Eubios Journal of Asian and International Bioethics

EJAIB Vol. 35 (2) March 2025
www.eubios.info
ISSN 1173-2571 (Print) ISSN 2350-3106 (Online)
Official Journal of the Asian Bioethics Association (ABA)

Editorial: AI use and Ethics (Part 1)

In this issue of the journal, we start a series of papers, that were presented at the 23rd Asian Bioethics Conference in Bangkok in March 2025, that apply thoughtful approaches to AI ethics. In the May issue, the Bangkok Declaration on the Social and Ethical Issues of AI will be published,, which was a consensus document agreed by a hundred scholars from many different countries and disciplines at the conference in order to provide a framework for further reflection. Over sixty papers were presented at the conference on a wide range of approaches and cases on AI Ethics. Some looked at social issues related to theoretical aspects of artificial intelligence. Others looked at practical aspects of research and explored some research gaps.

The need for a holistic approach to simulate reflection on AI issues is presented in the first paper in this issue by Juichiro Tanabe and Layne Hartsell, looking at AI with questions ranging from the religious and philosophical implications of AI itself to mindfulness. Ultimately artificial intelligence is stimulating our natural intelligence to try to have us reflect on many issues that go beyond the normal issues of applied ethics.

The study by Rogelio Bayod reveals that AI is widely used by Philippine nursing students and it already influences the ethical reasoning and way that they (and we) make decisions. Some studies of the use of AI by students have found that parts of the brain normally involved in creative thinking and learning are less used when persons rely on AI to ask questions and answer questions.

Ryan Maboloc looks at the growing number of educational policies on AI are evolving and whether or not they can be answered. As we explore the use of AI and education because most readers are teachers in some part of your life, you will no doubt have asked the question whether a policy should be developed, even though the situation is readily changing. There have been many attempts to respond to these great concerns of AI.

Sometimes they try to restrict AI and other times it is simply to limit AI when we talk about the use of a work environment such as for specialized staff such as radiologic technologies that Jared Alpanta looked at. There are implications for mental health stress and work performance. Does AI have potential to reduce the chance of random errors to enhance quality control? There are numerous questions raised in the Bangkok declaration. It's very important to conduct further research in order to understand the situation. Further articles will be published on AI and it becomes a very trendy and popular subject. Groups, including the United Nations and companies and national governments are also examining AI.

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A Holistic Ontology for AI Ethics

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Abstract
Artificial Intelligence (AI) has become a global issue as it is applied to a variety of fields including politics, economy, education, and others widely today and then underlies the fundamental infrastructure of the World Wide Web in software applications. Similar to nanotechnology in scope of materiality, AI is another foundational technology that has a wide scope in digital or computational systems. AI has become a matter of national security and economy, along with growing everyday social use. Accordingly, the ethics of AI technology has become prominent. This research aims to develop AI ethics from a perspective rooted in Buddhist philosophy. It values inter-philosophical dialogue, recognizing the importance of ethical frameworks for any emerging powerful technology. Scholars, policymakers, and business leaders have proposed key principles of AI ethics, including transparency, justice, fairness, equity, responsibility, accountability, privacy, freedom, and autonomy. Though it appreciates all those principles, the focal point of this research is the human mind, especially the conception of self and liberation. It explores the challenges posed by the self and AI as a mechanized conceptualization of humanity, as seen in cognitive science. This perspective resonates with British mathematician Alan Turing's remark on thinking machines: "Do we say submarines swim?" Similarly, Japanese artist Hayao Miyazaki (Studio Ghibli) expressed his view that removing humanity from art is "an insult to life itself."
Key words: *artificial intelligence, Buddhist philosophy, Self, samadhi, liberty*

1. Introduction

This research aims to develop an AI ethics from a perspective based on Buddhist philosophy. Since AI has been applied across a wide range of fields and has emerged as a foundational technology due to its scope and power, it is of great importance to develop AI ethics. While the research appreciates the various AI ethics necessary for intelligent machines, which have been proposed by scholars, policymakers, business leaders, global organizations – liberty, transparency, justice, fairness, equity, responsibility, accountability, protection of privacy and freedom and autonomy, the current focal point is the dynamic interplay between AI and the human mind, exploring how each shape and influences each. Our particular concern lies in the evolving dynamics of our conceptualization of the self, its impact on AI, and the broader implications for liberty when AI reflects culture back to us. This research will critically examine how the human mind reflects the state of reality, the reciprocal relationship between our epistemological, cognitive, and emotional states that shape our behavioral outcomes and the use of AI. The focus of this research will be on analyzing how these states influence the development and utilization of AI, and conversely how AI impacts these fundamental aspects of human experience. The analysis of how human inner states influence the use of AI and how inner enrichment contributes to the humane use of AI will also be explored.

Following the introduction of the Buddhist teaching of reality as the manifestation of the human mind, the Four Noble Truths doctrine will be analyzed. Here, the integral embodiment of Buddhist wisdom, the practice of moral discipline, and attentive awareness or mindfulness mastery will be presented as a foundation of Buddhist ethics. Furthermore, the analysis argues that selfishness, egocentrism, greed, and attachment can lead to malicious and unethical use of AI, causing social, political, economic, and ecological problems. This is particularly critical as AI tends to reflect human attitudes and cultural values, amplifying their impacts.

Following the analysis of the Four Noble Truths doctrine, critique of the concept of the individualist self will be made. Western ethical theory tends to emphasize the individual and autonomous self. Buddhism recognizes this notion as a conceptualization – a product of intellectual and social constructs that can fragment human connections, when pressed absolutely. Modern Western psychology has also highlighted the fragmentation as a central theme in expert discussions, notably explored by figures such as Carl Jung. Building on this foundation, the current research will examine how the autonomous self as a fragmented social construct can lead to the malicious use of AI, leading to the creation of an algorithmic enclosure – a phenomenon surpassing the metaphorical echo chamber or bubble in its scope and impact. It follows as mentioned, in a Buddhist view, the prominent concern with the autonomous self is the degeneration into atomist individualism and egocentrism that can lead to social fragmentation. The self-enclosure based on the strong sense of an independent and fixed self creates the construction of boundaries along "us-versus-them" or "friend-or-foe" lines, which leads to the malicious use of AI. We assert that AI does not have a self, but will reflect this self and culture back to us.

Next, the concept of the relational self will be introduced and examined. While valuing the merits

of individualism, Buddhism suggests that the various selves or identities that create human boundaries are constructs of conceptual thoughts. Moreover, the analysis stresses that those differing or opposing boundaries are interdependent and inherently nondualistic. This does not deny the existence of self or the uniqueness of each person, nor does it necessarily say anything about empirical reality or deep metaphysics, though we do assert that a relational self is probably closer to reality. Ours is a focus on the ontology of the individual self as an intellectual and social construction for ethics in AI. The awareness of the fundamental, interdependent nature of a conceptually constructed individual self leads to a qualitative transformation of cultural understanding of the nature of the self, and it is this error that we assert is reflected back from AI as a cultural matter. Instead of seeing the self as an independent and fixed entity with firm boundaries, actual realization is to understand the self metaphorically such as within the interconnected web of life and then with no necessary fixed status; an interactional dynamism in nature. This understanding is also approximated in pragmatism. Buddhism argues that the awareness of the fundamental interdependent nature of the conceptually constructed self helps us to relax boundaries and to show solidarity beyond bounded identities in approaching socio-political and economic challenges of which we are faced. And taken future, since the "future has arrived" awareness will empower us to utilize AI beyond our own immediate self-interests (or in-group interests).

The last section will explore ways to realize and embody a relational self-dynamic, and stress the practice of mindfulness as a means to cultivate spaciousness concerning conceptualization and the real world. Herein we argue for liberty and liberatory growth and development by ensuring computational systems remain as tools rather than autonomous determinants; and that democratic technics advances (Mumford, 1964). Enhancing mindfulness abilities hones a flexible mind-state and openness to other views, values, or perspectives that condition people different from us and our own culture. To practice and enhance mindfulness can help us to achieve a detached though engaged state from our fixed state of self and from the socio-political and economic framework that shapes our conditioned self. Liberty within our argument will interrupt the flows of self-affirming views, habit formations, attachments to certain views, clinging desires and conflict-generating or discrimination-generating views and behaviors that amplified by AI. Therefore, we see the relational self as more accurate.

2. Methodological considerations

Most would agree that technology should be utilized to promote a more humane and harmonious society and globe (Declaration on the Use of Scientific and Technological Progress in the Interests of Peace and for the Benefit of Mankind)(The United Nations, 1975)). Prevention of any seriously disruptive consequences of AI requires ethical, social, and political deliberation. A market-based solution is empirically invalidated with a long history of failures that have reached existential levels, therefore, we call for social, cultural, and political solutions. There are many research institutes for AI ethics, global AI ethics conferences, societies, nations, government agencies, and transnational institutions that will have to address the issues around AI.

The development and use of AI already spans the entire globe; thus the way we think about AI ethics should be informed by a variety of philosophical and religious traditions beyond the West and the non-West boundaries (Pinyonatthagarn & Kotsupho, 2021). The ethical deliberation of AI needs to be intercultural and interdisciplinary (Hershock, 2021). Through intercultural dialogue, ethical diversity can be harnessed as a resource to expand our horizons of ethical consideration: enacting ethical diversity in coordinated response to shared concern of AI will enhance ethical intelligence (Hershock, 2021). To that end, this research will develop a Buddhist view of AI ethics to make an initial contribution to enhancing the interdisciplinary and intercultural approach to AI ethics.

3. Analysis of Buddhism and AI ethics

3.1. Reality as reflection of human mind: Reciprocal/reflexive relations between AI and the human mental world and states

The main focus of Buddhism is the human mind, which is stated in the Dhamapada: *"All experience is preceded by mind, led by mind, made by mind."* (Fronsdal & Kornfield, 2006). Further, the Surangama Sutra states, *"The Tathagata has always said that all phenomena are manifestations of the mind and that all causes and effects including (all things from) the world to its dust, take shape because of the mind"* (Luk, 2001). These statements do not necessarily preach that there are no objects outside our minds. Rather, they signify that *"the qualities of things come into existence after the mind, are dependent upon mind, and are made up of mind"* (Lai, 1977). We experience and respond via the mind and the faculties (Gardner, 1983).

In a Buddhist view, the state of the external world that we interpret can reflect the condition of our mind (Ramanan, 1978). As the condition of our mind shapes our experience of reality, the root cause of suffering or problems facing us is also attributed to our mind, as stated in the Dhamapada: *"Speak or act with a corrupted mind, and suffering follows as the wagon wheel follows the hoof of the ox"* (Fronsdal & Kornfield, 2006). We do not mean to say that our mind necessarily causes external events (events can be imposed on the person), or that there are no causal externalities, but that the realization of mindstates can lead to adjustments to better understand conditions or to have a more accurate picture. Once understood, then suffering decreases

and/or one can act more directly on what will help. In this foundational case, misperception is the cause of suffering, and we can achieve a measure of inner serenity and well-being through realization: *"Speak or act with a peaceful mind, and happiness follows like a never-departing shadow"* (Fronsdal & Kornfield, 2006). We also accept that for most all human beings, this realization has its limits due to various conditions, nevertheless, continual clarification is a core matter for practice.

Critically reflecting on how our mind plays into the causes of suffering and subsequent problems, and then contemplating and practicing the ways to resolve suffering constitute the central understanding of Buddhism (Matsuo, 1987). We rely on such wisdom to develop a liberatory argument concerning AI ethics. AI lacks moral accountability by virtue of not possessing consciousness, embodying experience, and is not capable of experiencing suffering as argued in Buddhist thought (Lin, 2023). Ethics is not merely what is imposed from the outside but emerges from our own epistemological, cognitive, and affective capabilities (Hongladarom, 2020). In a Buddhist view, AI is a reflection of who we are as a society as AI just reflects our view of reality – whether positive or negative (Singh, 2022). The important aspect of ethics is our human inner dimensions – our view of reality including self, our values, intentions, motivations, and feelings – that are reflected in our state of reality including how AI is used. Our behavior including the usage of AI needs our inner epistemological, cognitive, and affective dimensions to be granted moral status and moral obligation (Lin, 2023).

According to Hershock, ethics is defined as *"the art of human course correction"* (Hershock, 2021: 2), where the core goal of Buddhism is to achieve enlightenment or liberation from suffering or attachment to mindstates and the fixed self. In alignment with this core objective, Buddhist ethics can be seen as a means of guiding human beings toward enlightenment. This is achieved by correcting misconceptions about reality, overcoming ontological errors, and fostering a deeper alignment with truth. Through this process, individuals cultivate right knowledge and strengthen their moral discipline. Therefore, AI ethics from a Buddhist perspective should be examined in the same context. The malicious and harmful applications of AI such as warfare, economic inequality, social fragmentation, scams etc., and the lack of limitations, stem from a wrong cultural view of reality and negative emotions coupled with a metaphysic of progress and technology. These distortions, we argue, can be amplified as algorithmic precision reflects and reinforces cultural patterns. Buddhism appreciates a variety of AI ethics including fairness, social justice, transparency, explainability, and other technical fixes. However, Buddhism also adds that deepening inner enrichment along with many ethical issues concerning AI will co-contribute to enhancing the AI ethics arguments and hopefully practical dimensions of global society.

The Four Noble Truths Doctrine assumes the central role in understanding and addressing human suffering in line with the dynamics of the human mind and the analysis of the doctrine will help us to unfold Buddhist AI ethics.

3.2. The analysis of the Four Noble Truths doctrine as the foundation for Buddhist Ethics in AI

The Four Noble Truths Doctrine is the Buddha's foundational teaching for every school in Buddhism (Tsering, 2005). The first noble truth states that our life is filled with suffering and trouble (Rahula, 1974). However, this does not present a nihilistic view of human life. Recognizing that suffering is part of our reality compels us to face a more profound question: What is the root cause of suffering?" The analysis of the cause of suffering is the core of the second noble truth.

The second truth presents attachment – our tendency to cling to certain objects or views as absolute or eternal – as the cause of suffering (Yun, 2002). Besides attachment, ignorance is presented as a fundamental cause of suffering and problems facing humanity (Cho, 2002). Here, ignorance is understood as a lack of the correct knowledge of reality including human beings. In a state of ignorance, we see things, including human beings, as having an immutable nature and cling to anything that reinforces our concept of permanence, denying those views that criticize it (Tsering, 2005). Further, attachment and ignorance create three mental harms: greed, anger (hatred), and delusion (Tsering, 2005).

According to Hongladrom, reality including human beings has at least one of the following features: it is changing, liable to change, or lacks any fixated nature (Hongladarom, 2020). However, we tend to project fixed features upon things, views, values, and human beings and stick to them. In such a state, we build a hardened 'bond' or mental structure that brings about rigid expectations for a certain result (Ghose, 2004). Ignorance and attachment could drive human beings to have unlimited desires to impermanent things and views, which lead to dissatisfaction (Singh, 2022). As our desires are fulfilled, greed tends to intensify; and human beings sometimes seek to grab greater material wealth, power, or authority, even if it sacrifices others (Singh, 2022)

In the context of the second noble truth, technologies including AI are considered conceptually neutral since they do not possess a particular standpoint or value (Lin, 2023). AI responds to human beings' epistemological, cognitive, and affective states. Recently, we have witnessed the military use of AI in cyber warfare or weaponized vehicles or drones, political abuse of AI systems in automated propaganda, bots, fake news, deepfakes, and election fraud (Hagendorff, 2020).

The third truth states that human beings are inspired to overcome suffering by understanding and addressing its causes (Yun, 2002). Since suffering stems from attachment, craving, and ignorance, we can resolve suffering through mindful efforts (Park, 2010). Suffering, its causes, and the path to liberation from suffering are all dependent upon the workings of our minds (Park, 2010). All the major problems and challenges we are witnessing with regard to AI begs the question for an approach founded upon human intentions, inner values, and motivations (Singh, 2022). The economic inequality and other economical and ecological problems such as lithium mining, e-waste, the one-way use of rare earth minerals, and energy consumption, have become highly problematic (Hagendorff, 2020; Wilbert et al., 2025). On the same scale, law, government regulations, inter-governmental regulations, and technological protocols play a crucial role, though they are insufficient to protect the present and future world from powerful technologies like AI without a robust *precautionary principle* that prioritizes empirical demonstrations of safety measures. AI applications, despite their powerful impact on human life, operate within mechanical and binary frameworks, e.g. cost-benefit speculations. There are many reasons for such large-scale problems, and from a Buddhist view, selfishness and narrow self-interest underpinned by ignorance, attachment, and greed, contribute to them both at the larger societal levels and individual.

Moral responsibility requires embodiment, as only human beings endowed with consciousness, and awareness of the ethical implications of AI can fully grasp its potential impact on humanity and nature (Lin, 2023). Both positive and negative consequences of AI depend on the human agent's capacity for moral reflection and the ability to manage and transcend egocentric tendencies (Lin, 2023), therefore, we argue for the development of liberty concerning our interactions with AI and for public deliberation on technics.

The fourth truth shows the path to address suffering, which is the Eightfold Noble Path (Tsering, 2005). Specifically, the current research focuses on right view, right thought, right mindfulness and right concentration within a potential Buddhist AI ethics. Right view means a correct understanding of reality or mutual interdependence and ultimate emptiness of any object including the human being in terms of immutable nature(Yun, 2002). Right thought is a perception that our bodies will eventually decay and disappear and that our emotions and thoughts are impermanent (Yun, 2002). Right mindfulness is the engagement in constant awareness of phenomena that are happening at present and careful recollection of phenomena that occurred in the past without judgement (Yun, 2002). Right concentration is mental tranquility achieved through meditation, perceiving the dynamics of mind at present and cultivating compassion for all people (Tsering, 2005).

The cultivation of right knowledge of the nature of reality, recognizing the conceptual constructions, and thus *constrictions*, framing our perceptions of reality, managing emotions that influence behavior, and living beyond self-centered political power seeking and economic profits is deeply connected to the virtuous use of AI. By sharpening such virtue, we can prevent AI-driven political and social divisions, economic inequality, warfare, and ecological damages. The Buddhist ethical perspective requires that maturity entail addressing egocentric attraction, greed, and aversion that contribute to negative human relations and socio-political and economic problems (Garfield, 2022). The development and use of AI requires the refinement of human inner faculties, right understanding of reality, including the non-fixed nature of human being, and the management of emotional and cognitive states that reflect how AI is used (Hongladarom, 2020). These qualities and faculties are the grounds from which liberty is founded. Without these elements, AI would not function constructively in society because it will almost certainly overcome personal liberties.

3.3. Critical analysis of the individual self with fixed nature, egocentrism, greed, and attachment

In general, Western ethical theory assumes that the ethical agent is an independent self (Garfield, 2022), which seems to be reflected in ethics of AI in many cases. The individual is the basic unit of moral and political analysis and the autonomy of the individual is sacrosanct (Hershock, 2013). In principle, in Western discourse, human beings are assumed to be rational, calculating, and self-interested beings or *homo economicus,* who are prepared to act justly but who are also limited in their social and altruistic motivations (Mosler, 2011).

In this context, a market society is made up of human interactions framed as quantification, including those with nature. Most AI ethics guidelines are drafted in Western countries, revealing that the field of AI ethics is mainly framed by Western realities and values that stress individualistic views of the self, such as respect for autonomy, privacy, property rights, etc. (Pinyonatthagarn & Kotsupho, 2021). While non-Western countries developing AI, such as Japan, South Korea, China, etc., and participate in the global AI ethical guideline conferences and committees, it seems that the ethical frameworks primarily reflect the West, and then the limited guidelines issued in non-Western countries (Pinyonatthagarn & Kotsupho, 2021).

Though social justice has been discussed in AI ethics, Western theories of social justice are basically undergirded by the intention to legitimize and secure the individual's freedom to pursue her/his own interests (Cho, 2000). Buddhist philosophy does not necessarily deny the Western view of individual self and ethical guidelines such as protection of privacy, freedom and liberty, justice, transparency, fairness, etc., which are founded upon individual self.

Buddhist philosophy stresses the potential dangers posed by excessive individualism, enormous property rights and power, which could cause malicious use of AI, and the fundamental, inalienable integrity of the human being ought to be maintained in order to prevent tyranny or individuals that have amassed an inordinate amount of wealth and power.

From a Buddhist perspective, the prominent concern with individualism is its degeneration into atomist individualism and self-centeredness or egocentrism that could lead to social fragmentation (Dallmayr, 2019). Large concentrations of wealth and power with individuals are a concern since wealth and power can be easily convertible back and forth. Also, witnessed in many liberal countries, the rise of identity politics that divides civilians based on differing or opposing values and views has contributed to the impairment of political cohesion. Such a situation is attributed to the strong belief in an autonomous and independent self, which drives people to solidify the fixed sense of self into tribalism, through supposedly creating severe boundaries with others (Ward, 2013). While the values concerning the autonomous individual self have enhanced freedom, which culminated in the development of modern human rights principles, this ideal has also shriveled gradually into buffered self-possession and egocentrism (Dallmayr, 2020). This contraction is due to the distortion of individualism, diverging from its foundational vision of the human being as inviolable and inalienable both in the sense of physical and mental well-being upheld by a socio-political and economic system and cultural framework. The self-enclosure based on the strong sense of an independent and fixed self creates the construction of boundaries along "us-versus-them" or "friend-or-foe" lines (Dallmayr, 2014). A market society or war society where individuals are in near complete competition and every interaction is quantified, e.g. money is an extreme example of the case. With a fixed sense of self, we come to have a strong belief in ourselves as having special importance, putting ourselves at the center of the moral universe in socio-political and economic issues and prioritizing ourselves over others to maximize our own interests (Garfield, 2022). From a Buddhist perspective, our misunderstanding consists in taking ourselves to be autonomous, having an enduring and fixed nature and to stand over and against others and an external world, particularly nature, from which we are supposedly ontologically separated (Garfield, 2022; Jensen, 2016), which could have negative impacts on society. Our assertion is that AI will exacerbate socio-cultural disintegration and ecological crisis.

Concerning society, AI has been used to produce hate speech and false information, or fake videos to bring about social confusion widely, which has disrupted and corrupted elections (Coeckelbergh, 2020). Much of the polarization in the US, war in Ukraine and Gaza, the COVID-19 Pandemic is due to such practices on social media and will escalate. To many, political bots appear as real people and are taken as authoritative when they post political content that lures citizens into supporting a particular politician or political party (Coeckelbergh, 2020). Bots on social media such as Meta and or X (Twitter), are used to spread disinformation and fake news about specific groups or political figures (Coeckelbergh, 2022). Information is used to influence the buy habits of users (surveillance capitalism) and to influence political and social action or inaction(Zuboff, 2020). AI in the form of machine learning can introduce, expand, and aggravate bias and discrimination against specific individuals or groups defined, for example, in terms of race, gender, or political ideologies (Coeckelbergh, 2022). The current hysteria about DEI in the United States is an example, which we think is a similar form of hatred to racism, genderism, sexism and the like. High level training and skills are not the issue, the issue concerns equal opportunities for those with skills and talents, and for access to education and training. However, AI does not yet, consciously or purposefully create disinformation, fake news, or other content for social division or political confrontation; AI is still largely directed by its systemic functions and human direction of the technology or technics. The machine learning algorithm finds rules or patterns from data. Misinformation, disinformation, fake news, and divisive content, though created and amplified by AI, are rooted in a Western view of a fixed self. This rigid sense of self builds contingent boundaries and dualistic relations, which serve as the foundation for social disruptions, rather than, AI itself. A fixed sense of self with egocentrism and dualism assumes that the justification for her/his behavior, views, or values requires no more than her/his own acceptance (Barnhart, 2013). As AI becomes more prevalent, we suspect that it will also be invasive due to the particular culture that it will reflect.

With the expansion and widespread use of social media platforms, people in society or even across the globe with similar views, values, and interests come together in the virtual setting and build social, nation and global scale bubbles or echo-chambers in which 'like-minded' people share views and opinions (Singh, 2022). Within a tightly fixed purview of what they prefer to see and search, people seek to obtain information and opinions that fit in with their existing views and values. AI in turn reinforces such an epistemological cycle, confirmation bias, and strengthens ideological and superstitious bubbles. At times, hate is played out in actual society. Consequently, the potential for building a truly social and humane digital space wherein people can experience the diversity of views and opinions becomes limited. The spread and creation of misinformation, disinformation, or deep fakes agitating discrimination, social confusion, or escalation of political confrontation on a global scale can similarly be traced back to this fixed purview of epistemological and ontological bubbles in digital

space. These bubbles, shaped by a fixed sense of self and human boundaries, hinder or eliminate critical thinking and reduce openness to plurality and diversity, making it difficult to enhance inclusive and reflective engagement with the world.

The individualistic self is closely connected to the contemporary neoliberal world as each is supposed to be a self-sufficient metaphysical atom that is fully formed by desires and interests that are independent of others (Priest, 2022), which drives us to a self-centered pursuit of material gains or happiness (Emmanuel, 2021); AI simply adjusts to such aspirations. Therefore, neoliberalism amplifies human frailties such as self-centeredness that is neither new, nor liberal; it is a perversion of individualism in service of powerful individuals and institutions. Economically, social media platforms are used to lure us to become habitual users on their platforms by presenting the content, products and videos that we want to engage with so that we are persuaded to buy more products and services (Singh, 2022; Zuboff, 2019). What is called surveillance capitalism is the current business model in which everything we do online is tracked, analyzed, and monetized by large corporations where data is "oil" to be extracted: our data is used to manipulate, persuade, and nudge us to buy things (Singh, 2022; Zuboff, 2019). The competitive dynamics of the new digital markets drives companies and surveillance capitalists to obtain every dimension of human experiences as data; then over the past few years, they use AI to identify patterns and to "automate" us by nudging, coaxing, and herding our aspiration and behavior towards profitable outcomes (Singh, 2022). A kind of digital "voodoo", surveillance capitalism must expand the capitalist markets and require user data to refine AI's precision in capturing both attention and intention as economic assets. With the power of AI, intention now becomes the new "oil," fueling an endless cycle of consumerism through the appeal to desires, greed, and conveniences, and then with algorithmic enclosure to "know", with a fair degree of precision, what our intentions are. We can expect a growing market or intention economy. However, it is important to recognize that AI do not create our greed or unending aspiration for material gains or profits. Rather, our self-concept is conditioned by neoliberal values that consciously or unconsciously drive greed, aspirations, and self-centered interests, and when not realized, we are vulnerable to manipulation. Once vast amounts of personal data become accessible to AI, it merely reacts—generating more information, curating advertising, and further stimulating our motivation to buy more. Eventually, AI could be powerful enough to fully enclose a person without them knowing it and more or less attempt to achieve a higher degree of influence over their actions. We argue from a Buddhist perspective concerning liberty as a primary outcome of the realization of a relational self. Aside from liberty, in a Buddhist view, true happiness is not found in material possessions or the relentless gratification of growing desires, but in acknowledging that the world is limited and it is impossible to fully satisfy our material desires (Hongladarom, 2020). By embracing such awareness, we can be better connected with others and align with our truer selves. Unless we are aware of the limitations of the unending aspiration for economic gains, we will continue to project our desires, greed, aspirations and details of our lives onto social media platforms and unknowingly AI will collect and amplify those desires, greed, and attachments that we exhibit, trapping us in a cycle of consumption and pursuit of attention (social fame) with no expected closure.

Machine intelligence is interpreting, responding to, reflecting, and interpolating human values, desires, and views, and generating human propensities and desires (Hershock, 2021). The propensities and desires are then narrowed according to the individual, computationally, where an approximation is made accordingly. This approximation is then a product that can be sold to the highest bidder, which will be, eventually, other AIs programmed to perform certain functions such as marketing, political influence, and so on. Our online experience is shaped by self-improving algorithms that use patterns of our own searches, preferences, desires, aspirations, and lives to determine and frame the web content made available to us, which is designed to shape and reshape our online experience to bring them into closer accord with what we want based on our expressed desires and greed (Hershock, 2021). Once accomplished, AI may then be possible to actually direct people to do certain things such as "mind control" eventually leading to purchases, voting, etc. From this perspective, one that also fosters a fixed sense of individualism, creating firm boundaries between people, especially those with different identities, views, and values, it may be possible to actually direct people to do certain things such as in "mind control" to create the ideas, desires, hopes, and fears that then lead to purchases, votes, etc. This fragmentation renders us to being co-opted into the commercial build-out of digitally augmented environments that are algorithmically tailored to cater to each personal preference. These environments present limitless choices, which could come to make us downplay or disregard human interaction, or collective exploration for the common good or care, where such concern for others is unnecessary or undesirable (Hershock, 2021) and deemed dated or unfashionable. In extreme cases the use of AI, such as during war, can be weaponized against caring for and empathizing with others; where innate humanity can be criminalized and the person subject to deportation to "holding camps", "concentration camps", and/or overseas prison camps.

3.4. Analysis of the relational self

A more foundational relational self acknowledges the significance of an autonomous, individual self, as appreciated in Western philosophy and societies; however, Buddhist philosophy proposes a relational perspective, emphasizing that the self—whether individual or collective—is a conceptual construct, shaped pragmatically as a fixed and objectified notion. However, the self is conditioned by socio-political, economic, and cultural values and principles, which are themselves conceptual thought constructions. A description of the self represents a dynamic interrelation with both inner and outer aspects of nature where humans try to orient themselves, which is best described as an innate faculty or instinct, which allows them not only to orient themselves but to take on a culture of understanding. The conditioned self means that our sense of self is shaped by the belief or form of truth that is accepted as valid and effective in the practical matters of socio-cultural life (Wright, 1986). We build and accept a certain frame of reference – a certain pattern of worldviews, cultural values, political orientations and ideologies, religious doctrines, and moral-ethical norms – to construct a conceptually framed reality to lead a meaningful life (Mezirow, 2003), and this orientation becomes the core of self.

This faculty or instinct is part of the broader project called 'culture' and seems to be a natural process unless some form of pathology exists. Western individualism has evolved through the struggles for liberty, freedom, democracy, within the development of capitalism and neoliberalism. The individual, it is assumed, is one person amidst many who has rights that enables them to contribute where a "ground-up" society is supposed to form and with such a social form, each person contributes, creates, innovates and so on thereby creating the best overall society. While such is a good idea, there is the fundamental aspect of the necessity of the protection of the individual human being an their rights, therefore, there is a relational context of people to each other and within the natural environment. Unless a person is alone, such a relational situation is unavoidable. Secondly, the protection of those rights and the individual human being would have to be foundational, however, empirical evidence shows, repeatedly, that such a system of individualism did not hold up under pressure from powerful individuals and groups leveraging both market and state against a populace, thereby violating the most basic level of right that would be necessary for people to survive, thrive, and flourish. Hence, tyranny ensues in such cases. In the well-understood case of Constitutions and the UN Charter, life is foundational to liberty and other rights, and the rights of some cannot be put before the foundational right of life.

While it is natural to to take up a culture and then a social construction to be conditioned by a socio-political and economic frame of reference to pursue meaningful lives, the fundamental problem with the conditioned self, as mentioned above, lies in our tendency to absolutize the conditioned state and perceive it as complete. Once we build a particular self and cling to it as complete, it causes us to fix upon the real – objects, persons, group of people, and events – by various, supposedly unchanging attributes (Chang, 1971). Forming sedimented and habitual ways of seeing the real with fixed perspectives restricts our intentional range and capacity for meaning-making commitments (Hershock, 2006). The socially-conditioned self is informed by a division of the world into *"an in-group and out-group"* (Wade, 1996: 121). Furthermore, those people who exhibit dualistic thought tend to be informed by the principle of the excluded middle (Nagatomo, 2000). The dualistic "either-or" stance is prone to prioritize one over the other, whereby an imbalanced attitude framed by extreme in-group self-interest and desire, is favored and promoted (Nagatomo, 2000). Such mind-state centrism[1] confines the purview of how we approach social, political, economic and environmental problems facing humanity including how we can utilize AI the for common good beyond our own self-interest – whether it be individual or collective. Therefore, a highly constricted experience of life and society and capabilities ensues with homelessness being an extreme outcome.

While human beings exist as entities, the attributes that form the core of the self are intersubjective conceptual thought constructions. Further, our attributes projected upon a self are fluid, contingent, and interdependent upon the attributes that we are opposed to since they are conceptual thought constructions that cannot claim their absolute or independent status (Hershock, 2012). The fundamental interdependence of conceptual thought is expounded upon by Nagarjuna: "*Without one there cannot be many and without many it is not possible to refer to one. Therefore, one and many arise dependently and such phenomena do not have a sign of inherent existence.*" (Komito, 1987: 80). He also states that *"If there is existence, then is non-existence; if there is something long, similarly (there is) something short; and if there is non-existence, (there is) existence; therefore, both (existence and non-existence) are not [actually] existent."* (Tola & Dragonetti, 1995: 128). What is implied here is that any form of different or opposing conceptual thought construction is interdependent and interpenetrating to each other and ultimately it is untenable to claim any form of self as absolute or universal. Different identities framing a variety of human boundaries in terms of culture, religion, politico-economic ideologies, principles, or norms are interdependent if we want to make sense of them. In history, capitalism and

[1] There might be genetic, biochemical causes of fearful mindstates (endogenous), or socio-political causes (exogenous)

liberalism and communism were engaged in the Cold War or the contemporary globe has witnessed the rivalry between liberalism and illiberalism (neoliberalism included). Buddhism acknowledges that confrontation or rivalry is real and can be healthy, however, Buddhism also claims that despite the reality of antagonism or confrontation, those against each other are interdependent and interpenetrating each other to make sense.

As stated, the Buddhist concept of the relational self does not deny the uniqueness of each individual. Instead, the awareness of the fundamental interdependent nature of the conceptually constructed self leads to a transformative shift in how the self is perceived. Instead of seeing different selves as independent and fixed entities with firm boundaries, actual realization is to understand the self metaphorically such as the interconnected web of life and then with no fixed status. With the recognition of self as an open and dynamic 'living system' within a larger interdependent and interconnected system, we see that we cannot discriminate ourselves from the actual inter-relational web of life (Loy, 1993)(. The awareness of the fundamental interdependent nature of the conceptually constructed self helps us to relax human boundaries and show solidarity beyond bounded identities in approaching socio-political and economic challenges facing us. Basic solidarity is therefore more accurate than separation for human beings.

The recognition and enhancement of the relational self can contribute to internal maturity and intersubjective dialogical process between people, hence we have called such postulation as the "further reaches of deliberative democracy" based on the relational self (Tanabe & Hartsell, 2023). Free and sincere public dialogue requires its participants to be capable of transcending their positional confinement (Reardon & Snauwaert, 2015). Political efficacy in democracy, that is, the capacity to engage in the public forum and in the critical political actions of the day, is dependent upon the cognitive, ethical, and self-reflective capacities of citizens coupled with empirical knowledge (Reardon & Snauwaert, 2015). Internally empowered citizens with the recognition of the non-fixed self facilitates perception of a wider scope of the systemic and dynamic interrelationship of diversity of values, and interests. By recognizing the contingent and fluid nature of values, views, and how the self is framed, we can engage dialogical interaction as an open-ended process to creating new values, adjustments, and visions with those having different or opposing visions and goals. With the enactment of relational self, we can engage and hone a practical process in social organization or community where people with a variety of different and opposing views and values embark on ongoing social process in terms of personal self-understanding and self-development to appreciate the demands of otherness beyond our own immediate interest or political and economic gains (Dallmayr, 2001).

The acknowledgement and progressive practice of relational selfhood and deliberation would help us to utilize AI beyond our own personal political or economic benefit where AI remains a tool. With the recognition of fundamental interdependence and nonduality of human boundaries, we can enhance the idea that AI needs to be aimed at helping people to eliminate social-political and economic hardship and to promote well-being of all beyond unreasonable boundaries (Pinyonatthagarn & Kotsupho, 2021). Throughout the process of the development and use of AI, the relational self could empower us to design how the intelligent machines can be used for the common good. AI should serve the function of a humane network, or connection of people beyond boundaries in a spirit of mutual benefit and appreciation of the diversity of values and views for dialogue (Lin, 2023). Being conscious of the diversity of values, views, and opinions as well as the fundamental interdependence of different or even opposing identities, we become more mindful of how we can use AI and the Internet for information or knowledge, which could help us avoid creating self-referential or self-encolosed bubbles and enhance the diversity or plurality of views within ourselves and to explore common good. Then we would be able to respond skillfully to socio-political and economic challenges creatively and empathically. This outcome would be considered as wisdom.

It is imperative that we clarify the meaning of beneficence in AI ethics including the promotion of human well-being, peace and happiness, the creation of socio-economic opportunities, and ecological sustainability (Jobin et al., 2019). The proposed relational self can underpin such an approach to AI to find solutions, where the relational self implies a nondualistic or open view of ourselves and others, extending our own existence beyond the boundary of the self to encompass that of others (Cho, 2000). Founded upon the concept of a nondualistic relational self, we can utilize AI to contribute to relieving socio-political and economic hardships or enhancing the fulfillment of basic human needs beyond constructed boundaries.

The critique of the potential dangers of an individual self, especially, a fixed self, and the proposal of a relational self highlights the following: If we are controlled by a conditioned self with a belief in the fixed nature, attachment, and greed, we could risk being lured into choosing, without knowledge, the malicious use of AI for immediate self-interest without considering its possible harmful impacts on others and the natural environment. However, by progressively acknowledging and embodying a relational self - characterized by openness to value diversity, mutual interdependence, and empathetic attitude - we can take a moment to reflect how intelligent machines can be harnessed for the common good and fostering creative and constructive inter-human interactions

beyond a fixed scope of epistemic or even ontological bubbles.

3.5. Practice of mindfulness to enact a relational self beyond the fixed sense of self

As discussed, our conditioned self, when absolutized, can drive us to abuse AI for our own self-interest and create further social division. Once we become conditioned by certain socio-political, economic, and cultural frames of reference, we tend to remain "imprisoned" in this conditioned state, which constricts the purview of our thought and creative or spontaneous action (Welwood, 2000). The proposal is to dis-identify ourselves from the conditioned state to expand the purview of how we think and how we can utilize AI beyond our own immediate political and economic interests. Such is the argument concerning right thought and mindfulness. Mindfulness, or attentive awareness, disciplines our minds by focusing on a certain object of thought. The engagement in mindfulness fosters moment-to-moment awareness of internal states such as feelings, emotions, thoughts, and attitudes. Through the practice of mindfulness, we cultivate awareness of the social conditioning of our thinking and knowing, becoming less identified with our habits of mind and standpoints (Gunnlaugson, 2007). Mindfulness empowers us to see any form of perspective and principles \as one of many, and thus to prevent an automatized or reflexive view of thinking (Langer, 2000). Such erspectival integralism through mindfulness enables us to become sensitive to different environments and more open to value diversity and enhanced awareness of multiple perspectives that allow us to use AI as and effective tool and for socio-political and economic problems including war, conflict, poverty reduction, environmental crises.

As discussed, misinformation, disinformation, fake news, hate speech, or fake videos produced by AI are critical challenges for society today and in need of collective action. Hate speech, fake video, manipulation, disinformation, and so forth., create racial discrimination, political confrontation, social divide, and violence, while impairing political participation, socio-political self-realization, and the moral dignity of people, and the common good (Coeckelbergh, 2022). Algorithms simply respond to our own bias or dogmatic views of reality, socio-political and economic values and interests, as algorithms are trained on data of our own decisions and reproduce imbued bias, dogma, and value (Coeckelbergh, 2022). Without being mindful of fixated socio-political and economic conditioned states that create a narrow view of others, we could would continue to produce disinformation, fake news, manipulation, confrontational expression both offline and online. Hence the AI reflects the culture back to us and we to it in a loop. If we become conscious of our habitual thought and behavior, we can prevent ourselves from spreading fake news and misinformation and consequently to stop or at least suspend the effects of AI production of fake news, manipulation, or violent or agitational expression (Singh, 2022). This process and effect on the individual is the liberating effect we mentioned earlier.

Once our self becomes fixated with socio-political, economic, or cultural values - such as liberalism, neoliberalism, or communism - it creates abiding and patterned thinking and constrained epistemological and cognitive frameworks. With such limited or abiding patterns of the conditioned state, we will be confined to the fixed standpoints from which we habitually demarcate in-group and out-group. Such states are prone to be reflected in AI mediated and deceptive malicious use of online services including disinformation, manipulation, fake news, discriminatory expressions, and all which are amplified by AI. Besides, the purview of our online search for knowledge, information, our opinions will be limited. Under our abiding and fixed conditioned state, algorithms function as "arbiters of our own digital karma" (Hershock, 2021: 28). To practice and enhance mindfulness can empower us to achieve a detached engaged state from socio-political and economic frameworks that shape our conditioned self. Such will interrupt the flows of erroneous self-affirming views, habit formations, attachments to certain view, clinging desires and conflict-generating or discrimination-generating views (Hershock, 2021). We think this process is the best way to avoid the predicament of thinking we are sure of what we know and yet being entirely wrong, and at the same time damaging society and the environment. By monitoring our socio-political and economic conditioned state in approaching AI, we can liberate ourselves from the purview of the conditioned state to broaden how we can be connected to others beyond boundaries, which helps us to expand how we can think and behave beyond immediate self-interest and consider the broader well-being with others. Through the practice of mindfulness and realizing interdependent and nondualistic human relations beyond conceptually constructed or socio-politically and economically constructed boundaries, we can come to monitor our consumption behaviors, manage excessive aspirations for (redundant) material gains, eliminate bad or certain habits, and experience a measure of happiness. Happiness we tie together with liberty as a degree of freedom from various attachments and compulsions described in this research.

With enhancing mindfulness abilities and the knowledge of interconnected relations between human beings and between humanity and environment, we can sharpen the ability to accept the sharing and considering the perspectives of others rather than indulging in narrow and immediate self-driven actions or interest that could cause harm (Singh, 2022). For instance, before and even while engaged in online activities for shopping, participation on threads, spreading our own political opinions or information, and the like, we need to ask

the following questions: Whether the product or service is only fulfilling our own greed and desire; how did we come to want this particular product, whether it could harm and discriminate against other people, what short-term and long-term impact our online behavior would have on the environment, etc. (Singh, 2022). In other words, the compassionate mind state is the embodiment of the relational self, and it can be honed.

Compassion is an acknowledgement of shared humanity beyond human created boundaries (Pruitt & McCollum, 2010), which means a conscious transition from self-centeredness and dichotomous assumption of 'in-group' and 'out-group' relations as firm boundaries to an all-inclusive awareness of fundamental human interconnection. With compassion, people are inspired to embody social freedom and participate in the social and communal life of solidarity in which they mutually acknowledge each other's basic needs in an interdependent context. The practice of mindfulness to embody a relational self and compassion does not categorically deny the pursuit for personal political-economic interest and/or personal self-fulfillment. However, we also need to reflect on how people having different identities undergirded by different or even opposing socio-political and economic values, principles, and interests should be related beyond supposedly fixed boundaries, how we should care about those suffering from social marginalization, and how we frame socio-political and economic realities that affect how AI is used. When such reflective awareness along with the recognition or reallization of the relational self, we can take time to contemplate on how AI should be used for the foundational common good and how AI can be utilized to empower humanity to appreciate and value diversity beyond epistemological and ontological bubbles.

4. **Conclusion**

Though AI ethics that involves the external design and programming of regulative codes for the intelligent machines is important, it is not a holistic picture of AI ethics. An analysis of human intentions, emotions, and motivations is also critical as human epistemological, ontological, cognitive, and affective elements influence use of AI in various dimensions of human life. We also argue from the level of culture and AI effects which follow culture. While we embrace innovation and development of intelligent machines, it is essential to keep our own conscience and ethical awareness as our foundational guiding principle since the future direction of AI technology requires deeper contemplation of human inner values and wholesomeness of human conduct (Lin, 2023). The technical prowess or excellence of intelligent machines must be underpinned by human epistemological, ontological, cognitive, and attentive preeminence in AI ethics.

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Prevalent Use of AI and the Ethical Reasoning of Nursing Students in North Cotabato

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Abstract
Artificial Intelligence (AI) is becoming a key player in education and healthcare, reshaping learning activities and the clinical training experiences. This study explores into the ethical and philosophical dimensions of AI use among nursing students, looking at both its advantages and the concerns it raises as well as their ethical reasoning on the use of AI. The findings reveal that while AI can enhance learning and efficiency, it also brings ethical dilemmas related to academic honesty, the adequacy of AI simulations for real-world experience, and the responsibilities that come with AI-assisted medical decisions. Grounded in ethical theories such as virtue ethics, deontology, consequentialism and digital ethics, this research highlights the importance of AI literacy, ethical education, and the need for clear institutional policies and guidelines to ensure responsible AI use.
Keywords: *Artificial Intelligence, Ethical Reasoning, Nursing Students, Healthcare Education, AI Ethics, North Valley College Foundation.*

Introduction

Artificial intelligence (AI) is revolutionizing almost all sectors of society including the healthcare sector, offering tools that augment clinical decision-making, streamline administrative tasks, and enhance patient outcomes (Topol, 2019). In nursing education, AI-powered tools, such as ChatGPT, have become increasingly prevalent, assisting students in learning complex medical concepts, enhancing their critical thinking, and facilitating academic writing (Davenport & Kalakota, 2019). The use of AI in nursing education presents both opportunities and challenges, particularly concerning ethical reasoning. Ethical decision-making is a core competency for nursing students, and it is emphasized in the curriculum through multiple ethics courses.

The rise of Artificial Intelligence (AI) in education and healthcare is transforming traditional teaching methods and patient care practices. AI tools like ChatGPT, Grammarly, and QuillBot are helping nursing students with academic tasks, while AI-driven simulations and diagnostic systems are changing how clinical training is conducted. Despite its benefits, AI raises ethical concerns, particularly regarding academic integrity, its impact on human empathy, and the extent to which healthcare professionals should rely on it for decision-making. This study seeks to understand how nursing students perceive AI, the ethical challenges they encounter, and the potential impact on their education and future practice. By drawing on contemporary ethical framework including digital ethics, AI governance principles, and applied ethics, this study assesses AI's role in nursing education and emphasizes the need for guidelines that ensure its responsible use.

North Valley College in Kidapawan City integrates three ethics courses into its nursing program, underscoring the importance of ethical training. However, the increasing reliance on AI tools like ChatGPT raises concerns about the potential impact on students' ability to engage in independent ethical reasoning and decision-making (Yu & Xu, 2022). The faculty members were also divided when it comes to their opinions as regards to the use of AI especially ChatGPT among the students. Some of them would rather want their students to completely disregard the use of ChatGPT and even automatically fail students when they found that that the students have used ChatGPT in answering school assignments and other projects. Others have been observed to be tolerant on students who used ChatGPT. However, all of them agree to have ethical guidelines on the responsible use of ChatGPT in the school.

Despite the growing adoption of AI in nursing education, limited research has examined its impact on students' ethical reasoning, particularly in the context of North Valley College. Most existing studies focus on the benefits of AI for knowledge acquisition and efficiency (Zhang et al., 2021), but there remains a gap in understanding how AI influences nursing students' ability to apply ethical principles in real-world healthcare settings. As AI-generated responses provide instant solutions and justifications, students may become overly dependent on these tools, potentially diminishing their ability to critically evaluate ethical dilemmas on their own (Fiske et al., 2019).

Given the significant role that ethical reasoning plays in nursing practice, it is crucial to investigate how the prevalent use of ChatGPT among nursing students at North Valley College affects their ethical decision-making. This study aims to explore whether AI-assisted learning enhances or hinders ethical reasoning in nursing education. Addressing this research gap will provide valuable insights for educators and school administrators to ensure that policies and programs for the integration of AI in education support, rather than undermine, the ethical competence of future nurses.

Research Objectives

This study was guided by the following research objectives:

1. To identify the types of AI tools being known by nursing students
2. To assess the extent of AI usage among nursing students.

3. To explore the ethical reasoning of nursing students when it comes to AI in nursing education.

Method

A mixed-methods research design was used in this study to provide a comprehensive exploration and understanding of the topic being studied. For the quantitative component of the study, a survey questionnaire on the AI tools that students are aware and the AI tolls that they have been using was distributed to 127 fourth year nursing students in North Valley College Foundation, Inc. (NVCFI). The qualitative component of the study utilized three case scenarios for the fourth year nursing students. The two case scenarios where given during class activities for the students to answer and the other case scenario was given during exam as part of the essay questions being asked of them to answer. In terms of data analysis, the quantitative component of the study utilized descriptive statistics especially percentages while content and thematic analysis were applied to qualitative responses.

Results and Discussions

Knowledge and Prevalence of AI Use among Nursing Education

Table 1: Students' Knowledge on AI as Discussed in their classes(N=127)

AI in Healthcare Education	%
Chatgpt which nursing students with study materials, case discussions, and exam preparation.	100
Grammarly – an AI-powered writing assistant for nursing research papers and documentation.	100
QuillBot which helps nursing students paraphrase, summarize, and improve their writing.	100
IBM Watson Health which offers AI-driven digital patient assessments	100
Socratic by Google to answer nursing-related questions and provide explanations.	52
SimX – Virtual reality (VR) patient care simulations.	67
Oxford Medical Simulation (OMS) to simulate real-life nursing scenarios.	67
DynaMed and UpToDate – AI-powered evidence-based resources for nurses.	67

Table 1 presents data on how familiar nursing students are with different AI tools used in healthcare education. The results show that students are highly aware of AI-powered applications like ChatGPT, Grammarly, QuillBot, and IBM Watson Health, with 100% of respondents expressing knowledge of these tools. However, when it comes to more specialized AI tools like Socratic by Google, SimX, Oxford Medical Simulation (OMS), and DynaMed, knowledge levels drop, with only 52% to 67% of students indicating familiarity.

This finding suggests that students tend to be more knowledgeable about AI applications that assist with academic writing rather than those designed for clinical decision-making. From an educational psychology perspective, this aligns with constructivist learning theory which suggests that knowledge acquisition depends on exposure and relevance (Piaget, 1950). Since writing tools are widely used in academic settings, students naturally gravitate toward them, while clinical AI tools, which require structured training, receive less attention.

From an ethical standpoint, this gap raises concerns about competency-based education in nursing. According to principles of biomedical ethics of Beauchamp and Childress (2022), nursing education should not only equip students with technical knowledge but also ensure they understand how to ethically and effectively use AI in clinical settings. If students are primarily using AI for academic work but not engaging with clinical AI tools, they may be missing opportunities to enhance their critical thinking and decision-making skills in patient care.

Table 2: Prevalent Use of AI (N=127)

Prevalent Use of AI	%
Chatgpt	100
QuillBot	83
Grammarly	79

Table 2 examines AI usage patterns and reveals that 100% of students use ChatGPT, followed by QuillBot (82.67%) and Grammarly (78.74%). This shows that AI has become an integral part of their academic routines, helping them streamline writing tasks and research.

This widespread adoption aligns with utilitarian ethics which emphasizes maximizing benefits while minimizing effort (Mill, 1863). AI is making students' academic work more efficient, allowing them to focus on other aspects of their education. However, from the lens of Aristotle's virtue ethics overreliance on AI may hinder the development of essential skills like independent research, critical thinking, and analytical writing (Aristotle, 350 BCE). AI should be a tool for enhancement, not a crutch that replaces deep learning.

The cognitive offloading theory of Risko and Gilbert (2016) also comes into play here. This theory suggests that when people delegate cognitive tasks to external tools like AI, they may become less engaged in the learning process. While AI certainly has a place in nursing education, there is a need for structured guidelines that ensure students are

developing their intellectual abilities alongside their use of AI technology.

Ethical Reasoning of Nursing Students About AI in Nursing Education

A. **On AI and Academic Integrity**

Case Scenario 1: *Samantha is a fourth-year nursing student who is struggling to balance her demanding course load with her part-time job. She has an upcoming assignment where she must write a detailed care plan for a hypothetical patient with Type 2 Diabetes. Feeling overwhelmed, she decides to use ChatGPT to help her generate the care plan. Samantha provides ChatGPT with details about the patient, and within minutes, it produces a well-structured and thorough care plan. She submits the work as her own. A few days later, her instructor, Dr. Rivera, praises her for the detailed care plan, calling it one of the best in the class. Meanwhile, another nursing student, Alex, overhears Samantha talking about using ChatGPT to complete her assignment. Alex, who spent hours researching and writing their care plan, feels conflicted. They understand Samantha's struggles but also feel that her actions were unethical. Alex is unsure whether to speak to Dr. Rivera about Samantha's use of ChatGPT. At the same time, Alex begins to wonder whether they should also start using ChatGPT for future assignments to keep up with others who might be doing the same.*

Discussion Questions:

1. ***Was Samantha's use of ChatGPT to complete her care plan unethical? Why or why not?***

%	Explanations
93 Yes	**For Yes Answers (Key themes that emerged)** 1. It violates academic integrity 2. It promotes laziness and lack of discipline as students 3. It is cheating 4. Students should practice time management 5. Honesty is an important value not only as a student but as future professionals
	For No answers (Key themes emerged) 1. Consulting ChatGPT is a form of initiative for students who have been bombarded with plenty of school activities 2. Schools should make a policy to lessen student workloads especially for working students 3. ChatGPT is invented to help students so it's not unethical to use it.

The first case study focuses on Samantha, a nursing student who used ChatGPT to generate a care plan for a hypothetical patient and submitted it as her own work. The study found that 92.91% of students considered this unethical, while 7.08% argued that AI is a helpful academic tool.

From a deontological ethics perspective of Kant, Samantha's actions violate academic integrity (Kant, 1785). Nursing students are expected to uphold honesty and fairness in their education, and using AI to complete assignments without proper attribution goes against these ethical duties. Majority of the nursing students argued that using ChatGPT and submitting the same without editing and proper attribution to the source is unethical and it violates academic integrity. Many of them said is it is dishonesty and a form of cheating. In fact, one nursing student argues in her paper, *"using ChatGPT without proper attribution of the source is cheating. It is dishonesty and it violates academic integrity. Integrity and Honesty are essential values for future nurses because we will be dealing with people, mostly sick and vulnerable people."* Another nursing student writes, *"submitting a work which is coming from ChatGPT and not from your own effort and hard work is a form of cheating and dishonesty not only to your professor but to yourself as well."*

However, situational ethics of Fletcher (966) suggests that ethical decisions should be context-based. Some students in the study argued that given the intense workload in nursing programs, using AI is a way of adapting to modern challenges rather than engaging in dishonest behavior. One nursing student also argues in his paper that, *"using ChatGPT is justifiable because our professors gave us plenty of paper works to do aside from our actual hospital and community duty. Some of these paper works and assignments are coming from our minor subjects. We also have different tasks from our major subjects and we really lack time because of our hospital and community duty. Some of our professors are not considerate when it comes to the deadline of submission, so, we are forced to use ChatGPT to lighten our loads. ChatGPT is also invented for this purpose, hence, using it is not unethical. It is even a form of creativity and resourcefulness on the part of the students. However, the school must have a policy on the responsible use of ChatGPT".*

This aligns with pragmatism (Dewey, 1938), which values practical solutions over rigid ethical rules. When students are bombarded with huge amount of works from their different courses with less time, they will be forced to look into more practical solutions to be able to submit their tasks and pass the course. Yet, from a professional ethics standpoint, AI misuse in academic settings may translate to ethical shortcuts in clinical practice. Nursing is a profession that demands integrity, and if students become too dependent on AI during their studies, they may struggle with ethical decision-making in real-world patient care. Many of the students also mention in their papers that

importance of time management as future nurses and even highlight the value of honesty as an important value for nurses and future nurses.

2. Should Alex report Samantha's actions to Dr. Rivera? Why or why not?

%	Explanations
9% Yes	**For Yes Answers (Key themes that emerged)** 1. It's not good to shame Samantha to her teacher 2. Let Samantha realize and make changes but reporting her wrong doing to Dr. Rivera is not the right thing to do.
	For No answers (Key themes emerged) 1. Reporting Samantha to Dr. Rivera provides justice to those who worked so hard and do not cheat 2. Correcting wrong doing is a moral responsibility

While majority of them feel and think that what Samantha did was unethical, many of those who argued for this also feel that Alex should not report the wrongdoing of Samantha to Dr. Rivera. They also value Samantha as a person and they do not want to shame Samantha to her teacher. They just want that Samantha will realize that her action is not ethical and choose to be ethical in her actions in the future. The argument of one nursing student beautifully captures their options, *"shaming Samantha to Dr. Rivera will not make me a moral person because I will hurt Samantha in doing so and might cause emotional damage to her name and reputation. I always believe that person has conscience and their conscience will be the one to bother them that what they are doing is not good. I am hopeful that Samantha will realize this and will change her action and be more honest later on."* But few of them reason the other way. For them Samantha should not be tolerated and her actions should be reported to Dr. Rivera. For them if no one exposes and reports the wrong doing of another person, it will continue in the future and it will become a habit. Hence, Samantha's action should be reported to Dr. Rivera. According to a nursing from North Valley College, *"while she understands Samantha's plight as a working student, this does not give her a license to cheat and be dishonest. If she will not be reported, she will continue this unethical behavior and it might get worst. As early as now, she should be reprimanded about her wrong action. Hence, she should be reported to Dr. Rivera. If I were her classmate, I will really bring this action to the attention of our teacher because it is really unfair for all of us who have been so honest to answer the assignment."*

1. Should students be taught how to use AI responsibly, or should its use be restricted entirely in academic settings?

%	Explanations
100% Yes	**For Yes Answers (Key themes that emerged)** 1. AI is already introduced so better to have formal teaching on the responsible use of AI. 2. It's also good to utilize the AI as long as the utilization is grounded by ethical principles.

Despite different opinions on the use of AI, all of them argue that student should be taught how to use AI responsibly and not to restrict the use of AI to students. Many of them believe that AI is invented for the purpose of helping students. They even argue that if the AI is intended to harm people, then they should not have been invented in the first place. But they also understand that students have the tendency to abuse some of these tools, hence, they should be properly taught how to use these tools responsibly. Since AI is already introduced, it would be better that students will have formal training and education on the responsible use of AI. *"AI is already here and whether we like it or not, it has already penetrated the educational setting. Whether we admit it or not, all of us are using ChatGPT and other AI tools. It would be good for the school to have policy on the responsible use of AI and to have a formal training on AI",* according to a nursing student in North Valley College.

B. On AI Simulations Versus Real-World Experience in Nursing Education

Case Scenario 2: *A nursing school introduces an advanced AI-powered simulation tool that allows students to practice patient care in a virtual environment. The tool replicates real-life scenarios with remarkable accuracy, such as responding to a patient in cardiac arrest or managing a diabetic crisis. Students can interact with virtual patients, receive feedback, and repeat scenarios as often as needed to improve their skills. While most students find the tool highly beneficial, some, like Rachel, worry it's replacing valuable hands-on experience with real patients. Rachel's clinical rotations have been reduced due to the school relying more on the AI simulator. She feels underprepared for the emotional and interpersonal challenges of nursing because the AI patients lack human nuance, such as emotions or unpredictable behaviors. Meanwhile, other students, like David, embrace the AI simulations because they reduce the stress of making mistakes in front of real patients. David argues that the simulations are more efficient and offer a safe way to master technical skills before clinical practice. The school is now considering expanding the use of AI simulation further, possibly*

replacing some in-person clinical hours altogether. The nursing students are invited to a forum to discuss whether this is the right approach.

Discussion Questions:

1. ***Should AI simulations replace some clinical hours, or should they only supplement real-world experience?***

%	Explanations
98% No	**For Yes Answers (Key themes that emerged)** 1. AI only supplement real-life experiences in clinical duties. 2. AI lack empathy, care and other emotional responses.
	For No answers (Key themes emerged) 1. Real-life experiences in clinical duties are crucial in nursing education and no AI can replace this. 2. Person-to-person conversation elicits emotional responses and empathy which cannot be done by AI

The second case study examines whether AI-driven simulations should replace or supplement real-world clinical hours. The results show that 97.63% of students believe AI simulations should only supplement clinical experiences, not replace them, highlighting concerns about AI's inability to replicate human emotions and unpredictable patient behaviors. Almost all of them believe that AI cannot really replace real-life experiences in nursing education. acquiring nursing skills require hands-on experiences and these cannot be replaced by AI stimulations. However, they also accept that AI stimulations can provide them with theoretical and even practical knowledge on the status of the patients. A nursing student writes, *"our hands-on experiences like our clinical rotations and duties in the affiliated hospitals provided us with practical and technical skills that are so valuable for us in our future tasks as nurses. These skills cannot be acquired through AI stimulations. While AI stimulations might help us gain some theoretical and practical knowledge, it is our clinal rotations and hospital duties that really gave us the things, values and skills we need to have in the nursing profession. That is why it is really a no-no for me to replace these hands-on activities with AI"*. This aligns with experiential learning theory of Kolb (1984), which emphasizes learning through direct experience. AI simulations can help students develop technical skills, but they cannot fully capture the complexities of human interaction, patient distress, or the unpredictability of real-life scenarios.

2. ***AI simulations focus on technical skills, but can they teach empathy, cultural sensitivity, and the emotional aspects of care?***

%	Explanations
100% No	**For No answers (Key themes emerged)** 1. AI stimulations cannot teach empathy, cultural sensitivity and other emotional aspects of nursing education. These can only be done in face-to-face, person-to-person interaction and real life experiences in clinical and community duties.

All of them said that while AI stimulations can teach them skills and knowledge, they cannot totally help them to prepare for the intricacies in human relationships and interactions which are very much important in health care and nursing services. They understood so well that their job as future nurses requires emotional and cultural competence which cannot be provided by the AI. As narrate by one nursing student, *"nursing profession is not only about skills, it is more about human relationship, how will you exhibit genuine empathy and care to your patients as well as the family members of the patient. You will even have patients from different cultural and religious background that requires patient, tolerance and understanding on the part of the nurses. AI stimulations cannot teach us empathic understanding and genuine care. We really need to mingle with persons and encounter them in the personal level to be able to understand them."* All the respondents of this study, the fourth year nursing students are convinced that nursing service is not only the proper execution of skills but it is also about deeper encounter of the patients and their family members as persons. Such encounter requires emotional competence and cultural sensitivity. From a care ethics perspective of Gilligan (1982), interpersonal relationships are a core component of healthcare. AI simulations lack the emotional depth required for developing empathy, cultural sensitivity, and real-world communication skills. However, from a technology acceptance model, AI-enhanced learning still holds value as an educational supplement, providing safe spaces for students to refine technical skills before transitioning to real-world patient care (Davis, 1989) which is well understood and accepted by the respondents of this study.

C. On AI and Medical Diagnosis

Case Scenario 3: *Maria, a nursing student, is completing her clinical rotation in a busy urban hospital. Recently, the hospital introduced a cutting-edge AI diagnostic tool designed to assist healthcare professionals by analyzing patient data and suggesting probable diagnoses. One day, Maria is*

shadowing a senior nurse, Beth, during rounds. Beth uses the AI tool to evaluate a patient, Mr. James, who presents with fatigue, chest pain, and shortness of breath. The AI suggests that Mr. James may have a mild viral infection and recommends a wait-and-see approach. However, Maria notices that Mr. James looks pale and clammy, which makes her suspect something more serious, like a cardiac issue. When she brings up her concerns, Beth hesitates, trusting the AI's assessment because "it's usually right." Maria decides to speak with the attending physician, who orders additional tests. These tests reveal that Mr. James is experiencing a heart attack, and immediate intervention saves his life.

Discussion Questions:

1. ***Should Beth have relied solely on the AI's assessment, or was Maria correct to trust her clinical judgment and raise her concerns? Kindly Explain.***

%	Explanations
18% Yes	**For Yes Answers (Key themes that emerged)** 1. AI assessment is accurate and can be trusted.
	For No answers (Key themes emerged) 1. Patient's assessment need face-to-face interactions and further tests 2. AI has no capacity to ask persons face-to-face about their feelings, histories and other details which are necessary for correct diagnostic assessment.

2. ***Who is morally responsible for the initial misdiagnosis: Beth, the developers of the AI, or the healthcare system for relying on such tools? Why?***

%	Explanations
96% Health	**For AI Developers (Key themes that emerged)** 1. Without AI people will not be lazy to rely on AI which is not always accurate. 2. AI developers can also be liable because they are doing this for business
	For Health Care System (Key themes that emerged) 1. Health care system should not rely on AI in making diagnosis. 2. Relying on AI for patient diagnosis is not only unprofessional but also, a neglect of duty.

The final case scenario for this study discusses Beth, a senior nurse who relied solely on AI for diagnosing a patient, nearly resulting in a misdiagnosis. The study found that 96.06% of students believed the healthcare system was responsible for ensuring that AI tools are used ethically and with human oversight. Many of the respondents argued that the health care system especially the hospital administration and management should have provided proper training for their health care professionals and practitioners on the responsible use of AI. They further argued that if hospital administration found that AI is important in the diagnosis of patients, they should have trained the people to use the AI tools accurately as well as ethically. A nursing student writes his argument by saying, *"the health care system should take full responsibility of the misuse of the AI because if they see the value and the necessity of having AI to help them in their work, they should provide proper training to the persons who will use these AI tools."*

From an autonomy and accountability perspective healthcare professionals must retain control over clinical decisions rather than deferring to AI (Beauchamp & Childress, 2022). However, the nursing students also argued that health care practitioners and professional should also double check the AI-generated result and do not easily accept it as true. They even said that the job of the physician is to ensure that their diagnosis is true and accurate that is why they ordered different tests and laboratory examinations as well as monitoring to verify and confirm their diagnosis. *"Medical doctors should critically analyze the different aspects of the tests and diagnostic tools to confirm their diagnosis. Much more if these results are AI-generated, they should not accept it easily as true and correct",* according to a nursing student. Critical realism suggests that AI-generated outputs must be critically analyzed within the larger context of patient care, reinforcing the need for human oversight in medical decision-making (Bhaskar, 1975).

Few nursing students also said that AI developers have also shared accountability as indicated in the result. The study also touches on moral responsibility theory of Scanlon (1998), which suggests that accountability in AI-driven healthcare should be distributed across nurses, AI developers, and hospital administrators. Without clear guidelines, overreliance on AI can lead to ethical and legal consequences, highlighting the urgent need for AI governance policies in clinical settings.

Discussion

AI and Academic Integrity: A Double-Edged Sword

The results show that 100% of students surveyed use AI tools such as ChatGPT and Grammarly, raising concerns about academic integrity. Whether the use of them is justified because of their circumstances, this should not be tolerated without proper guidelines coming from the school. According to deontological ethics, which prioritizes moral rules

and responsibilities, submitting AI-generated work without proper citation is ethically wrong (Kant, 1785). Schooling or education is not only about acquisition of knowledge and skills but it is the formation of the whole person, hence, it is also a cultivation of values and the development of character. Aristotle's virtue ethics stresses the importance of cultivating discipline, honesty, and intellectual integrity, which can be undermined by excessive AI dependence (Aristotle, 350 BCE). If the school has no clear guidelines on the responsible use of AI, the students will not be able to develop the proper ethical values and attitudes when it comes to the use of AI. Since AI tools are available anytime at their disposal, they can just make use of these whether for good or for bad. Recent research highlights the need for educational institutions to set clear AI usage policies to prevent academic dishonesty while promoting ethical AI engagement. Instead of banning AI, a balanced approach that fosters AI literacy such as teaching students when and how to use AI ethically can be a more effective solution (Borenstein & Howard, 2021; Floridi & Cowls, 2022).

Can AI Simulations Replace Real-World Clinical Experience?

The study reveals that 97.63% of students believe AI simulations should only supplement, not replace, real-world clinical experiences. Almost all of the respondents of the study argued that nursing service requires emotional and cultural competence which can only be acquired through hands-on, person-person relationship and encounter. The word encounter is not only about just dealing with the person on a transactional level. It is about deeply understanding the dynamics and the different aspects of the person. This journey toward understanding the person deeply requires empathy and care. It requires a person such as the nurse to be in the world of the patients and the family of the patients. Heidegger's idea of "being-in-the-world" suggests that real experiences shape human understanding in ways that simulations cannot (Heidegger, 1927). Furthermore, care ethics emphasizes the importance of human connection in healthcare, something AI-driven simulations cannot fully replicate (Held, 2006). AI might help students develop technical skills, but it falls short in teaching them the emotional intelligence needed for patient care . Research by Jiang et al. (2023) and Topol (2022) reinforces this, showing that AI-based training cannot replace the human interactions necessary to build empathy and interpersonal skills in nursing. While AI can simulate medical emergencies and responses, the unpredictability of real patient interactions remains irreplaceable.

The Ethics of AI-Assisted Medical Decisions

One of the most concerning ethical dilemmas involves reliance on AI for patient diagnoses. The study's findings show that 81.88% of students believe that depending on AI over human judgment is unethical. From a consequentialist perspective decisions should be evaluated based on their outcomes, and an AI misdiagnosis could have severe consequences (Mill, 1863). Moreover, the study indicates that 96.06% of students hold the healthcare system responsible for AI misdiagnoses rather than the AI developers. When we talk about health care system, it is about institutional practices and policies that ensure accountability of all stakeholders. This aligns with social contract theory of Rawls, (1971), which argues that institutions must ensure ethical safeguards in AI implementation and ensure that those who are involved must also be held responsible as in a contract. Current research stresses the necessity of ethical AI governance, as over-reliance on AI tools without proper human oversight can put lives at risk (Mittelstadt, 2022; Jobin et al., 2019). Algorithmic bias further complicates AI's role in diagnosis, as AI systems can inadvertently favor certain demographics, leading to disparities in patient outcomes (Obermeyer et al., 2019). Thus, AI should be used as a support tool, not a replacement for professional judgment.

The Need for AI Education in Nursing Curricula

All students in the study (100%) agreed that AI education should be included in nursing curricula. They argued that since AI has already penetrated all aspects of human civilization, proper training and education of these noble tools is an imperative in every education institution. When we speak about training, it is not mere orientation, it is about interaction and sharing of ideas on how to use of the AI tools properly and ethically. This supports Piaget's (1950) constructivist learning theory, which emphasizes structured education in developing ethical reasoning. Teaching students responsible AI usage ensures that they can leverage its advantages without violating ethical standards. Current discussions on digital ethics stress that AI literacy should be an essential part of professional training (Moor, 2020; Bostrom & Yudkowsky, 2022). Policies and guidelines need to be established, helping students understand how to ethically integrate AI into their practice while maintaining professional integrity. Emerging studies show that AI ethics education can empower students to navigate the moral complexities of AI-driven decision-making in healthcare (Schneider et al., 2023).

Conclusion

AI is an indispensable tool in modern education and healthcare, offering both opportunities and challenges. While it enhances learning and efficiency, it also raises ethical concerns regarding academic honesty, professional responsibility, and patient care. Ethical theories such as deontology, virtue ethics, and care ethics highlight the necessity of balancing AI's benefits with human oversight. The findings of this study reinforce the importance of AI literacy in nursing education and call for robust policies to

ensure AI is used ethically. Future research should focus on the evolving role of AI in healthcare, particularly in clinical decision-making, patient safety, and the psychological effects of AI reliance on healthcare professionals. As AI continues to shape the nursing profession, maintaining ethical integrity must remain a top priority.

The integration of AI into nursing education and practice brings both opportunities and challenges. While AI can enhance learning efficiency, clinical training, and decision-making, it also raises ethical concerns about academic integrity, experiential learning, and professional responsibility. A balanced approach is needed. On the one hand, there must be AI ethics training for all students. All programs in the school should include coursework on ethical AI use, ensuring students understand how to use AI responsibly. On the other hand, there must be institutional policies on the responsible use of AI in the school. Clear guidelines must be established to prevent AI misuse in academic and clinical settings.

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Some Questions and Ethical Implications of Artificial Intelligence: An Analysis of Educational Policies on AI

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Abstract

The exponential growth of Artificial Intelligence (AI) poses very serious ethical questions and policy implications. Will the advance of AI in education destroy the primary purpose of human learning? How does ChatGPT affect the transformative or critical role of education? The concern about ChatGPT is about how it influences the attitude of students when it comes to the learning process. But ChatGPT actually poses more serious ethical questions. AI actually gives rise to a host of issues concerning attitudes towards modern technology and how it reduces everything into a question of efficiency. The identity of indigenous peoples is also threatened by AI. This study analyses the AI Policies of three schools in the Philippines and provides a commentary on the implications of the provisions from an ethical vantage point. The argument is that these policies are rooted in the capital-driven and consumerist agenda of the West but is wanting on the question of cultural identity.

Keywords*: ChatGPT; Artificial Intelligence (AI); Education; Indigenous Identity;*

Introduction

This paper explains artificial intelligence and examines its impact in education and the question of cultural identity. This research paper was presented during the 23rd Asian Bioethics Conference held in Bangkok, Thailand.

According to Shams et al. (2023, p.411), *"Despite the acknowledged importance of diversity and inclusion, there is a gap in the literature regarding how ethical principles can be practically implemented in AI systems."* Bayod and Weckert (2023, p.1) say that *"new technological developments continue their pace and the ethical concerns are given scant thought."* This paper seeks to analyze the policies of three higher education institutions in the Philippines – De La Salle University, Mindanao State University, and the University of the Philippines to assess if they are inclusive and sensitive to cultural diversity. ChatGPT, for instance, requires an ethical framework (Maboloc 2023).

Some of these AI policies in schools are actually driven by the reality of an idealistic, capital-driven, and consumerist global and societal order. In this regard, certain policies ignore the importance of local culture, tradition, and the historical context of indigenous communities. Instead, they fall into the trap of an enframed social order, in which thinking is reduced into the calculative, and technology is no more than efficiency, instead of serving the interests of humans and making human beings more human. Two decades ago, Bakardjieva (2005, p.14) warns that *"the Internet is a paradigmatic case of an open and ubiquitous technology. It calls for a broadening of the research scope beyond the traditional innovation agencies, the examination of which would have satisfied our curiosity in the case of a more rigid and specialized technology."* According to LeCun, Bengio, & Hinton (2015, 436), in a seminal paper *Deep Learning*:

"Machine-learning technology powers many aspects of modern society: from web searches to content filtering on social networks to recommendations on e-commerce websites, and it is increasingly present in consumer products such as cameras and smartphones. Machine-learning systems are used to identify objects in images, transcribe speech into text, match news items, posts or products with users' interests, and select relevant results of search. Increasingly, these applications make use of a class of techniques called deep learning."

Alsaleh (2024, p.1) says in a paper published in *Nature*, "technology plays a pivotal role in shaping cultural identities and practices across the globe." The author explores the complex relationship between technology and cultural transformation. In the past, empires used their power to conquer territories and subjugate people. The rise and fall of empires had to depend on the ability of the same to use violence and engage the native population using religion and force. Paradigmatic changes, however, occurred with the advent of modern technology. With the use of the internet, globalization expanded to influence the lives of people through the neoliberal order that also shaped the lifestyles of people. Such type of manipulation has become subtle, which is apparent in the way human behavior is controlled by means of algorithms. Today, this threat has shown itself in the rise of AI and with it, the power of Big Tech, which has become the new face of empires in modern times.

Methodology

The author employs a thematic analysis of the published policies on AI of three schools in the Philippines. It has gathered relevant primary data to provide a systematic, sequential, and structured approach to determine the key themes in this qualitative analysis. It transcribed the available information from sources to gather diverse viewpoints on the subject matter at hand. By discerning on the questions that the research seeks to answer, some patterns have emerged providing the relationships and links on the various issues and the objectives of the study. The themes that appear to be relevant include learning, innovation, social justice, and policy.

Artificial Intelligence and ChatGPT

Artificial Intelligence (AI) is a modern innovation that started with Machine Learning in the 1940s, which at that time was used by the Allied Forces to decode encrypted messages from Nazi submarines (Weckert 2012). The Internet, incidentally, is also a product of the post-war conflict between two superpowers, the former Soviet Union and the United States. The Cold War accelerated their competition into space and at the same time, the science of computing. In the same way as the internet revolutionized or in the words of Thomas Friedman (2005) flattened the world, AI is a technological revolution that can potentially change everything. The fear, according to Nick Bostrom (2014), is for AI to surpass human intelligence. Many white-collar jobs can be wiped out with superintelligence doing all the thinking.

Chat GPT (Generative Pre-Trained Transformer) is seen as a revolutionary technology (Gokul 2023) produced by OpenAI. OpenAI is partly financed by Microsoft. The company markets itself as an entity that seeks to promote the good of society or the quality of life. But how does Chat GPT function? Chat GPT functions in a conversational way (Gokul 2023). You manage it by asking questions. The question that you ask the platform is called a prompt. Chat GPT gives you answers based on its own predictions. It is different from a search engine. A search engine simply crawls into the different pages available on the web while a chatbot is trained to respond to prompts based on datasets that are available in the internet (Gokul 2023).

What is the science behind AI? There is a basic difference between a neural network and the human brain. A neural network is a computer system that mimics or thinks like the human brain (Gokul 2023). One difference is that while a human being can be physically tired, a computer cannot be and so it can perform its functions exponentially without any biological limits. Imagine if thousands of computer systems are doing the thinking at the same time. By implication, this can have a big impact on the many

facets of human life, both good and bad. The good can be expected in the field of software development that can help commerce and industries. But the point of the matter here is that AI is much, much bigger than that.

Weckert (2012) says that the moral issue when it comes to technology has something to do with its role in society. This is apparent at the outset. Nvidia is currently the most valuable company in the world, although it lost more than a hundred billion dollars of its valuation after a Chinese startup released DeepSeek, an AI model using the Open-Source system that directly rivals that of OpenAI. What AI does not have yet have is machine autonomy in terms of user interface (Maboloc 2021). It hasn't reached, at least not yet, the level of being conscious independent of the purpose designed for its user. The moment it attains that level, then robots will make decisions for us. Artificial Intelligence is not the same as human intelligence because AI has no emotions or sensory grounding (Chalmers 2023). Such level of consciousness is the highest form in an ontological sense.

What are the risks and dangers of AI? The danger comes from the harm that AI systems can do to people (Weckert 2012), including some aspects of critical thinking (Maboloc 2023). AI will eliminate millions of jobs in the future, reinforce online bias and disinformation, although its developers are doing what they can to prevent people from using it to promote hate. We also need to ask what are its implications of ChatGPT in education. I think the main problem is that our teachers are not prepared. One problem has something to do with resources and another is about competencies. Huge human capabilities and technological talent will be necessary. Relying on plagiarism detector programs would not be enough as there is no way of controlling or regulating the behavior of individuals online.

The ethical aspect of this unfolding requires us to answer the question – what should we do? I am against banning Chat GPT because it will only make the situation very problematic. Instead, what is needed is some form of regulation. Teachers and students should be trained on how to use Chat GPT as an assistive tool (Gokul 2023). It can help students and teachers alike in many ways to be more productive, as Sam Altman said. The good part is there, like helping one understand complex topics, although the learning process is a much more complicated thing and nothing should replace the physical presence of the teacher in the classroom if we want to form better human beings. For Alsaleh (2024, p.1), "the intersection of technology and culture is particularly evident in the context of globalization. Digital platforms have amplified the dissemination of cultural values, allowing societies to share practices and traditions across borders."

AI and Human Learning

Alsaleh (2024, p. 2), says that *"previous studies have primarily focused on either the benefits of technological innovation or the risks of cultural erosion, often neglecting the nuanced interplay between these forces."* The preceding statement is the basis for this analysis, which suggests that the claim is apparent. For instance, De La Salle University, a Philippine university recommends that AI tools should be used "wisely and intelligently, with the goal of deepening critical understanding of subject matter and to support learning."[2] This provision assumes that AI is already widely used and is beneficial to students. It lacks a discernment on the potential risks to students when it comes to their study habits and behavior in the classroom. It adds that there is a need to "understand the design intent, inner workings, data inputs, and restrictions of particular AI tools, while being mindful of ethical considerations and mitigating human risks and harmful consequences related to the use of such tools." In this sense, it is critical to clarify the limits, parameters, and ethical consequences of AI and Chatbots to human learning.

But there is a need to "disclose and give credit to particular AI tools whenever used, even if only to generate ideas rather than usable text or illustrations." As of the moment, there have been attempts to develop ways of citing AI platforms such as ChatGPT but the rules are not widely disseminated because its value in terms of advancing originality and creativity is still being debated. AI tools such as ChatGPT is capable of hallucinations which has no scientific value at all (Gokul 2023). The ethical use of AI is critical, and for this reason that same policy warns students "not use AI tools during in-class examinations, or any academic assignments, unless explicitly permitted and instructed." This rule is acceptable and clear although the phrase "unless explicitly permitted and instructed…" leaves too much to be desired. The same appears to give discretion to the instructor who may not be familiar with the AI system used.

AI and Innovation

Indeed, AI can be viewed in a positive way in terms of what it can truly contribute to educational research and human development. It is for this reason that policies must enable innovation instead of impede the growth of scientific knowledge. Mindanao State University, a leading science and engineering school in the Philippines, writes in a policy pronouncement that the school intends to "provide a framework for the ethical and responsible use of AI technologies in research, teaching, and learning in MSU; Ensure academic integrity and uphold standards of originality and attribution in academic work; and Promote transparency and

[2] See De La Salle University. "Faculty Guide to Artificial Intelligence." https://www.lasalle.edu/dlsi/teaching-and-learning-resources/faculty-guide-to-ai/

accountability when using AI technologies in academic settings."[3]

The practical problem has something to do with the ability of ChatGPT, which is based on a Large Language Model (LLM) system, to produce hallucinations, or information that is not factual (Gokul 2023). Traditional teaching is rooted in the ability of teachers to stir thought and produce responses to the questions of students. However, dependency in the use of ChatGPT can result to enormous problems later on, especially if the teacher lacks the expertise and requisite training to be able to detect its misuse (Maboloc 2023). This means that there is no guarantee, given the lack of knowledge and training of educators, that there's honesty in the use of AI tools. In fact, AI can manipulate people in the same way as people can manipulate the use of AI.

The above policy also states that "*the University is committed to observing fairness and equity in the use of AI technologies in research and in teaching and learning. Specifically, MSU shall endeavor to conduct research that is free from bias and of discrimination.*" However, there is a need to define what fairness means. Knowledge is often understood as some kind of a property. It is for this reason that people consider information as something that can be restricted and kept. However, rights cannot be understood as mere possessions. Rather, rights are about relations. If and when applied to the greater scheme of society, AI expands the digital divide between the developed and underdeveloped world. Luciano Floridi (2008, 3) writes: *"As a social organization and way of life, the information society has been made possible by a cluster of information and communication technologies (ICTs) infrastructures. And as a full expression of techne, the information society has already posed fundamental ethical problems, whose complexity and global dimensions are rapidly growing and evolving."*

An important aspect of the present technological revolution is the right to privacy and data protection. As such, the policy of MSU "*respects the privacy of all its constituents and shall continue to uphold data protection and privacy standards as the law requires. It shall continue to practice informed consent and data anonymity, when necessary, particularly in the conduct of research that involves the use of AI technologies.*" The government has legislated a Data Privacy Act that seeks to protect people from the undue or unauthorized use of personal information. But what if private content is replicated by generative AI? How does an institution prevent and punish those who abuse this technology? The approach cannot be limited to the institution itself, but involves other stakeholders, including the government. The Philippine public sphere is not mature enough to understand the implications of generative AI and for this reason, any law or policy for that matter would not be effective without the cooperation of civil society.

Integrity in research and education is crucial. In this sense, a factor worth looking into is accountability. The question is about who is in charge of the control of content and whether or not such types of control are democratic or mere impositions from the authorities For instance, it is the case that the country's top schools are creating these policies in order to align with policies in developed economies. However, there is not enough consultation when it comes to the issue. The majority of the population in the Philippines does not understand AI. What exacerbates the problem is that a study during the pandemic shows the rampant cheating in online classes (Vilchez and Amorado 2024). Many students use it to their advantage because they lack the proper motivation. Meaning, it is a question of values. The misuse of AI simply means that students and teachers alike do not give much value to their creative work.

Many schools emphasize the importance of research and pedagogical integrity. A strong goal in the MSU policy states that *"the use of AI tools and technologies should reflect sound pedagogical principles and must not compromise the integrity of teaching and learning content or assessments. The use of AI-generated content or data must be judiciously and carefully evaluated to avoid plagiarism, falsification, or misrepresentation."* But this remains an open question. The issue has something to do with the idea of imitation or the mere replication of creativity, which cannot be prevented without a corresponding technological policy and legal mechanisms to protect the integrity of one's work. Academic integrity has two factors – individual achievement and institutional goals. The problem is that academics are sometimes forced to produce papers sans the important motivation behind publishing, which is knowledge generation. In short, academics must contribute something original. Institutionally, the idea of robust research is vague and sometimes, bad for a university's research culture. It creates envious faculties and overachieving ones who do not align themselves with institutional goals.

AI and Social Justice

A policy enforced by the country's leading educational institution, the University of the Philippines, purports that *"humans should have decision-making authority over the AI's actions, decisions, and behaviors. AI systems should not operate in an unpredictable or unmanageable manner."* But this point does not take cognizance of the power of AI to control people in today's AI era. Human agency has something to do with free will and the rational ability of the person to make

[3] See Mindanao State University. "Policy on the Fair and Ethical Use of Artificial Intelligence and its Application." https://www.msumain.edu.ph/wp-content/uploads/2024/05/MSU-Policy-on-Ethical-use-of-AI-Policies.pdf

decisions. AI systems, however, can be powerful in terms of influencing human behavior through algorithms. Knowledge systems can be impacted by AI, which means that relevant cultural as well as historical aspects in terms of how a question can be answered will be to the favor of the content found in the internet, which is mostly Western. For instance, when ChatGPT is asked what is philosophy from the perspective of Mindanao, there is no cogent answer because the data does not support the actual context of what is happening.[4]

Transparency is critical. As such, "users should be able to understand Al-based outcomes and identify ways to seek remedies to harms that they may cause." Indeed, publishers are beginning to notice the importance of transparency in terms of the use of AI tools in writing. This is a step in the right direction, but then the problem is in terms of enforcement. How can a country such as the Philippines protect the integrity of creative work when the government lacks the capacity to be able to implement educational policies? This is an issue of good governance. This is something that cannot be addressed by policy alone. The basic point here is to be able to encourage public cooperation to ensure the protection of the integrity of academic work.

Fairness is also another issue, and for this reason. *"Al should be evaluated for gender bias, other forms of unfairness, and all forms of discrimination, especially in the data, models, and algorithms that are used. Collaborative procedures should be in place to actively identify, mitigate, and remedy these harms. Al developers should be mindful of its unintended consequences."* ChatGPT was not created in order to promote the common good or improve the standard of education in the country. The purpose of the same, just like any company, is to generate profit. In this way, knowledge is only secondary to its motives. As such, the question of fairness is legitimate and telling because there is no way that an educational institution can tell OpenAI to be mindful of the goals of learning. OpenAI uses a business model, which is anti-theatical to the very concept of education as something that is rooted in the promotion of the freedom of human beings based on their potential as persons.

Another concern is safety. The policy states that *"Al should never endanger lives. Al systems must function securely and safely. Al systems must be robust. In this context, robustness refers to the capacity of Al systems to endure and surmount adverse circumstances, including digital security threats. Compromising safety and security is unacceptable."* This provision is forward-looking, but it does not guarantee anything in terms of the effects of AI in the future. While AI presents many possibilities, a university set up cannot provide the needed security to regulate how AI systems are used in terms of the motives and intents of scientists. An evil genius might come into the picture and hack our computer systems to advance sinister plans.

AI Policy in education should be about the *"primacy of learning goals."* Rightly so, UP states that *"decisions on the use of Al in teaching should start with the educational needs and priorities of learners, UP shall adopt Al systems that promote learner-centered pedagogy and foster collaborative and social learning. Al shall be used to improve the assessment of multiple dimensions of competencies and outcomes."* This provision is good since it provides firm guidance in terms of how AI can be integrated in teaching. However, there is a need to determine how much of the content of the curriculum can be AI-enabled. There are certain culturally sensitive courses that need grounding and can be impacted if ChatGPT is used in the research works of students. Questions such as "What is Filipino philosophy?", "Who is Rodrigo Duterte?", or Is Mindanao a land of conflict?" can have conflicted answers.

Indigenous Ethics and the Limits of Policy

Generally, the above policies are wanting of ethical considerations. They are primarily driven by neocolonial influences that seek to develop a productive workforce for the global economy, which is at the moment powered by information. In this sense, such policies look into the concept of technological rationality and economic efficiency but does not consider the deeper issues between modern technology and human life. According to Chalmers (2023), for instance, there is a difference between artificial and human intelligence. Computers do not have feelings and for this reason, they cannot be considered as autonomous beings. Human intelligence is rooted in values and man's being-in-the-world. Technology in modern times is concerned with efficiency, reducing man into a cog in the machine. Thinking has is calculative (Heidegger (1977). For this reason, that thing called thinking in computer parlance is not an authentic mode of revealing, which has something to do with the essence of technology not being technological (Heidegger 1977). Technology must be human, which means that thinking must consider the situatedness of human consciousness as a being-in-the-world.

Beyond the Western orientation of the ethical framework in technology that is stated above, Alsaleh (2024, p.3) says that *"indigenous communities worldwide are leveraging digital tools to preserve endangered languages and traditions, demonstrating the dual potential of technology as*

[4] A policy paper, for instance, was recommended to the City Government of Davao by the author. The concept note reads: "A policy center for AI in the city can gather various stakeholders in the field, including AI experts, scientists, IPs, ethicists, educators, students as well as local leaders, to map out a comprehensive policy that will address the impact and consequences of AI in the different aspects of life, including its effect in our school children, the labor market, cybersecurity, consumer welfare, and the general public."

both a homogenizing and liberating force." This liberating force has something to do with the emancipatory role of technology. While technology dominates the modern way of life, it can also be a force for good in terms of highlighting inclusiveness and diversity. In the context of the Philippines, our values are rooted in a communal experience in which the family is the most important part of life. Western values are founded on individualism. The human person's achievement is the basis for success and for that matter, a man is to be judged based on what knowledge has brought forth to his life.

To explain, Alsaleh (2024, p.4) writes: *"The integration of digital tools into everyday life has democratized access to cultural knowledge, enabling broader participation in cultural preservation and expression."* He also adds that *"digital platforms allow marginalized communities to share their narratives and traditions with a global audience, challenging traditional gatekeepers of cultural authority."* The emphasis is now on connectedness instead of relationships. By this we mean that for most people, what matters is your presence and image online, so that one is enframed in making sure that your online identity reveals a different mode of being. The rise of AI and ChatGPT implies that students have forgotten basic human values that should define the meaning of education. They no longer want to do hard research by going into the library or holding physical books. They put more value on what is instant or automatic in terms of knowledge and learning. However, Simeon, Otano and Palattao (2017, p.43) argue: *"In line with the indigenous students' experience, they tend to be overtly excluded in schools or even universities for some certain economic and socio-cultural aspects such as the accessibility to the school, financial constraints, lack of local governments initiatives and programs, and even their doubt and anxieties to become a part of a larger mainstream society which underlies the issue on integration in Southern Philippines."*

The above suggests that policies often ignore to mention the reality of indigenous peoples and communities. The policies fail to consider the lives of indigenous people and how they can be affected by the dynamics of globalization translates into the mechanized and digital nature of human knowledge. While not apparent, the same can be observed in the attitudes of students online. They see the world in terms of consumption and fail to understand the rootedness of one's identity in culture and society. In fact, culture too is being commoditized. As such, Alsaleh (2024, p.4) that *"the authenticity of cultural practices is often questioned as traditions are adapted for digital representation."* The internet has become a parallel universe in which people want to project an image of themselves. When it comes to knowledge and learning, the interpersonal aspect of teaching is put aside in favor of curricular goals. When it comes to culture, the original meanings of certain symbols are lost (Alsaleh 2024).

Weckert & Bayod (2023) argue that there is a need for a paradigm shift with regard to how modern technology is moving forward. For them, technology has become infatuated with capitalism. The modern world has become synonymous with the technological way of life, which is grounded in a materialist consumer culture. Weckert and Bayod (2023) argue that society must look into the relationship between technology and the indigenous way of life. Modern technology see nature as some form of an instrument for human satisfaction. Digital technology uproots man from the real world. According to their study, for indigenous peoples, there is always something sacred about the world. Land, for instance, is sacred (Weckert & Bayod 2023). The sense of harmony with nature is not apparent in the world of advanced computers. Humans are controlled by bots and their behavior are no more than following a pattern designed by algorithms. Alsaleh (2024, p.5) sounds positive, nevertheless, saying, *"advanced communication technologies and digital platforms have facilitated unprecedented cross-border cultural integration, enabling the blending of indigenous traditions with global influences."*

The published AI policies used in this study also reveal the colonization of human knowledge. The policies looked into the concerns of the modern man instead of considering the reality of the cultural context of the world in which a student dwells. The ideas on innovation that it promotes are Western-bred and for that matter, the emphasis is the ability to create something out of the earth, transforming nature into a mere instrument for human consumption and making profit out of it. What cannot be denied is the agenda of Big Tech. Alsaleh (2024, p.4) says that *"globalization, propelled by technological advancements, has significantly altered the dynamics of cultural interaction and exchange."* This agenda does not correspond to establishing a just global order. Rather, it is about advancing the interests of the West, the promotion of consumerist values, and putting computers before people. The results and impact are seen in the displacement of human workers in favor of AI systems. Work is not seen as man's way of self-expression. A robot or chatbot has replaced that function.

Conclusion

This paper points to the challenges of education and the modern way of life when it comes to the rise of AI. AI has shown great impact in the evolution of society and in terms of the transformation of values and how human beings deal with each other in the world. AI hence poses both the good and bad in terms of its impact. What modern universities do not see is how the same expands the digital divide, and hence, the inequalities in society. The availability of AI and other learning tools mostly to the affluent part of society and its absence in marginalized communities means that many will be left out in terms of the advances of knowledge and learning.

The problem is that social policy makers will consider first and foremost the reality of technological advances in terms of curriculum design, employment opportunities, training and government services. Culture appears to be the first casualty. With globalization and commercialization, the original meaning of cultural symbols and indigenous practices are lost.

The critical question is – how can society safeguard its ethical interests against the profit-driven motive of AI developers? Universities are vanguards of cultural identity. It is for this reason that the above-mentioned policies appear to be wanting. In this regard, those who do not have the means to get connected will be displaced. Science has become a science for rich people instead of being the savior of humanity in the midst of the difficult existential challenges in the world. Furthermore, AI can also hasten the erosion of cultural values. The same will be replaced by the neoliberal order in which profit and a consumer-driven lifestyle will replace the way people live, value or understand each other. This does not mean though that AI can be prevented or done away with. Thinking is a human thing. Echoing the view of Heidegger, there must be a way for humans to be able to adapt to modern technology and benefit from its glory without having to sacrifice the meaning of our humanity.

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Innovative Work Behavior, Mental Health Stress and Work Performance of Radiologic Technologists

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Abstract

Mental health stress has been linked to lower work performance among health care workers. The purpose of this article was to examine the mediating role of innovative work behavior in the link between mental health stress and work performance. This study used a descriptive-correlational design. This study included 120 radiologic technologists from private hospitals in Davao del Sur. The statistical tools used in the study are mean, spearman rho product moment correlation, regression analysis, and Med graph using Sobel z-test. The data revealed that Radiologic Technologists experienced moderate mental health stress, high levels of innovative work behavior, and high levels of work performance. The study found a substantial correlation between Radiologic Technologists' mental health stress and work performance, specifically in anxiety, job insecurity, and role ambiguity. Additionally, innovative work behavior and work performance with the following indicators Opportunity exploration, Idea generation, Idea promotion, Idea realization, Reflection of Radiologic Technologists also had significant relationships. Meanwhile, mental health stress and work performance, especially anxiety, job insecurity, and role ambiguity, had a negative correlational relationship. Furthermore, the mediation analysis revealed that innovative work behavior did not mediate the association between

mental health stress and job performance, resulting in a decrease in beta value. This implies that work behavior is not the cause mental stress which affects job performance. This study uncovered new information that may help researchers and health care institutions build programs to alleviate mental health stress while increasing innovative work behavior and performance among Radiologic Technologists and other healthcare workers.

Keywords: *Mental health stress, Innovative Work Behavior, Work Performance, Radiologic Technologist, Descriptive-Correlation, Davao City, Philippines*

Introduction

The detrimental effects of mental health stress were found to be exacerbated by inconsistent management, poor communication, conflicting expectations, lengthy workdays, heavy workloads, a lack of breaks, time restraints, and a lack of tools and technology (Sovold et al, 2021). About one-third of the participants said shift work made their depressive and anxious symptoms worse (Sackett et al, 2023) and 57% of radiologic technologists said it was difficult for them to do their duties effectively.

Mental stress has a particularly negative impact on health around the world. In India, mental health stress is linked to different factors such as workload, job insecurity, long hours, low income, role ambiguity, job dissatisfaction, poor performance, poor peer relationships, fewer opportunities for career advancement, and an unhealthy organizational culture and job satisfaction (Vallasamy et al, 2023). There is evidence that an anxious mind and a creative mind are not always compatible. Several research (Dimoff & Kelloway, 2019) shows that stress severely lowers the ability to innovate.

Mental health stress had a considerable impact on medical professionals' work performance, whereas health status had a strong influence on task performance. Jia et al. (2022) found that mental health status is affected by occupational stress and task performance. Work stress also reduces performance since it harms an employee's mental health (Llosa et al., 2018). Mental health stress in the Philippine setting had a substantial impact on the work performance of all Filipino radiologic technologists. The role of health as a mediator in this process has received little attention, despite significant research on the direct effects of stress on health.

Numerous studies have been conducted on the association between mental health stress and job performance in several occupations. There has been minimal research into the relationship between creative work practices and job performance (Lu et al, 2022). The goal of this study was to look into how innovative work behavior influences the relationship between radiologic technologists' job performance and mental health stress. Additionally, this study has added to the body of knowledge about how innovative work behavior influences how mental health stress affects radiologic technologists' ability to perform at their jobs in particular private hospitals. This study also provided a baseline for subsequent studies with the same goal of examining the impact of workplace mental health stress on employees' ability to execute their jobs.

The researcher felt that a study on the mental health stress, innovative work behavior, and job performance of radiologic technologists at several hospitals in Davao Del Sur for the academic year 2022–2023 was necessary given the unprecedented issues and research gap mentioned above in the study.

Methods

This research study utilized a descriptive-correlational design. In a correlational study, researchers look for correlations between variables that are independent and dependent to predict future outcomes using current data (Seeram, 2019). In addition, to ascertain the strength and nature of the association between two or more variables, a correlational design was
also utilized. It was incorporated with the mediating variable as an intermediary within the causal sequence connecting an independent variable to a dependent variable. The questionnaires were pilot-tested and subjected to reliability test using the Cronbach Alpha with high reliability coefficient.

On this, innovative work behavior mediating influence on the relationship between mental health, and work performance was determined. The study comprised a sample of radiologic technologists from selected private and public hospitals in in Davao city with one hundred twenty respondents.

Davao City was the largest city on the island of Mindanao. It was a highly urbanized center of Davao Region characterized by its population. Its hospital facilities provide medical and radiologic facilities staffed by highly trained radiologic technologists. The primary research location for this investigation was the selected private and public hospitals in Davao City.

Results and Discussion

Table 1. Summary of Level of Mental Health Stress among Radiologic Technologists

Mental Health Stress	Mean	Std. deviation	Description
1. Anxiety	2.40	.945	Low
2. Heavy Workloads	2.23	1.053	Low
4. Job Insecurity	2.09	.957	Low
5. Roll Ambiguity	3.85	1.259	High
Overall Mean & SD	**2.64**	**1.214**	**Moderate**

Legend: *4.21 – 5.00=Very High; 3.41 – 4.20=High; 2.61 – 3.40=Moderate;1.81 – 2.60=Low; 1.00 – 1.80=Very Low*

Table 1 reflects the level of mental health stress among Radiologic Technologists which is highly manifested in this study. The radiologic technologist in this survey agreed moderately on mental health stress, with an aggregate mean of 2.64. In addition, radiologic technologists agree on role ambiguity, with a mean value of 3.85. This indicates that role ambiguity is assessed at a high degree. Furthermore, Job Insecurity has the lowest mean rating of 2.09, indicating that respondents disagree quantitatively. This means that radiologic technologists are confident in their affiliations. In general, the table above shows that orientation, seminars, training, and institutional guidance are important in defining tasks and goals for radiologic technologists.

The result conforms to the study of Stepanek (2022). When someone has role ambiguity, it can be stressful and worrying since they are unsure about the duties, expectations, and objectives of their employment. Role ambiguity can be a substantial source of mental health stress for radiologic technologists. It is reinforced by the study of (Alblihed & Alzghaibi, 2022), who underlined that role ambiguity shows a lack of confidence, predictability, and/or clarity about behavior in a job because of factors such as an unclear or poorly defined job description and/or undefined organizational goals. Role ambiguity is more likely to occur in workers who diligently pursue what they perceive to be an important project only to have it shelved or put on the back burner. It is also more likely to occur in workers who lack clarity regarding the nature and boundaries of their position, the objectives they should be pursuing, and their own priorities.

Table 2. Summary of Level of Innovative Work Behavior among Radiologic Technologists

Innovative Work Behavior *As a Radiologic Technologist I:*	Mean	Std. deviation	Description
Opportunity Exploration	3.74	.809	High
Idea Generation	3.61	.793	High
Idea Promotion	3.74	.733	High
Idea Realization	3.74	.740	High
Reflection	3.56	.860	High
OVERALL Mean & SD	**3.68**	**.787**	High

Legend: *4.21 – 5.00=Very High; 3.41 – 4.20=High; 2.61 – 3.40=Moderate;1.81 – 2.60=Low; 1.00 – 1.80=Very Low*

Table 2 reflects the Level of Innovative Work Behavior among Radiologic Technologists which is highly manifested in this study. Data show that respondents to this study agree on the innovative work behavior of radiologic technologist in terms of opportunity discovery, concept pronation, idea realization, idea production, and reflection, with an overall mean rating of 3.68. This indicates that the dimension is rated highly. In addition, radiologic technologists agree on opportunity exploration, concept promotion, and idea realization, with a mean rating of 3.74. Furthermore, Job Insecurity gets the lowest mean rating (3.56), with a quantitative description of

agree. The relevance of innovative work behavior among radiologic technologists allows them to improve their job performance, provide better patient care, and remain competitive in a continually changing healthcare environment. Technologists can help their sector grow and develop by accepting novel ideas and approaches, as well as improving their own job happiness and mental health.

The result conforms to the study of Alessa and Durugbo, (2021) which states that innovative work behavior (IWB) refers to the efforts that individuals who are key and essential players in fostering innovation undertake to execute their innovative ideas. Innovative work behavior (IWB) is a deliberate activity that is not only advantageous for people but also for medical care. It is backed by the study of Tajpour et al. (2020) which states that the benefits of innovation include increased healthcare organizational performance and the development of individualized treatment programs for each patient. Active knowledge acquisition encourages the development of innovative solutions by combining new and existing information to generate novel notions.

Table 3. Summary of Level of Work Performance among Radiologic Technologists

Work Performance *As a Radiologic Technologist I:*	**Mean**	**Std. deviation**	**Description**
Innovative Skills	3.95	.831	High
Technical Skills	4.25	.730	High
Patient Engagement Skills	4.26	.765	High
OVERALL Mean & SD	**4.15**	**.775**	**High**

Legend: *4.21 – 5.00=Very High; 3.41 – 4.20=High; 2.61 – 3.40=Moderate;1.81 – 2.60=Low; 1.00 – 1.80=Very Low*

Table 3 reflects the Level of Work Performance among Radiologic Technologists which is highly manifested in this study. Data shows that respondents to this study strongly agree on radiologic technologists' work performance, including inventive skills, technical abilities, and patient involvement skills, with an overall mean rating of 4.14. It simply indicates that the dimension is rated highly. In addition, radiologic technologists agree on patient involvement skills, with a mean rating of 4.26. This indicates that patient involvement skills are evaluated to be at a high level. Furthermore, inventive skills got the lowest mean rating of 2.09, which means it was strongly agreed as quantitative description of. The importance of work performance is essential among radiologic technologists as it directly impacts patient care, diagnostic accuracy, efficiency, collaboration, professional reputation, continuous learning, and ethical and legal responsibilities. Maintaining a high level of work performance is crucial for delivering safe, accurate, and effective radiologic services.

The findings also conform with the study of (Zhenjing et al, 2022), which emphasized that work performance has benefits outside the organization. It helps people reach their maximum potential while improving overall performance, which can have a positive impact on morale and job quality. It is supported by the study of Secretariat, (2019) which asserts that radiologic technologists are responsible for precisely placing patients and producing diagnostic images of the highest quality. They collaborate closely with radiologists, the doctors who diagnose or rule out sickness or damage based on the interpretation of medical pictures. For the radiologist to accurately interpret the results, the imaging examination must be conducted appropriately by a radiologic technologist. Both radiologic technologists and radiologists focused on providing benefit to patients while always maintaining safety.

Table 4. Summary of Relationship Between Mental Health Stress and Work Performance among Radiologic Technologists

	R	p-value	Remarks
1. Anxiety	.478**	<.001	Significant
2. Heavy Workloads	.047	>.050	Not Significant
3. Job Insecurity	.158**	<.001	Significant
4. Role Ambiguity	.103*	<.050	Significant

Table 4 summarizes the association between mental health stress and work performance using the Spearman rho. It focuses on the correlations between anxiety and work performance, severe workloads and work performance, job insecurity and work performance, and role ambiguity and work performance.

Relationship between Anxiety and Work Performance of Radiologic Technologists. The study found a substantial correlation (.478**) between anxiety and work performance, with a p-value of <.001. Therefore, the null hypothesis is rejected. This means that radiologic technologists perform better at work when their anxiety levels are lower. It implies that they address and manage anxiety that could potentially lead to improved performance in their role. This finding highlights the importance of considering the mental well-being of radiologic technologists and implementing strategies to reduce anxiety in the workplace.

The results conform to the study of Suddell et al, (2023) which states that anxiety can impair cognitive processes such as attention, concentration, and memory. Radiologic technologists who experience low levels of anxiety more focus on their tasks, leading to increased accuracy and efficiency in performing imaging procedures. This is supported by the study of Felizarte (2022) which found that reduced anxiety levels can contribute to improved work efficiency and productivity among radiologic technologists. They are likely to experience fewer distractions, enabling them to complete tasks in a more organized and timely manner.

Relationship between Heavy Workloads and Work Performance of Radiologic Technologists. Based on the results of the study, there is a no relationship between heavy workloads and work performance showing a Correlation Coefficient of .047 and a p-value of >.050. Thus, the null hypothesis is accepted. The result means that the level or intensity of workload does not directly impact the performance of radiologic technologists in their job. The result implies that radiologic technologists are ready to accept heavy workloads. It also implies that radiologic technologists may possess the skills, capabilities, and resilience necessary to handle heavy workloads without compromising their performance.

Spagnoli et al., (2020) stressed that heavy workloads may not have a direct impact on work performance, there could still be other consequences, such as increased stress levels, fatigue, or potential long-term effects on well-being. Organizational support and regular monitoring of workload levels remain important to ensure the well-being and sustained high performance of radiologic technologists. Further, (Konermann,2022) also added that workload does not significantly impact their performance.

Relationship between Job Insecurity and Work Performance of Radiologic Technologists. Based on the results of the study, there is a significant relationship between job insecurity and work performance showing a Correlation Coefficient of .158** and a p-value of <.001. Thus, the null hypothesis is rejected. The result means that the lower the level of job insecurity the higher is the level of work performance among radiologic technologists. It implies that they create a secure work environment that could positively impact their performance. When radiologic technologists have a sense of job security, it can contribute to increased motivation, job satisfaction, and overall well-being, which in turn can enhance their performance in the workplace.

Fultz et al, (2018) said that the lower levels of job insecurity among radiologic technologists have a positive impact on their work performance. Increased focus, reduced stress, enhanced job satisfaction, higher confidence and motivation, improved teamwork, and decreased turnover and absenteeism are some potential benefits. Creating a work environment that promotes job security and provides clear communication about career prospects can contribute to higher levels of work performance and overall well-being among radiologic technologists. In addition, De Angelis et al, (2021) shared that the lower levels of job insecurity create a more stable work environment, allowing radiologic technologists to concentrate and engage more fully in their tasks. They can dedicate their attention and energy to their work, resulting in improved focus, attentiveness to detail, and overall work performance.

Relationship between Role Ambiguity and Work Performance of Radiologic Technologists. Based on the results of the study, there is a correlation between role ambiguity and work performance showing a Correlation Coefficient of .103* and a p-value of <.050. Thus, the null hypothesis is rejected. The result means that the clarity or ambiguity of job roles and responsibilities directly impact the performance of radiologic technologists in their work. The finding implies that radiologic technologists can perform their job duties effectively regardless of the level of ambiguity surrounding their roles. Further, they possess the necessary skills, competencies, and adaptability to navigate and fulfill their responsibilities even in situations where their roles may be unclear or ill-defined.

Fultz et al, (2018) found that radiologic technologists may be adaptable and flexible in their approach to work, allowing them to handle role ambiguity without it significantly affecting their performance. They can adjust to changing circumstances, take initiative, and make decisions within the scope of their responsibilities, minimizing any negative impact on their work performance. Furthermore, Bliznakova et al, (2023) added that radiologic technologists may receive comprehensive training and ongoing support to ensure they have the necessary knowledge and skills to perform their duties. With proper training, they can confidently handle their responsibilities, leading to higher work performance. Support systems such as mentorship programs or access to resources further contribute to their ability to navigate their roles without being adversely affected by role ambiguity.

Table 5. Summary of Relationship Between Mental Health Stress and Innovative Work Behavior among Radiologic Technologists

	R	p-value	Remarks
1. Anxiety	.281**	<.001	Significant
2. Heavy Workloads	.034	>.050	Not Significant
3. Job Insecurity	.098*	<.050	Significant
4. Role Ambiguity	.184**	<.001	Significant

Table 5 summarizes the association between mental health stress and innovative work behavior using the Spearman rho. It focuses on the link between anxiety and innovative work behavior, excessive workloads and creative work behavior, job instability and innovative work behavior, and role ambiguity and innovative work behavior.

Relationship between Anxiety and Innovative Work Behavior of Radiologic Technologists. The study revealed a significant association (.281**) between anxiety and innovative work behavior, with a p-value of <.001. Thus, the null hypothesis is rejected. According to the findings, radiologic technologists exhibit more inventive job behavior when they are less anxious. It implies that as anxiety levels decrease, innovative work behavior increases. In other words, when radiologic techs are less worried, they exhibit more inventive job behavior.

According to Lu et al. (2022), anxiety is the most important factor determining innovative work performance among health care workers. When health care personnel, such as radiologic technicians, experience less anxiety, they are more equipped to innovate in their work practices. Furthermore, Seeram (2019) proposed that anxiety can have positive and negative effects on workplace behavior. While a certain level of anxiety may motivate people to perform better and improve their problem-solving skills, excessive anxiety can impede performance and hinder innovation. The relationship between anxiety and innovative work behavior may vary depending on individual qualities and context.

Relationship between Heavy Workloads and Innovative Work Behavior of Radiologic Technologists. According to the findings of the study, there is no association between excessive workloads and innovative work behavior, with a Correlation Coefficient of.034 and a p-value of >.050. Therefore, the null hypothesis is accepted. The findings indicate that there is no statistically significant association between hard workload and innovative work behavior among radiologic technologists. It implies that radiologic technologists' ability to engage in innovative work behavior is not significantly impacted by their workload level.

Lee and Trimi (2018) stated that even when radiologic technologists have a heavy workload, it does not necessarily hinder their capacity to exhibit innovative behavior in their work. It implies that inventive work behavior may be impacted by variables other than workload. In addition, Jiménez-Jiménez (2018) discovered that heavy workloads are not associated with radiologic technologists' innovative work behavior.

Relationship between Job Insecurity and Innovative Work Behavior of Radiologic Technologists. The study found a significant link between job instability and innovative work behavior (Correlation Coefficient =.098*, p-value <.050). Therefore, the null hypothesis was rejected. The findings indicate that there is a significant link or correlation between sentiments of job insecurity and an employee's proclivity to engage in innovative work behavior. The findings imply that higher degrees of job insecurity can influence an employee's tendency or incentive to engage in innovative work behavior. This could be because those facing employment uncertainty are more concerned with self-preservation or job stability, which leads them to prefer traditional or conservative tactics over taking risks with innovative ideas.

According to Niesen et al. (2018), the association between job instability and innovative work behavior varies depending on the individual and organization. Some employees may be driven by job insecurity to become more innovative to enhance their employability or secure their position. Additionally, organizational factors such as leadership support, a positive work culture, and opportunities for learning and development can also influence an employee's innovative work behavior. In addition, Sun et al, (2022) also found that job insecurity can have an impact on an employee's willingness or ability to engage in innovative work behavior, but the specific nature and direction of this relationship can be influenced by individual and contextual factors.

Relationship between Role Ambiguity and Innovative Work Behavior of Radiologic Technologists. The study found a strong association between role ambiguity and innovative work behavior (association Coefficient =.184**, p-value <.001). Therefore, the null hypothesis was rejected. The findings indicate that there is a significant link or relationship between employees' level of role ambiguity and their proclivity to engage in innovative work behavior. It suggests that there is evidence that a higher level of position ambiguity can influence an employee's proclivity or willingness to engage in innovative work behavior. When employees are uncertain about their roles and responsibilities, they may feel hesitant or unsure about taking risks or proposing novel ideas. They may focus more on performing their core tasks rather than engaging in innovative activities due to a lack of clarity about how their innovative efforts will be evaluated or recognized.

According to Ordu and Sarı (2022), the association between job ambiguity and innovative work behavior varies by individual and organization. Some employees may see role ambiguity as an opportunity to demonstrate creativity and autonomy, prompting them to engage in innovative work behavior to navigate the uncertainty. In addition, leadership support, organizational culture, and resource availability can all have an impact on the relationship between role ambiguity and innovative work behavior. Mañas et al. (2018) showed a strong link between role ambiguity and innovative work behavior among employees. Role ambiguity, defined as a lack of clarity and uncertainty about work tasks, expectations, and performance criteria, can have a significant impact on individuals' ability to engage in innovative activities.

Table 6. Summary of Relationship Between Innovative Work Behavior and Work Performance among Radiologic Technologists

	R	p-value	Remarks
1. Opportunity Exploration	.281**	<.001	Significant
2. Idea Generation	.337**	<.001	Significant
3. Idea Promotion	.454**	<.001	Significant
4. Idea Realization	.499**	<.001	Significant
5. Reflection	.281**	<.001	Significant

Table 6 summarizes the association between innovative work behavior and work performance among radiologic technologists using the Spearman rho. It focuses on the relationships between opportunity discovery and work performance, idea generation and work performance, idea promotion and work performance, concept realization and work performance, and reflection and work performance.

Relationship between Opportunity Exploration and Work Performance of Radiologic Technologists. Based on the results of the study, there is a significant relationship between opportunity exploration and work performance showing a Correlation Coefficient of .281** and a p-value of <.001. Thus, the null hypothesis was rejected. The result means that higher the level of opportunity exploration the higher is the level of work performance among radiologic technologists. It implies that as they embrace and pursue

opportunities for growth, learning, and innovation, their performance in the workplace also significantly increases.

Tajpour et al., (2020) said that the higher levels of opportunity exploration encourage radiologic technologists to seek new ideas, methods, and technologies in their work. This mindset promotes innovative thinking and fosters creativity, allowing technologists to discover novel approaches to problem-solving and improving work processes. As a result, their work performance is enhanced through the introduction of innovative techniques and practices. Moreover, Tajpour et al., (2020) said that the higher levels of opportunity exploration encourage radiologic technologists to seek new ideas, methods, and technologies in their work. This mindset promotes innovative thinking and fosters creativity, allowing technologists to discover novel approaches to problem-solving and improving work processes.

Relationship between Idea Generation and Work Performance of Radiologic Technologists. The study found a substantial correlation (.337**) between idea production and work performance, with a p-value of <.001. Therefore, the null hypothesis is rejected. As a result, radiologic technologists that generate more ideas perform better at work. It means that they are promoting a culture of creative thinking, idea production, and innovation, which can have a good impact on radiologic technologists' workplace performance.

Bekmezci et al, (2022) stated that beyond creativity, innovation is a complicated process including several phases, from the quest for fresh ideas through their ultimate execution. In addition, innovative companies are continuously searching for methods to access the employee potential for innovation, both as a source of new ideas and for their effective implementation. Therefore, it is essential for every firm to investigate what drives individuals to participate in creative work behavior. Nonetheless, inventive behavior might be confused with innovation. Felizarte, (2022) stated that idea creation methods are a fantastic solitary exercise for breaking out of a rut and generating fresh ideas. When used by a group or organization, organized ideation may be a game-changer in terms of how problems are approached and how people work together to find solutions.

Relationship between Idea Promotion and Work Performance of Radiologic Technologists. The study found a significant association between idea promotion and work performance (Correlation Coefficient =.454**, p-value <.001). Therefore, the null hypothesis was rejected. As a result, radiologic technologists perform better at work when their ideas are promoted. The findings suggest that actively promoting and supporting the sharing and execution of ideas can have a favorable impact on their job performance.

According to Alfuraih et al., (2022) idea promotion among radiologic technologists can have a positive impact on their work performance. It fosters engagement, communication, knowledge sharing, a culture of innovation, problem-solving abilities, adaptability to change, and employee empowerment. Encouraging a supportive environment where idea promotion is valued and recognized can lead to improved work performance and contribute to the overall success of the radiology team. On the other hand,

Patel (2020) said that when radiologic technologists actively promote ideas, it encourages greater engagement and participation among team members. They become more involved in discussions, brainstorming sessions, and problem-solving activities. This increased engagement fosters collaboration, teamwork, and a sense of ownership, ultimately enhancing work performance.

Relationship between Idea Realization and Work Performance of Radiologic Technologists. The study found a substantial correlation (.499**) between idea realization and work performance, with a p-value of <.001. Therefore, the null hypothesis was rejected. As a result, radiologic technologists perform better at work when their ideas are realized. The finding implies that aggressively implementing and executing ideas can improve their performance at work.

Radiologic technologists can manage some challenges by utilizing the technical reasoning, knowledge, and established procedures they learned throughout the training (Harris, 2018). Other unforeseen challenges that arise during routine practice demand reflection and action. Human connection issues necessitate careful decision-making, which involves reaching justifiable conclusions in the face of uncertainty. Technology professionals frequently encounter both well- and poorly structured technical and non-technical challenges.

Further, Seeram (2019) also said that idea realization encourages a culture of innovation and creativity among radiologic technologists. It demonstrates their ability to turn ideas into practical solutions and drives them to continually seek new and innovative approaches. This focus on innovation stimulates continuous improvement and keeps the team motivated, leading to enhanced work performance.

Relationship between Reflection and Work Performance of Radiologic Technologists. Based on the results of the study, there is a significant relationship between reflection and work performance showing a Correlation Coefficient of .281** and a p-value of <.001. Therefore, the null hypothesis was rejected. The results indicate that the higher the amount of reflection, the higher the level of work performance among radiologic technologists. The findings

suggest that they can stimulate and support radiologic technologists' reflective behaviors. This can be facilitated through regular self-assessment, feedback mechanisms, mentorship programs, or opportunities for peer collaboration and discussion. Recognizing the value of reflection and providing the necessary time and resources for it can contribute to improved work performance.

The most important factor influencing innovative work behavior is performance-related reflection. Furthermore, reflecting on job duties and the social environment had an indirect impact on instructors' innovative work behavior by improving performance-related reflection. As a result, reflection must be viewed as a source of creativity and professional development, as well as an essential component of daily routines, corporate cultures, and job training (Ali et al., 2022).

Encouraging a culture of reflection within the radiology department can contribute to the professional development and overall effectiveness of the radiologic technologists. Moreover, the reflection of Nadkarni et al., (2018) allows radiologic technologists to review and analyze their experiences, decisions, and actions. It provides an opportunity for self-assessment and self-awareness, leading to personal and professional growth. Radiologic technologists who engage in reflection are more likely to identify areas for improvement, learn from their experiences, and apply that learning to enhance their work performance.

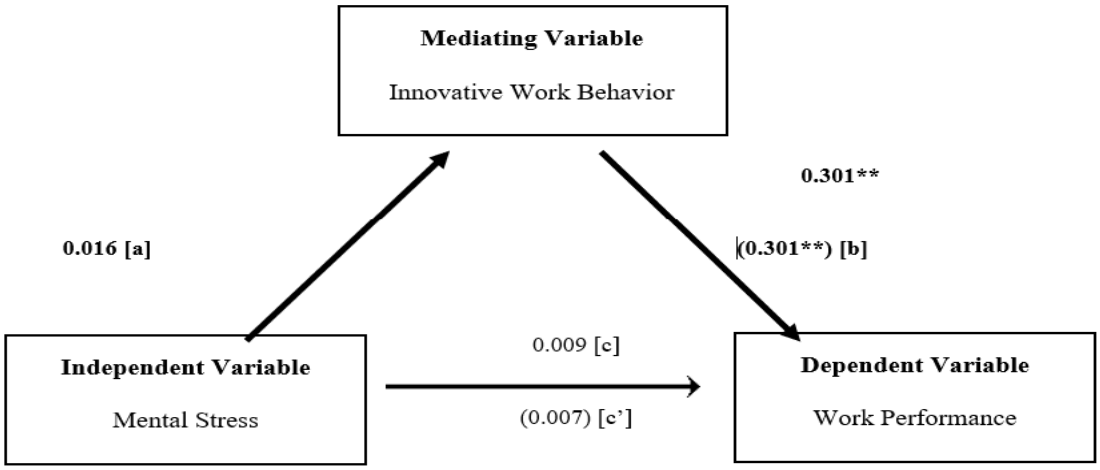

Figure 3: Mediation Model of Innovative work behavior in the Relationship of Mental health stress & Work Performance

Figure 3 indicates that there is no significant mediation occurring in the model (z=.713075, p>0.05). Because there is no mediation, it is possible to argue that innovative work behavior is not the cause of how mental stress affects job performance. This suggests that innovative work behavior does not contribute to mental stress, which impairs radiologic technologists' job performance.

The effect size (β= 0.005) indicates that the path (IV to MV to DV) cannot fully explain the impact of mental stress (IV) on work performance. The overall effect (β = 0.009) is the sum of direct and indirect effects. The direct effect (β=.007) measures the link between mental stress (IV) and job performance (DV), with creative work behavior (MV) included in the regression. The indirect-to-to-total ratio index yields an R-square of.420. This suggests that the MV accounts for about 42.0 percent of the IV's overall effect on the DV, while the remaining 58.0 percent is either direct or mediated by factors not included in the model.

Conclusion and Recommendations

The results show that Radiologic Technologists had moderate mental stress. Role ambiguity has got the highest mean rating which connotes that role ambiguity is a situation where individuals are uncertain about their roles, responsibilities, and expectations within their job or organization. In the context of radiologic technologists, role ambiguity may arise when there is a lack of clarity or conflicting information regarding their specific duties, tasks, and scope of practice. Findings also suggest how role ambiguity among radiologic technologists has been recognized as an important factor that can affect job satisfaction, performance, and overall job-related well-being. Innovative work behavior is agreed by the radiologic technologists. The impact of innovative work behavior in radiologic technology is substantial, ranging from improved patient care and workflow efficiency to

enhanced accuracy, cost reduction, professional growth, and research advancements. By embracing innovation and actively pursuing advancements in the field, radiologic technologists can positively influence healthcare outcomes and contribute to the evolution of radiologic technology. Work performance among radiologic technologists has a broad impact on diagnostic accuracy, patient safety, workflow efficiency, collaboration, continuous learning, patient experience, and overall healthcare outcomes. By consistently delivering high-quality work, radiologic technologists contribute to improved patient care, enhanced departmental efficiency, and the advancement of radiologic technology. Results also show that there is a significant relationship between mental stress and work performance, particularly on anxiety and work performance, job insecurity and work performance. Radiologic technologists believe in the value of managing their anxiety and job insecurity in relation to their profession.

Given the results of the study, it is deemed necessary that they should have a positive work environment which can have a significant impact on their effectiveness and productivity. A highly significant relationship was shown on innovative work behavior and work performance among radiologic technologists. Opportunity and work performance, idea generation and work performance, idea promotion and work performance, idea realization and work performance, and reflection and work performance. Based on the results, fostering a culture of innovation and supporting technologists in their pursuit of new ideas and approaches can significantly enhance their effectiveness and productivity. Encouraging continuous learning, providing resources for experimentation, and promoting collaboration can contribute to the development of innovative work behaviors and ultimately lead to improved work performance and patient care. Results show that there is a negative relationship between mental health stress and work performance in terms of anxiety & job insecurity. RT believes in the value of managing anxiety & job insecurity in relation to their profession. It is deemed necessary that they do have a positive work environment which can have a significant impact on their effectiveness & productivity. Innovative work behavior does not mediate the mental stress and work performance of radiologic technologists. It means that the presence or absence of innovative work behavior does not play a significant role in how mental stress impacts their work performance among radiologic technologists. In multiple regression, if the beta of IV effect on DV is significant on M and M on IV is significant meaning there is a mediation. If the effect of IV on DV while controlled by M becomes zero or insignificant, there will be full mediation. If the p-value is still significant you have partial mediation. Moreover, if the direct relation is not significant while the indirect is significant, there is partial mediation. Otherwise, there will be no mediation effect.

This study suggests that Radiologic Technologists should manage their stress effectively. Effective management of mental health stress among radiologic technologists is essential for improving work performance, patient care, job satisfaction, and overall well-being. It contributes to a healthier and more successful professional life while reducing the risk of physical and mental health problems. The hospital administrators should recognize the significance of radiologic technologists managing their mental health stress effectively as it positively impacts patient care, workforce retention, productivity, collaboration, organizational culture, and employee well-being. By prioritizing mental health, hospitals create an environment conducive to success for both radiologic technologists and the overall healthcare system. The top management should recognize the significance of radiologic technologists managing their mental health stress effectively as it positively impacts patient safety, productivity, workforce retention, cost savings, employee well-being, and professional development. Prioritizing mental health stress management contributes to a high-performing healthcare system and the delivery of quality care. Future researchers. Since the present study is conducted in Davao del Sur, with only a small population. A similar study should be conducted.

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