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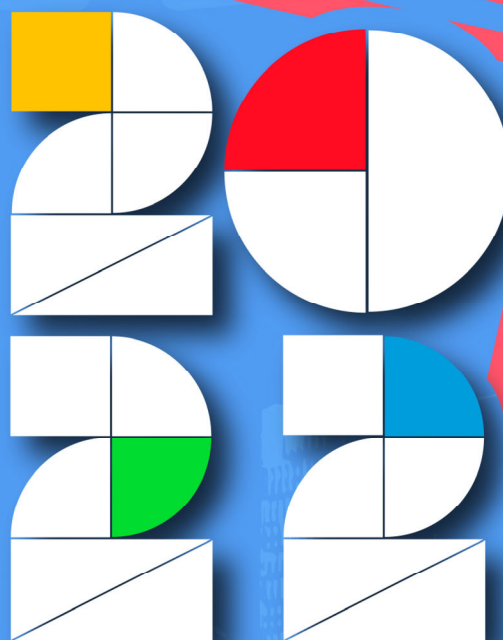
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Reengineering
Knowledge &
Creativity for
Global Excellence

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June



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TECHNOLOGY, SCIENCE, SOCIAL SCIENCES AND
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TeSSH 2022***

**Reengineering Knowledge and Creativity
for Global Excellence**

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30 June 2022
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UNIVERSITI TEKNOLOGI MARA CAWANGAN KEDAH

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Foreword

The papers compiled in these e-proceedings are papers presented online at Technology, Science, Social Sciences and Humanities International Conference 2022 (TeSSH I 2022) held on 30 June 2022 at Universiti Teknologi MARA (UiTM) Cawangan Kedah, Kedah, Malaysia. With the theme, ***Reengineering Knowledge and Creativity for Global Excellence***, the conference has brought together presenters of diverse background who shared their conceptual and empirical papers in broad areas that are subsumed under the fields of Technology, Science, Social Sciences and Humanities. These e-proceedings comprise current researches that were undertaken with the rigorous endeavour of knowledge enhancement to ensure that the world of academia will continue to flourish. It is thus hoped that readers will significantly benefit from knowledge contained in these proceedings.

TeSSH I 2022 and these e-proceedings would not have been possible without the great efforts from the presenters, and the generous support from the TeSSH I 2022 committee members and the Rector of UiTM Cawangan Kedah, Prof. Dr. Mohamad Abdullah Hemdi. A heartfelt gratitude is extended to all involved. It is hoped that these e-proceedings will be an impetus to stimulate further studies and research that benefit the society at large.

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Media Arts as An Art-Based Interventions In The Institutional Care Environment

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ABSTRACT

Nowadays, in Malaysia, the burden of mental illness is rising. Statistics from the Ministry of Health Malaysia (2020), National Health and Morbidity Survey (NHMS) revealed that 1 in 10 adolescents from 5.5 million had the idea of committing suicide. The same study also showed that young adolescents aged 13-17 have mental health problems. 1 in 5 depressed (18.3%), 2 in 5 anxious (39.7%) and 1 in 10 are stressed (9.6%). Based on the statistic, it has been proven that mental health issues in Malaysia, especially among adolescents, are critical and must be addressed effectively by all parties. Numerous studies have shown the benefits of art and design in reducing stress, creating relaxation, producing a holistic healing environment for hospital visitors and patients, and generating a positive work environment for healthcare staff. However, there are still insufficient studies that use media art as an art-based intervention to promote well-being and mental health in institutional care in Malaysia. Therefore, this paper aims to identify the elements and characteristics and propose a prototype media art as a new art-based intervention in a Malaysian context to enhance a pleasant healthcare environment and potentially promote well-being and mental health among students in the institutional healthcare environment. This research's significance is beneficial to academia, the institution's healthcare environment in Malaysia, and students' well-being and mental health. As mentioned by the Director-General of Health, Datuk Dr Noor Hisham Abdullah, the future healthcare facility design goals are to create a healing environment, including art and hospitality.

Keywords: media art, art-based interventions, healthcare environment, well-being, mental health

INTRODUCTION

Art is well known for visually expressing thoughts and feelings that are difficult to describe in words. It is a potential method for assisting people in exploring their emotions and beliefs, reducing stress, resolving challenges and conflicts, and improving their overall well-being. Art can heal people emotionally and physically, which has led to the creation of healing arts (Malchiodi, 2004). According to Davies et al. (2012), there are five types of arts engagement: (1) performing arts; (2) visual arts, design and craft; (3) community/cultural festivals, fairs and events; (4) literature; and (5) online, digital and electronic arts. According to Carswell et al. (2019), an art-based intervention involves using arts activities to provide a creative experience in a healthcare setting. Arts have been demonstrated to have a range of impacts in hospital settings in previous research (Duncan et al., 2003; Ulrich et al., 1991; Ulrich et al., 2003), including decreases in physiological stress indicators such as blood pressure and reduced anxiety and melancholy. Many arts programmes promote people's well-being by enhancing their quality of life and enjoyment. Patients and staff value the function of the arts in improving well-being, reducing stress, and diverting attention away from worries, and these components are seen as essential (Staricoff, 2004).

According to World Health Organisation (WHO) in Europe, "Engaging with the arts can benefit both mental and physical health." (Fancourt & Finn, 2019). Based on that, this research is important in the Malaysian healthcare environment because there are still insufficient studies in the existing literature on using media arts as an art-based intervention in the healthcare environment. Therefore, this paper to identify the elements and characteristics and propose a prototype media art as a new art-based intervention in a Malaysian context to enhance a pleasant healthcare environment and potentially promote well-being and mental health among students in the institutional healthcare environment.

Media art refers to works of art that have been developed or created through the combination of art and technology. New media art encompasses any contemporary art forms created, edited, or transmitted using new media technology. There is includes digital, interactive, online, virtual, video, sound, and artworks made using robotics, video games, biotechnology, 3d printing, and computer animation. According to Çaskurlu (2013), new media arts study human interaction via the mediums of films, photography, video, music, computer, digital arts, and interactive media. Space, time, light, motion, colour, and sound express their perspectives, feelings, and ideas. Meanwhile, Ahmed (2018), new media art often involves interaction between the artist and the observer or the observer and the artwork.

Therefore, this study will focus on the students at Universiti Sains Malaysia, Pulau Pinang, aged 18-24. This study needs to be focused on the university students' well-being and mental health. According to Meor Safari et al. (2011); Abdul Hamid (2019), they are met with a new challenge in university life: making independent decisions about their lives and studies, adapting to academic demands, and engaging with a broad group of new people. Meanwhile, research by Ramli & Sheikh Dawood (2020) has suggested that the university should implement a holistic stress management and prevention program or intervention to reduce student stress problems. According to WHO (2017), have identified mental health disorders are expected to increase, which is depression will be the world's second-leading cause of disability by 2020 and will be the world's largest cause of disability by 2030.

This study's significance is beneficial to academia, the institution's healthcare environment in Malaysia, and students' well-being and mental health. As mentioned by the Director-General of Health, Datuk Dr Noor Hisham Abdullah, the future healthcare facility design goals are to create a healing environment, including art and hospitality.

PROBLEM STATEMENT & STUDY RATIONALE

In Malaysia, the burden of mental illness is high and rising. Statistics from the Ministry of Health Malaysia (2020), National Health & Morbidity Survey (NHMS) in 2017 revealed that 1 in 10 adolescents from 5.5 million had the idea of committing suicide. The same study also showed that young adolescents aged 13-17 have mental health problems. 1 in 5 depressed (18.3%), 2 in 5

anxious (39.7%) and 1 in 10 are stressed (9.6%). Based on the statistics, it has been proven that mental health issues in Malaysia, especially among adolescents, are critical and must be addressed effectively by all parties. Adolescents are assets to the country. They need to be protected and cared for as they are the future leaders who will drive this country forward.

According to Meor Safari et al. (2011); Abdul Hamid (2019); Ramli and Sheikh Dawood (2020), several of the topics addressed by the study are comparable, especially in terms of stress issues among university students between the ages of 18 to 24. According to this study, the university should implement a development programme or intervention to prevent the problem in the early stage by identifying the source of student stress.

From the study by Chen et al. (2009), the visual melody is an interactive installation that encourages individuals to engage with and play with relaxing visuals and sounds, giving people a more relaxing experience. It is designed to assist parents and caregivers in distracting and entertaining young children and provide a more pleasant experience for adults who use it. The therapeutic use of new media art in healthcare, according to this research, is still in its early stages.

Similar to a study by Biddiss et al. (2013), an interactive media display for a pediatric hospital clinic creates a unique waiting room that responds to the increasing need for accessible, contact-free play alternatives. In addition, waiting in hospital settings may be stressful for children and their accompanying family members. Positive diversion opportunities have decreased waiting anxiety, resulting in better health outcomes.

The Director-General of Health, Datuk Dr Noor Hisham Abdullah, has stated five key future healthcare facility design goals that need to be considered. One of the goals is a healing environment, including art and hospitality (Bernama 2020).

Previous studies have shown positive effects in other countries. However, there is still a lack of the use of media arts as an art-based intervention in the healthcare environment in Malaysia, particularly in the institutional healthcare environment, and promote well-being and mental health among students.

LITERATURE REVIEW

Media Arts

Chen et al. (2020) pointed out that interactive art is a participatory art form based on computer technology, sensor technology, and human-computer interaction technology that would likely utilize AI as the primary medium and efficient instruments for production. Additionally, Chen et al. (2020) stated that interactive design needs a design motive that connects with the user's psyche and encourages the user to behave impulsively. Furthermore, interactive design necessitates a multi-layered interactive language that evokes users' innate desire to use, enhancing their desire to explore and engage.

Biddiss et al. (2013) created an innovative interactive media display, ScreenPlay, in a paediatric hospital clinic waiting area to address the increasing need for accessible, contact-free play options. ScreenPlay delivered a good and engaging experience without needing infected touch surfaces. It was accessible to children, adolescents, and adults of any motor ability. Participants agreed that the interactive media display would enhance the hospital waiting experience. This innovative interactive media display satisfies the rising need for accessible, non-contact play choices. ScreenPlay delivered a good and engaging experience without needing contact surfaces to transmit disease. It was appropriate for children and adults of all ages and skill levels.

In previous research, Kamal Sabran et al. (2018) focused on sound art as an intervention for art therapy for Alzheimer's patients. In this research, the prototype of sound art has been explored by listening to nature sounds in a natural setting. About 30 Alzheimer's patients from 2 care centres were observed and interviewed. This research found a significant sign of engagement from patients towards sound art and the patterns of behaviour in 3 types of sound art design: soundscape. The various patients' reactions were collected throughout the 20-minute listening session three times each day for four weeks, and this may be tracked using physical, verbal, emotional, and other responses. That observation revealed three significant signs of patient involvement with sound art

listening sessions and behaviour patterns: Sound Art Type 1: Nature Sound, Sound Art Type 2: Acoustic Soundscape, and Sound Art Type 3: Abstract Soundscape.

Research from Hacmun et al. (2021) has shown that Virtual Reality (VR), in recent advances, technology-enabled the creation of immersive digital environments. This research included seven experienced art therapists who experimented with generating visual art in VR and participating as observers. This research is a qualitative study that involves a semi-structured interview and is analyzed using Thematic Analysis. The results led to the following four major themes: 1) The user experience of creation in VR. 2) The elements of the VR material and medium. 3) The VR environment as a therapeutic setting. 4) The relevance of the VR medium for art therapy.

Meanwhile, Liu & Chang (2018), in their research on The Application Of Virtual Reality Technology In Art Therapy: A Case Of Tilt Brush, involvement with eight therapists as participants. This study combines Google-designed VR and Tilt Brush as an art medium to explore the effectiveness of virtual reality in art therapy applications. This study aims to assist college students in managing their emotions, reducing stress, and building a healthy personality. Tilt Brush may be made in simulated 3D space using 2D strokes. In a fully immersive environment, users may express their unspeakable sorrow and sadness via creative strokes. This art therapy project might be used to illustrate personal emotional issues, personality development, mental abilities, and hobbies.

The Previous Study of Media Art Installations in Healthcare Settings

1) Jason Bruges Nature Trail Installation for Great Ormond Street Children's Hospital 2012

Jason Bruges designed the 'Nature Trail' for the Mittal Children's Medical Centre in New York's Morgan Stanley Clinical Building. The corridor walls are covered with LED panels and custom-designed graphic wallpaper. The artwork consists of 70 LED panels with a total of 72,000 LEDs. It is intended to create a calming and stimulating journey, leading the patient to the anaesthesia chamber. The artwork was created in a location where preoperative patients wait for a few minutes before being wheeled into the cardiac operating theatres. It sought to assist pre-medication with art as a pleasant diversion and reduce patients' tension and anxiety before major cardiac surgeries.



Figure 1: <https://www.jasonbruges.com/art#/nature-trail/>

2) Jennifer Steinkamp Mike Kelley 1, 2007, Computer Video Installation, 10½ X 13½'

According to Finkel (2011), the Cleveland Clinic Art Program curator, hospitals are stressful settings in which patients experience various emotions, including anxiety and boredom. Art may facilitate faster recovery for patients, enhance their surroundings, and humanize the hospital.



Figure 2: <https://www.wsj.com/articles/more-hospitals-use-the-healing-powers-of-public-art-1408404629>

In Jennifer Steinkamp's projected digital artwork, a twisted tree cycles through the four seasons. The holographic tree produced by Autodesk Maya and Adobe Photoshop is a fascinating time-lapse of a tree through its seasonal changes, from flowers to bare branches and back again, while swaying and twisting in the imaginary wind. On a bench, viewers may observe, ponder, and engage with the artwork. This collection of contemporary art from Cleveland Clinic is among the most significant collections of contemporary masterpieces.

RESEARCH DESIGN

This study is to identify the elements and characteristics of media arts and to propose media arts as a new art-based intervention in a Malaysian context to enhance a pleasant healthcare environment and promote well-being and mental health among university students. This media art intervention will be displayed in the waiting area (figure 3) of the institutional care environment based on the Malaysian context to enhance a pleasant healthcare environment and potentially promote well-being and mental health among students in the institutional healthcare environment.



Figure 3: Waiting Area

Based on the theory of evolutionary congruence, which is useful in understanding what kinds of art are beneficial in improving results. According to this theory, viewing nature art can promote calm, reduce stress, and promote good health. Evolutionary theory suggests that containing the following features and properties will promote restoration among diverse groups of people: calm or slowly moving water, verdant foliage, flowers, foreground spatial openness, park-like or savannah-like properties (scattered trees, grassy understory), and birds or other non-threatening wildlife will promote restoration among diverse groups of people (Ulrich & Gilpin, 2003).

Waterscapes: - calm or non-turbulent water	Flowers: - healthy and fresh - familiar - gardens with open foreground
Landscapes: - visual depth or open foreground - trees with board canopy - savannah landscapes - verdant vegetation - positive culture artifacts (e.g barns and older houses)	Figurative art: - emotional positive faces - diverse leisurely

Figure 4: Guideline for art selection and art placement (adapted from Ulrich & Gilpin (2003))

The prototype will be developed using a guideline for art selection and art placement (figure 4) adapted from Ulrich & Gilpin (2003). According to Hathorn & Nanda (2008), in addition to including the above guidelines for art content, three characteristics of art should be considered for healing environments which are:

- Location of artwork
- Needs of special patient populations
- Role of demographic in the healing environment

SIGNIFICANT OF STUDY

According to the World Organization (WHO), many people have poor mental health and well-being. The World Health Organization (WHO) expects an increasing trend in diagnosed mental health problems. WHO has predicted that depression will be the world's second-leading cause of disability by 2020 and the world's leading cause by 2030 (WHO UNICEF, 2020). Based on the data, the engagement of arts-based intervention to improve well-being and mental health promoted a balanced way of life.

This study proposed developing a prototype that can effectively use for non-medical to promote a holistic healthcare environment and well-being. Based on that, this study will benefit and contribute to several sectors to implement as references as follow:

i) Benefit to academic

This study will contribute a comprehensive, structured literature review on the studies related to media art as an arts-based intervention to promote positive well-being and mental health in the institutional healthcare environment. There were still insufficient studies in the existing literature on the use of media arts as an arts-based intervention in the institution healthcare environment in Malaysia. Therefore, this research has significance in helping educators, researchers, students, and even artists refer to and do more in-depth analyses about the effectiveness of media art as an art-based intervention among university students. In line with one of the Academy of Sciences Malaysia (2020), 10-10 Malaysia Science, Technology, Innovation and Economy (MySTIE) Framework trailblazing the way for prosperity, societal well-being & global competitiveness, Application of the 10-10 MySTIE Framework to the Culture, Arts and Tourism Socio-economic Driver.

ii) Benefit to the healthcare environment

A healthcare environment is a place that has an unpleasant impact before and after the treatment. As suggested by the Director-General of Health, Datuk Dr Noor Hisham Abdullah, the future healthcare facility design goals are a healing environment, including art and hospitality. The prototype combination of art and technology gives students a good impact and enjoyable experience in healthcare environments who may be undergoing stress while waiting for the treatments or after the treatment.

This prototype will become a benchmark for artists or designers to produce creative art and technology that meet the needs of the future. In addition, this prototype is seen to upgrade another level of the healthcare environment that receives outpatient treatment and as a place to release stress, reduce blood pressure, and good well-being and mental health.

iii) Benefit to the student's well-being and mental health

The design of media arts as an art-based intervention to help students in well-being and mental health provides an enjoyable and interactive art experience while waiting for treatments or after treatments. It also helps students release stress, reduces their blood pressure, and focuses on their studies at the university.

EXPECTED RESULT(S)

1. Media art as an art-based intervention helps improve university students' good mental health and well-being.
2. Visual and sound will enhance university students' good attitude, relaxation, enjoyment, and serenity.
3. The prototype combination of art and technology gives students a good impact and enjoyable experience in healthcare environments who may be undergoing stress while waiting for the treatments or after the treatment.
4. Media art intervention will boost a pleasant environment of healthcare.

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