

CHARTING MENTAL RESILIENCE AMIDST VUCA CHALLENGES: INSIGHTS FROM THE COVID-19 PANDEMIC ERA

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Abstract. COVID-19 pandemic has accelerated the implementation of ‘volatility, uncertainty, complexity, and ambiguity’ (VUCA) conditions, significantly affecting diverse life domains, including organizations, economies, education, culture, and health. This study analyzed VUCA’s elements, benefits, and implications, particularly in pandemics. This study was conducted by a literature search in ProQuest and Google Scholar databases, focusing on articles about impact of VUCA on mental health during COVID-19 pandemic that were published in English and Indonesian during January 2020 - August 2023. Keywords used for literature search included “VUCA,” “COVID-19” and “mental health”. Out of 180 initially identified articles, 65 duplicates were removed, and the remaining 115 were screened based on VUCA’s impact on mental health themes. Ultimately, 100 articles were excluded for various reasons, including lack of originality, published in languages other than English and Indonesian, insufficiently addressed the COVID-19 pandemic and did not directly address or contribute to the primary focus areas and objectives of our study. In this study, we used VUCA to describe complex changes and unpredictable disruptions happened to mental health during this pandemic. After an extensive screening process, 11 articles were deemed suitable for inclusion in the review. This review showed that the VUCA framework, encompassing volatility, uncertainty, complexity, and ambiguity, has been particularly evident during the COVID-19 pandemic. This period has witnessed widespread volatility, affecting diverse facets of life, from individual well-being

to livelihoods. Uncertainty has permeated the global economy, compounding challenges, notably mental health. Complexity, often oversimplified by laypeople, underscores the intricate problems leaders face. Ambiguity, characterized by a lack of transparent cause-and-effect relationships, has defined the unprecedented and unpredictable nature of the pandemic. This unique situation demands innovative leadership approaches across various sectors. While the VUCA era has heightened global mental health challenges, particularly during the pandemic, technological advancements offer positive changes. Generations Y and Z, adept at leveraging technologies like IoT and digital health watches, demonstrate preventive health behaviors. This shift facilitates predictive treatment, empowering individuals to proactively identify and address potential health issues.

Keywords: VUCA, pandemic, mental health, review, COVID-19

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INTRODUCTION

VUCA, standing for volatility, uncertainty, complexity, and ambiguity, is a description of the situation in the business world today. It was the concept presented by Bennis and Nanus (1985). Since its first use in the US Army War College in 1987, VUCA has grown and subsequently become synonymous with organizational leadership and strategic leadership in all organizational sectors to date (Azahari *et al*, 2021).

VUCA is meant to embody a world that is constantly evolving, changing and never stagnant. The pace of change that is occurring today is at an unpredictable speed, and the complexity, ambiguity and uncertainty of where it will lead is unpredictable. As the acronym suggests, VUCA

is an analytical process of making decisions, planning, managing risks, and solving problems driven by these four factors; anomaly, uncertainty, complexity, and ambiguity (Poernomo, 2020).

VUCA is also based on the existence of strong disruption, especially from changes in consumer behavior based on the speed of technology. One of the challenges that must be faced in the business world and government is the VUCA world (Kaivo-oja and Lauraeus, 2018). The term was originally coined by the American military to describe the geo-political situation at that time. However, due to the similarity in meaning, the term VUCA is now adopted by the business world and the public sector (Minciu *et al*, 2020).

The current VUCA situation clearly makes everything change, including conventional lifestyles. While not all behaviors are changing, the threat of change is everywhere with the mainstay being the use of digital technology. This creates opportunities and challenges. The opportunity in VUCA conditions is that VUCA is considered to be able to encourage the capacity of a company in facing dynamic changes in the business world, especially in the current era of digital transformation (Pertiwi, 2022). The opportunity of VUCA for organizations or leadership is the concept of organizational leadership that fits the VUCA challenge, namely responsible leadership (Arvianto *et al*, 2023). The main focus of responsible leadership is the leader's exchange with followers, teams, organizations, and society in general (Wulansari and Ma'mun, 2020). The impact of the VUCA concept in education to deal with this problem is that volatility (unexpected rapid change) can be accommodated by implementing a clear vision. What we want to achieve in the future is determined today. In the VUCA era, the increasing volatility, uncertainty, complexity and ambiguity of business can change the market and the nature of competition (Tobirin *et al*, 2022). The impact of the VUCA era

on business can be in the form of technological disruption. Technological sophistication that can shape changes in market trends will make it difficult to predict the right investment (Saputra and Fauzi, 2022).

The challenge in the current VUCA era is to face the technology and information gap between digital immigrants (old teachers who are learning technology) and digital natives (students who enjoy and use technology) (Wicaksono and Ayuningtyas, 2022). By using the VUCA concept, teachers must be willing and able to change this mindset and must be open to changing times. Educational institutions in the VUCA era have a high role, namely preparing the younger generation to have the hard skills and soft skills needed today. One of the important soft skills to have is leadership skills that every student must have in order to become a leader who is able to adapt to all changes (Poernomo, 2020). With these demands, the futsal era has an impact on the world of acceleration, one of which is accelerating students to have more abilities not only in the academic field but also have hard skills and soft skills that can later be developed in the world of work (Poernomo, 2020).

The number of changes raises challenges causing many demands that must be met by individuals. This encourages individuals to be adaptive to existing demands (Purnamasari *et al*, 2023). If individuals cannot adapt, they will be prone to experiencing distress to mental problems. In research on psychological responses known to 1,210 respondents in China, it was found that 53.8% of respondents reported they experienced moderate to severe depression symptoms, and 28.8% experienced moderate to severe anxiety symptoms (Wang *et al*, 2020). The psychological distress experienced by the community in the midst of uncertainty during the COVID-19 pandemic is influenced by individual cognitive functions that assume that uncertainty is something that needs to be avoided, feared, and can have a bad impact. Negative perceptions of uncertainty make

individuals vulnerable to psychological distress (Istiqomah *et al*, 2022).

The purpose of this study was to determine the decline in mental health due to the VUCA era during the COVID-19 pandemic. The many changes that have occurred in various fields during the pandemic have created many pressures and challenges so that individuals must be able to adapt to these conditions by preparing efforts that can be used to overcome them.

MATERIALS AND METHODS

We performed extensive searches in ProQuest and Google Scholar databases for relevant articles published in the English and Indonesia language. Boolean phrases and truncation strategies were used to expand and then narrow the search for relevant articles. Keywords used were combined within each domain with a Boolean operator “OR” and “AND”. Keywords and terms used to search the literature were “VUCA”, “COVID-19”, and “mental health”.

We used PICO to develop the search strategy for this literature review. The PICO consisting of ‘P’ or ‘Participant/Population’, ‘I’ or ‘Intervention’, ‘C’ or ‘Comparison’ and ‘O’ or “Outcome’ was applied to an extensive search of the literature. P in this context was the young people while C was non-specific comparison, and O was the outcome which was VUCA. I or intervention was not applied.

The search was carried out in July-August 2023 and with COVID-19 was one of the keywords, the literature search was then limited to the articles published in 2020 until August 2023. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was adopted for the article selection process.

We applied the following criteria to the literatures to qualify them in this study: (a) being original articles, (b) conducted in the Southeast Asia, (c) conducted in young people, (d) published in English or Indonesia language. Exclusion criteria were book reviews, news reports, commentaries, and comments. The data were extracted including citation including authors' names and publication years, country in which the study was implemented, study design, sample size, instruments, and prevalence of the influence of VUCA on mental health. This study focuses cores of results: VUCA definitions and characteristics, VUCA opportunities and challenges, impact of the VUCA era, and readiness to face the VUCA era.

RESULTS

Fig 1 presents a PRISMA flow chart that summarizes the article management as well as inclusion and exclusion decisions made by the authors. We found 180 articles that matched the keywords; they were then checked for duplications. At the initial identification stage, a total 65 duplicate articles were excluded; 115 articles were screened according to the theme of VUCA's impact on mental health. Of these 115 articles, 100 articles were excluded as they were not original articles (42 articles), were not published in either English or Indonesian language (9 articles), insufficiently addressed the COVID-19 pandemic (4 articles) and being irrelevant to the core focus area of this study (68 articles). After all the selection process, 11 articles were included for our final review (Table 1).

The study's main findings are presented below under themes that mirror the study's purpose.

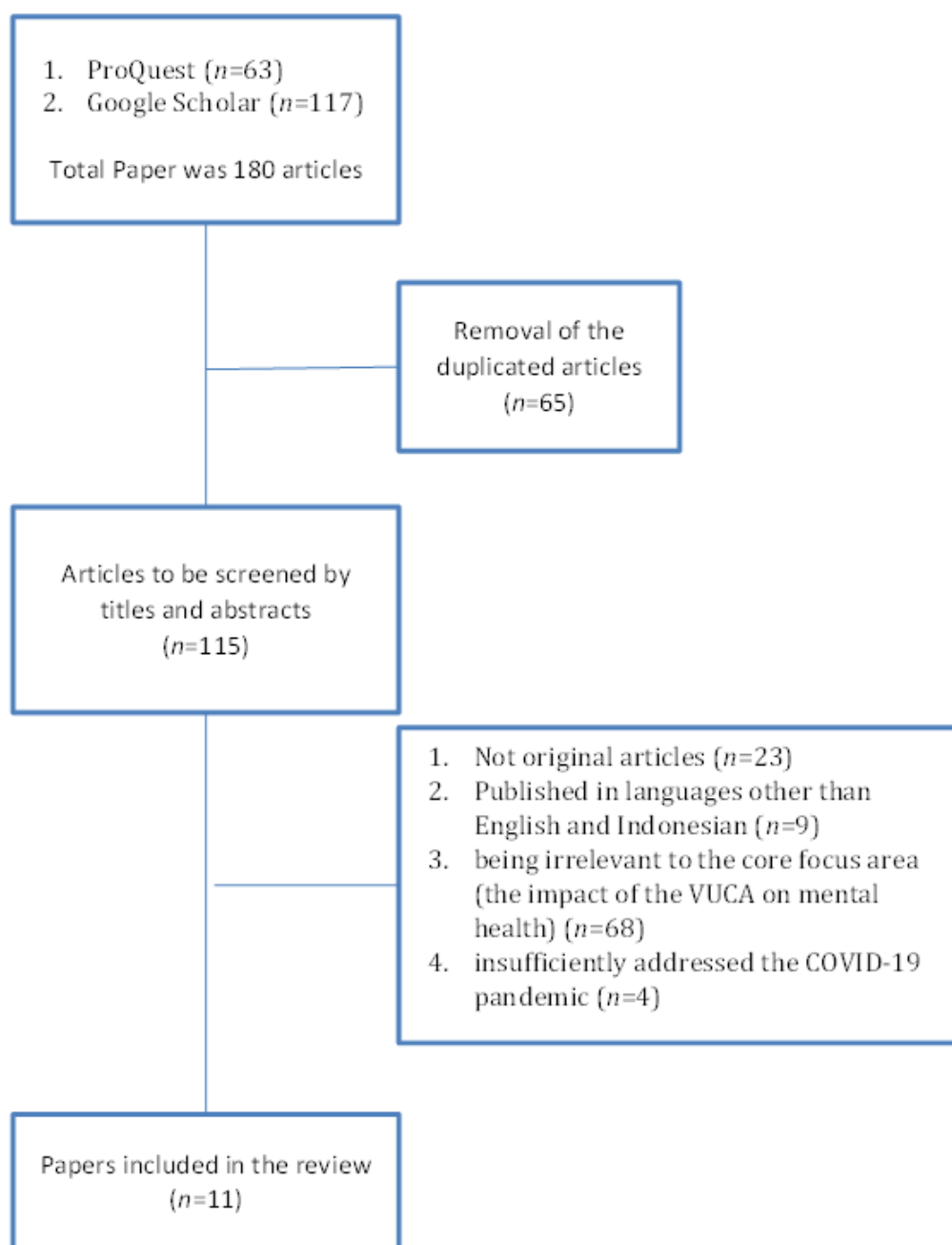


Fig 1 - PRISMA flowchart of VUCA impact during COVID-19 on mental health study
COVID-19: Coronavirus disease 2019; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-analyses; VUCA: Volatility, Uncertainty, Complexity, and Ambiguity

Table 1
Summary of the review results related to VUCA conditions during the COVID-19 pandemic

Reference	Research purposes	Methodology		Key findings
		Research design	Population and research sample	
Levi-Keren <i>et al</i> , 2022	To evaluate the effect of the “Mind the conflict” intervention model on novice teachers’ self-awareness and sense of efficacy in conflictsituations, as well as their ability to express empathy toward the “other” in the conflict	A mixed methods study	A convenience sample of 61 teachers employed at various public schools	Mindfulness COVID-19 has drawn attention in conflict, to empathy and tolerance skills, which are in high demand in the education sphere
Aftab <i>et al</i> , 2022	To explore how leadership agility helped employees manage their work–family and family–work conflicts, consequently impacting life satisfaction and job satisfaction simultaneously	A two-phased time lag study with a quantitative design	362 faculty members working in higher education institutes	COVID-19 pandemic was much more than the survival of the fittest and coming out of it alive. Organizations were under immense pressure to resume their normal operations in not-so-normal situations. Irrespective of the fact that leaders try their best to mitigate the negative impacts of the VUCA world, the behaviors of individuals from different generations respond differently to achieving life and job satisfaction.

Table 1 (cont)

Reference	Research purposes	Methodology			Key findings
		Research design	Population and research sample	Research variable	
Dima <i>et al</i> , 2021	To explore the changes posed by the new COVID-19 pandemic to the field of social work and its impact on social workers in terms of job stress and burnout in Romania	Convergent mixed-method design, qualitative and quantitative study	83 social workers from one county in Romania	Personal burnout, work-related burnout, client-related burnout, and social workers VUCA	Social workers perceived a high level of job stress related to work during the pandemic, which was associated with higher levels of burnout in the areas of personal burnout and work-related burnout.
Dwiyana <i>et al</i> , 2023	To find out and prove how people's understanding of mental health in the VUCA era	direct observation method that uses interview techniques to search for data and information	7 community members from various professions, namely teachers, students, and minimarket employees	Mental health and VUCA era	Many people have begun to know and understand about mental health in this VUCA era, because in this era people have easily obtained information about things such as mental health and so on.

Table 1 (cont)

Reference	Research purposes	Methodology		Key findings
		Research design	Population and research sample	
Sipeki <i>et al</i> , 2022	To investigate how agile leadership played its role in managing inter-role conflicts during the chaotic period of the COVID-19 pandemic explores how leadership agility helped employees manage their work-family and family-work conflicts, consequently impacting life satisfaction and job satisfaction simultaneously	Qualitative and quantitative study	19 lecturers, 16 Mental instructors, and health and 202 students	Isolation, difficulties with handling online platforms, anxiety about possible progress with studies, interruption of personal contact with the other students, lecturers and mentors are mentioned as risk factors increasing the number of already existing stress factors related to higher education.
Ghani <i>et al</i> , 2022	To discover the impact of the current uncertain environmental situation and the parent-child relationship on children's emotional development	Quantitative survey comprised general population-CORE (GP-CORE) and perceived stress scale (PSS) questionnaires	108 students studying in primary schools around urban areas in Selangor, Malaysia	During times characterized by volatility, uncertainty, complexity, and ambiguity (VUCA), such as the ongoing COVID-19 pandemic, traditional performance metrics become less pertinent due to the rapid pace of change. Children as young generations today have more disruptive behaviors causing adults to be fearful in dealing with their unruly behavior.

Table 1 (cont)

Reference	Research purposes	Methodology			Key findings
		Research design	Population and research sample	Research variable	
Damri, 2023	To uncover mental health issues in the VUCA era in various community settings as well as the role of positive psychology to deal with the uncertainty that occurs in the environment by utilizing existing studies	Literature review	N/A	VUCA and mental health	Mental health disorders will be more readily accepted by society if low adaptation patterns are applied in dealing with VUCA. For this reason, a positive psychology approach is considered to keep the situation stable and minimize the negative potential that occurs
Khan, 2021	To bridge the gap between the impact of COVID-19 and lockdowns on the well-being of people in countries severely affected by COVID-19 by studying this impact based on evidence provided in the Indian context	Narrative review	10 articles	Pandemic driven VUCA factors impacting businesses, role of technostress, well-being in the era of pandemic	COVID-19 induced VUCA environment has a significant association with subjective well-being of employees, overall well-being of employees, and well-being at work of employees. Technostress will mediate the relationship between COVID-19 induced VUCA environment and subjective well-being of employees.

Table 1 (cont)

Reference	Research purposes	Methodology			Key findings
		Research design	Population and research sample	Research variable	
Adnan <i>et al</i> , 2021	To analyze the confusion of information, uncertainty in the situation, and human puzzlement have overshadowed the actions of Indonesian citizens throughout 2020 until the end of January 2021 in line with the COVID-19 pandemic outbreak which have not yet ended and still cannot be predicted when it will end	Mixed methods and study	A total of 969 respondents 15-77 years of age all over Indonesia including Greater Jakarta (Jabodetabek), Surabaya, Bandung, Padang, Medan, Makassar, Bali, Aceh, Pontianak, Palangkaraya, Timika and Wakatobi	VUCA and social transformation	Large-scale social restrictions policies create uncertainty way in the process of social transformation towards society who cares about health protocols.

Table 1 (cont)

Reference	Research purposes	Methodology			Key findings
		Research design	Population and research sample	Research variable	
Babbar and Gupta, 2022	To explore various modes of education used by educational institutions across the world and provide a holistic understanding of different measures taken by governments and universities to endure the crippling crisis	Literature review	102 articles of documentary research approach from multiple information sources and databases such as Routledge, SAGE and Elsevier	A radical shift to digital pedagogy, online assessments and examinations, challenges faced in virtual teaching-learning, and merits and opportunities	VUCA holds absolutely true in the context of the COVID-19 pandemic outbreak that affected the entire world's education system. The ongoing global COVID-19 pandemic has revolutionized the education system and forced fundamental changes in the teaching-learning process.
Pakpahan, 2022	To analyze of the effect of VUCA on mental health after the COVID-19 pandemic	A narrative review of some of the referenced resources	Documentary research from multiple information sources and databases	VUCA, mental health, learning agility	In the VUCA era, mental health is a very important aspect that must be possessed so that each individual remains productive and happy in uncertainty. The COVID-19 pandemic has made VUCA conditions more real, making people directly experience volatility, uncertainty, complexity, and ambiguity.

COVID-19: Coronavirus disease 2019; N/A: not applicable; VUCA: Volatility, Uncertainty, Complexity, and Ambiguity

Volatility

According to the review, volatility during the COVID-19 period has affected various dimensions, impacting not just individual well-being and safety but also influencing job status and means of livelihood. The increase in job layoffs has played a role in the rise of unemployment rates, leading to a significant surge in poverty figures in mid-August (Adnan *et al*, 2021).

Uncertainty

Uncertainty is a tragedy for business people. Uncertainty during the COVID-19 period has caused uncertainty in the world economy and left deep scarring effects that made problems more complex, one of which was mental health (Pakpahan, 2022). Environmental anxiety is a common condition in the business world that whether we like it or not is a part of everyday life. Global environmental impacts will be felt sooner or later (Hanifah, 2022).

Complexity

Normal laypeople often oversimplify the practical problems faced by leaders in organizations when they refer to complexity, neglecting the multitude of components and relationships involved. The COVID-19 pandemic is intricately affecting various aspects of life, such as healthcare, business, educational institutions, the economy, and social interactions, in complex ways (Khan, 2021).

Ambiguity

In situations of ambiguity, the absence of a clear cause-and-effect relationship leads to unpredictability, making it challenging for individuals to anticipate outcomes due to its novel and unprecedented nature. The COVID-19 pandemic causes new challenges that require best practices to manage challenges from various sectors of life (Levi-Keren *et al*, 2022). A unique situation has unfolded, requiring innovative approaches to leadership techniques. The pandemic started as a medical emergency before spreading rapidly and crippling the global economy, social scene, education system, and health infrastructure (Aftab *et al*, 2022).

VUCA opportunities and challenges

The VUCA phenomenon has been felt and faced by all levels of society even before the COVID-19 pandemic. The challenges of the VUCA era are different as the environment changes. Before the COVID-19 pandemic, people faced the challenges of digital transformation in the education, health, and other sectors. The current VUCA condition is increasingly clear to the public due to the COVID-19 pandemic around the world. At least 3,718,821 people in Indonesia have been infected with COVID-19 and 110,619 people have died (CNBC Indonesia, 2021). The COVID-19 pandemic has caused significant impacts on various fields, such as education, tourism, socio-economics, and health, which makes people directly feel volatility, uncertainty, complexity, and ambiguity (VUCA) (Hanifah, 2022). The various lifestyle changes that occur and the uncertainty during the COVID-19 pandemic make people vulnerable to distress and mental problems. The societal inclination to perceive uncertainty negatively renders the community susceptible

to experiencing mental health issues (Pakpahan, 2022). The urgent changes during COVID-19 have become a rapid challenge that has led to increasing mental health challenges. The VUCA era during the pandemic has greatly exacerbated and accelerated the decline in mental health globally. Without a basic foundational understanding of mental health, well-being, and performance, individuals and families often struggle with being proactive in obtaining knowledge, receiving treatment, and gaining recovery. Specifically, they lack a “common language” or framework to discuss sensitive mental health issues, and stigma drives a further wedge even between family members who are trusted and unconditionally loved (Marezka *et al*, 2022).

Impact of the VUCA era

The VUCA era has resulted in massive changes in various aspects. A new paradigm has been brought about by VUCA, which demands mental fortitude and spiritual intelligence to thrive in uncertainty (Dwiyana *et al*, 2023). This situation causes mental health disorders to be more readily accepted by society if low adaptation patterns are applied in dealing with VUCA (Damri, 2023). One of the impacts of VUCA before the COVID-19 pandemic was in the world of health, where environmental changes continued to occur with new diseases arising accompanied by the emergence of the latest treatments or medicines. Environmental changes also affect people’s mental health. The decline in mental health due to VUCA, especially during this pandemic, occurs in various fields. In the world of work, a leader must be required to stabilize the company’s condition when production demand falls, income decreases, and expenses are not proportional to income (Lufityanto *et al*, 2019). Within the realm of economics and business, the COVID-19 pandemic has ushered in rapid and

significant changes, notably in the form of alterations to market demand. These shifts have not only diminished market conditions but have also modified the nature of competition. Consequently, individuals are confronted with heightened pressure, leading to a discernible reduction in mental well-being.

The COVID-19 crisis, marked by its traumatic impact, also reshaped the entirety of the education system and posed challenges to the traditional approaches of in-person teaching and learning (Babbar and Gupta, 2021). In the world of education, the changes that have occurred during the pandemic are the use of technology for academic activities that must require teachers and students to be able to do so. During a pandemic, students tend to experience stress because of the many assignments given and students only do it in front of a cellphone or laptop without direct communication with friends (Sipeki *et al*, 2022). This has triggered an increase in stress levels in students during the pandemic (Amalia, 2016). In addition to the education sector, the COVID-19 pandemic also causes increased stress and depression in people, which can develop harsh parenting behaviors toward their children (Dima *et al*, 2021). Emotional stress is not only experienced by parents, children are also emotionally affected when learning from home with an unfavorable atmosphere from parents or people around them. This is largely due to the loss of many parents and the instability of low-income households due to the COVID-19 pandemic (Ghani *et al*, 2022).

Readiness to face the VUCA era

To emphasize preparedness for the VUCA era, organizations face significant challenges from globalization, technology, and agile competitors, resulting in unprecedented change. Leaders feel immense

pressure due to these disruptions, prompting a shift in conventional thinking and the need for new leadership models and skills. In response to the VUCA environment, various studies propose solutions, including innovative leadership approaches, skills, and learning tools (Rimita, 2019).

In navigating the VUCA era, maintaining optimal mental health is essential for individuals to cope with existing challenges. Individuals with good mental health contribute positively to society, utilizing their potential to overcome life's obstacles and build harmonious relationships. This becomes even more critical during the VUCA COVID-19 period, where the pandemic not only affects physical health but also exacerbates mental health issues such as anxiety, fear, and stress due to isolation and uncertainty (Rimita, 2019).

The impact of the VUCA era extends beyond mental health, influencing all aspects of health services. The COVID-19 pandemic accelerates changes in health services, leading to policy adjustments and uncertainty in their implementation. This uncertainty affects public communication and necessitates constant updates, resulting in life adjustments during the pandemic (Rimita, 2019).

Despite the negative effects on mental health, the VUCA era coupled with technological advancements brings positive changes, particularly for generations Y and Z. These generations, raised in a tech-savvy environment, exhibit preventive health behaviors, leveraging technologies like internet of things (IoT) and digital health watches. This shift towards preventive care enables better predictive treatment by processing information to anticipate future conditions, empowering individuals to identify potential diseases and take preventative measures (Rimita, 2019).

DISCUSSION

The development of increasingly sophisticated technology today makes changes unpredictable. This has an impact on the level of intense competition and innovation that must be carried out by companies to overcome disruption. This condition perfectly describes the condition of the world when the COVID-19 pandemic broke out globally. The COVID-19 pandemic has caused most systems from all lines to change. For example, there is a policy of working and studying from home. This makes people inevitably have to adapt to the existing conditions. The changes that occur are so fast, unpredictable, and full of uncertainty that such an environment is referred to as the VUCA era.

In this study, VUCA is described as complex changes and unpredictable disruptions in the social environment. This is because the disruption induced by the VUCA environment in education takes the form of a change or shift from conservative to new, more modern ways. This new way results from globalization and digitalization with modern technology, creating an environment of uncertainty and disruption that reflects the global climate (Damri, 2023).

The VUCA era will impact the youth who are prone to stress and indecision due to the rapid changes in times of uncertainty. That is why the skills of a leader are needed to break the pattern by taking a wise position and articulating a strategy that can be given. In a study conducted by Marezka *et al* (2022), a lack of readiness in dealing with VUCA can cause leaders to experience stress and other mental health problems so that the organization performs poorly due to the uncertainty, chaos, complexity, and confusion that exists in the organizational environment. In addition, a study conducted by Development Dimensions International (2014) shows that VUCA is the biggest challenge facing leaders in this century

and unfortunately only 18% of 13,124 leaders are capable of leading in a VUCA world. A study related to VUCA and leadership conducted by Smith *et al* (2020) show that leadership is currently experiencing a crisis because leaders must respond to rapid changes due to an uncertain environment so that leaders must collaborate various competencies, skills, and knowledge to deal with the situation. One of the causes that affect this situation is a person's psychological factor.

A study of psychological responses at the beginning of the COVID-19 pandemic to 1,210 respondents in China found that 53.8% of respondents reported that they experienced moderate to severe depression symptoms, and 28.8% experienced moderate to severe anxiety symptoms (Wang *et al*, 2020). The psychological distress experienced by the community in the midst of uncertainty during the COVID-19 pandemic is influenced by individual cognitive functions that assume that uncertainty is something that needs to be avoided, feared, and can have a bad impact. Negative perceptions of uncertainty make individuals vulnerable to psychological distress. A study found that there was a significant relationship between social isolation during the COVID-19 pandemic and increased psychological distress and was moderated by intolerance of uncertainty (Smith *et al*, 2020). Readiness is key to adapting to change. The right way to adapt to this upheaval is with flexibility. One must have and hone the ability to be flexible and adaptable to different situations. In today's digital age, technology is the main defense for increasing understanding and awareness. Transforming technology into a positive tool not only aids in acquiring understanding but also encourages the development of an open-minded outlook on the current state of affairs. With technology, one can find out and explore the things needed, build relationships with everyone throughout the organization to increase connections and become easier to obtain information (Hanifah,

2022). Although there is a lot of information that can be obtained through the use of technology, technology is also not free from limitations, and this review is no different.

This review has some limitations. The use of narrow search terms in the search may have limited the scope of this literature review and overlooked valuable research that uses different terminology or explores related concepts. The review relied on sources only from 2 databases which could potentially introduce publication bias and it was also not mentioned whether the selected publications were qualitatively assessed for accuracy and relevance, which could impact the reliability and validity of the findings. To overcome the limitations of this research, there are several things that can be done in the future such as, 1) using longitudinal studies to track the evolution of VUCA conditions and their impact on various life domains over a longer period of time, 2) using interdisciplinary approaches to examine the interconnections between various life domains and provide more holistic solutions, 3) cross-cultural analysis, and 4) qualitative research methods such as interviews and case studies. Future research needs to deepen the discussion regarding 1) identifying and evaluating interventions and strategies, 2) exploring the role of technology on VUCA, 3) investigating the policy implications of VUCA conditions, 4) assessing the effectiveness of government policies and organizational practices in addressing the challenges posed by VUCA, and 5) promoting community mental health.

In conclusion, VUCA or volatility, uncertainty, complexity, and ambiguity has different characteristics. This review recognizes the complex challenges posed by VUCA conditions and their impact on mental health. The utilization of technology is necessary for readiness to face the VUCA era in the present and future. Today's increasingly sophisticated technological developments make changes unpredictable.

VUCA era perfectly describes the condition of the world when the COVID-19 pandemic broke out globally. During the pandemic there were many changes that must be faced by each individual. However, these challenges cause stress for individuals which reduces one's mental health. Future research should aim to address these limitations and build on these findings by adopting a more comprehensive and interdisciplinary approach, incorporating qualitative research, and exploring intervention strategies and policy implications.

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CONFLICT OF INTEREST DISCLOSURE

The authors declare no conflict of interest.

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