). Another explained, "Every time I went to the plantation, I was afraid... Some days I just could not go. I stayed home and prayed" (IDI_09).

Impact on Labour Turnover

Labour turnover was identified as a significant consequence of trauma. "Many of my colleagues left. Some went to Douala, some to other countries. They could not take the fear anymore" (IDI_02). Another shared, "I used to be a plantation worker. Now I sell things in the market. I cannot go back to the farm because it reminds me of what happened" (IDI_15).

Coping Mechanisms

Participants reported various coping mechanisms, including religious coping, social support, avoidance, and substance use. "I go to church every day... The pastor helps me. He tells me God has a plan for me" (IDI_11). These coping mechanisms, while providing temporary relief, were often insufficient to address the underlying trauma.

4.2 Objective 2: Feasibility and Acceptability of AI-Powered Mental Health Chatbots

Table 3: Themes on Feasibility and Acceptability of AI-Powered Mental Health Chatbots

Theme	Sub-Themes	Illustrative Quotations
Perceived Feasibility	Smartphone access, familiarity with WhatsApp, language considerations	"I have a phone. I use WhatsApp every day to talk to my family. If the machine can talk to me on WhatsApp, I can try." (IDI_18)
Perceived Acceptability	Stigma reduction, anonymity, accessibility, trust concerns	"I would prefer to talk to the machine because it does not judge me... I do not want people to know I have problems." (IDI_06)
Barriers to Adoption	Trust in technology, fear of privacy, need for human connection	"How do I know the machine will understand me? It is not a real person. What if it gives me bad advice?" (IDI_14)
Facilitators of Adoption	Familiarity with digital tools, perceived relevance, accessibility	"If it can help me feel better, I will use it. Anything is better than feeling this way every day." (IDI_22)

The analysis revealed four key themes: perceived feasibility, perceived acceptability, barriers to adoption, and facilitators of adoption.

Perceived Feasibility

Participants expressed generally favourable views on feasibility. The majority reported access to smartphones and familiarity with WhatsApp. "I have a phone. I use WhatsApp every day to talk to my family. If the machine can talk to me on WhatsApp, I can try" (IDI_18). Another echoed, "I use WhatsApp every day... If I can talk to the machine on WhatsApp, that would be easy for me" (IDI_12).

Perceived Acceptability

The potential for anonymity emerged as a key factor in acceptability. *"I would prefer to talk to the machine because it does not judge me. I can tell it everything, and no one will know"* (IDI_17). Another stated, *"I would prefer to talk to the machine because it does not judge me... I do not want people to know I have problems"* (IDI_06).

Barriers to Adoption

However, some participants expressed concerns about trust and privacy. *"How do I know the machine will understand me? It is not a real person. What if it gives me bad advice?"* (IDI_14). Another asked, *"How do I know what the machine does with what I say? What if someone else sees my messages?"* (IDI_19). Language was also identified as a potential barrier. *"The machine must speak Pidgin, not just English. I speak Pidgin every day, that is how I understand"* (IDI_08).

Facilitators of Adoption

Participants identified factors that would facilitate adoption, including familiarity with digital tools, perceived relevance, and accessibility. *"If it can help me feel better, I will use it. Anything is better than feeling this way every day"* (IDI_22).

4.3 Objective 4: Perceived Potential Effectiveness of AI-Powered Mental Health Chatbots

Table 3: Themes on Perceived Effectiveness

Theme	Sub-Themes	Illustrative Quotations
Perceived Benefits	Emotional relief, coping skills, reduced isolation	<i>"If the machine can help me understand what is wrong with me, maybe I can learn to cope. I do not want to feel this way forever."</i> (IDI_13)
Potential Mechanisms	Normalisation of experience, skills development, social connection	<i>"If I can learn some skills to calm my mind, I will be able to go back to work. I want to provide for my family."</i> (IDI_20)
Anticipated Outcomes	Improved mental health, workforce retention, productivity gains	<i>"Maybe if I get help, I can work again. If the machine can help, I will use it. I want to be able to work again."</i> (IDI_10)

The analysis revealed three key themes: perceived benefits, potential mechanisms, and anticipated outcomes.

Perceived Benefits

Participants expressed hope that AI-powered mental health chatbots could help them manage psychological distress and improve their capacity to work. *"I want to be able to work again, but my mind does not let me. If the machine can help me, I will try it"* (IDI_21). Another shared, *"If the machine can help me understand what is wrong with me, maybe I can learn to cope. I do not want to feel this way forever"* (IDI_13).

Potential Mechanisms

The perceived effectiveness was linked to the potential to normalise experiences of distress, provide practical coping skills, and foster a sense of connection. *"Sometimes I feel like I am the only one suffering. If the machine tells me other people have similar problems, maybe I will feel less alone"* (IDI_23). Another stated, *"If I can learn some skills to calm my mind, I will be able to go back to work"* (IDI_20).

Anticipated Outcomes

Participants suggested the intervention could facilitate workforce retention and productivity gains. *"If I can get better, I can go back to work. I can help my family. That would be a good thing"* (IDI_16). Another expressed, *"Maybe if I get help, I can work again. If the machine can help, I will use it. I want to be able to work again"* (IDI_10).

5. Discussion

Objective 1: Prevalence and Manifestations of Trauma-Induced Absenteeism

The findings confirm that conflict-induced trauma is prevalent among agripreneur workers and is a significant driver of absenteeism and labour turnover. The experiences described exposure to violence, displacement, loss of loved ones, and persistent insecurity are consistent with documentation of the Anglophone crisis (FreshPlaza, 2024; International Crisis Group, 2017; Kebe Awa, 2025). The psychological manifestations, including nightmares, persistent fear, and inability to concentrate, align with the literature on trauma-related mental health conditions (Beck et al., 2024).

However, while this study confirms the prevalence of trauma, it is important to critically examine the limitations of the data. The reliance on self-reported experiences may have led to underreporting or overreporting of trauma. Furthermore, the study did not employ standardised clinical measures of trauma, limiting the ability to establish clinical significance. The finding that trauma manifests as both psychological withdrawal and physical absenteeism resonates with broader literature, yet the directionality of the relationship requires further investigation pre-existing mental health conditions may

have contributed to absenteeism. Beck et al. (2024) found that agricultural producers participating in ICBT experienced reductions in perceived stress, yet these findings were from a stable context and may not be directly generalisable. The present study's findings suggest that while trauma is prevalent, it may be one of multiple factors contributing to absenteeism, including economic pressures and physical safety concerns.

The finding that trauma precipitated labour turnover through displacement and migration aligns with Agricultural Disruption Theory (Collier & Hoeffler, 2004), but it is important to note that some participants reported leaving their jobs for reasons unrelated to trauma, such as better economic opportunities elsewhere. This suggests that while trauma is a significant factor, it operates alongside other determinants of labour turnover.

Objective 2: Feasibility and Acceptability of AI-Powered Mental Health Chatbots

The findings suggest that AI-powered mental health chatbots are perceived as feasible and acceptable. The widespread access to smartphones and familiarity with WhatsApp are consistent with findings from Malawi (Opportunity International Malawi, 2024), suggesting existing digital infrastructure can support deployment.

However, the favourable perceptions must be interpreted with caution. Participants' expressed willingness may reflect social desirability bias or the absence of real alternatives, rather than genuine acceptance. It is also possible that favourable views were based on limited understanding of the technology, as few had prior experience with AI chatbots. The study did not assess actual uptake or sustained use, which are critical indicators of acceptability (Stynes et al., 2024).

The finding that anonymity and privacy were key facilitators aligns with the broader mental health literature (Beck et al., 2024). However, this reliance on anonymity raises important ethical questions. If workers are encouraged to seek help through anonymous chatbots, does this risk normalising the avoidance of human-centred care? Could it lead to individuals delaying or avoiding face-to-face support when needed?

The concerns expressed about trust, privacy, and language highlight the importance of careful intervention design. The need for communication in local languages resonates with findings from Malawi (Opportunity International Malawi, 2024). However, the ethical and cultural challenges of adapting mental health algorithms to local contexts should not be underestimated.

Objective 3: Perceived Potential Effectiveness of AI-Powered Mental Health Chatbots

Participants expressed hope that AI-powered mental health chatbots could help them manage psychological distress and improve their capacity to work. This perception is

consistent with evidence demonstrating the efficacy of internet-delivered CBT for agricultural populations (Beck et al., 2024).

Nevertheless, the findings on perceived effectiveness must be viewed critically. Hope and expectation do not equate to effectiveness; the study did not measure actual outcomes, and the perceived benefits reported may not translate to clinical or occupational improvements. Beck et al. (2024) found positive impacts of ICBT, yet the difference in context stable Canada versus conflict-affected Cameroon raises questions about generalisability.

A significant limitation is the absence of evidence on whether AI-powered chatbots can actually address trauma-related distress effectively. The literature on AI chatbots for mental health in non-clinical populations is mixed, with some studies reporting no significant improvements over control conditions (Stynes et al., 2024). The specific challenges of trauma including dissociation, avoidance, and complex grief may not be well-suited to chatbot interventions.

Critical Synthesis

Taking these findings together, a more nuanced picture emerges. While participants perceive AI-powered mental health chatbots as potentially beneficial, significant barriers remain that may limit actual effectiveness. The trust and privacy concerns raised by participants are not trivial they reflect real experiences of surveillance, violence, and betrayal in a conflict zone. A chatbot that cannot guarantee security or understand local cultural nuances may be worse than no intervention.

Furthermore, the technological infrastructure required consistent electricity, internet connectivity, and device ownership is not universal. Even among participants with smartphones, access may be intermittent. The implicit assumption that digital interventions are universally accessible is problematic.

This study's findings also raise questions about the appropriateness of technological solutions to systemic problems. The trauma experienced by agripreneur workers is rooted in a political and economic crisis violence, displacement, and structural marginalisation. Framing the solution as an AI-powered chatbot risks individualising a collective problem and absolving state and corporate actors of responsibility. While chatbots may provide some relief, they cannot address the underlying causes of trauma, and over-reliance on such interventions may distract from necessary political and economic reforms.

6. Conclusion

This phenomenological study investigated the perceived potential of AI-powered mental health chatbots to manage trauma-induced labour turnover among agripreneur workers in Southwest Cameroon. The findings reveal that conflict-induced trauma is prevalent and manifests as psychological distress, absenteeism, and labour turnover. Participants expressed favourable perceptions regarding feasibility and acceptability, highlighting anonymity and accessibility as facilitators, while trust, privacy, and language emerged as barriers. Participants expressed hope that such interventions could help them manage distress and improve their capacity to work, suggesting perceived potential effectiveness.

However, these findings must be interpreted with significant caution. The qualitative design does not permit causal inferences, and reliance on self-reported perceptions introduces the risk of bias. The study did not assess actual outcomes, and the gap between perceived and actual effectiveness may be substantial. Furthermore, the findings raise important ethical questions about the role of technology in addressing structural violence and the risk of individualising systemic problems.

The study concludes that while AI-powered mental health chatbots represent a potentially promising intervention for addressing trauma-induced labour turnover, significant barriers to adoption and unresolved questions about effectiveness must be addressed before implementation.

Implications of the Study

Policymakers and agribusiness enterprises should consider investing in AI-powered mental health interventions, but such investments should be accompanied by rigorous evaluation. Development and deployment should incorporate culturally sensitive design features, including local languages and privacy protection. Integration with existing support systems can enhance reach and impact. Critically, investments in AI interventions should not substitute for investments in mental health infrastructure, trauma-informed workplace policies, and political and economic reforms needed to address root causes of the conflict.

Contributions to Science

This study extends empirical evidence on the impacts of the Anglophone crisis beyond economic documentation to encompass psychological mechanisms linking trauma to labour turnover. It contributes to the growing literature on AI-powered mental health interventions by examining feasibility and acceptability in a conflict-affected African setting. It contributes to human capital resilience theory by demonstrating how digital mental health interventions are perceived to support workforce retention in conflict-affected contexts.

Recommendations

Agribusiness enterprises should implement trauma-informed workplace policies and provide access to psychological support services.

Development of AI-powered mental health chatbots should incorporate culturally sensitive design features and address trust and privacy concerns.

Future research should evaluate actual effectiveness in controlled trials.

Suggestions for Further Studies

A quantitative study with a larger sample could test the hypotheses formulated. A longitudinal study could examine long-term effects of AI-powered mental health chatbots. Comparative studies across different conflict-affected regions could identify contextual factors influencing effectiveness. Research could explore integration of AI-powered interventions with other support systems.

7. References

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