

Research on Digital Media Installations of Emotional Interaction Based on Visual Communication Design

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Abstract: *Many studies have highlighted how digital media installations encourage sensory engagement, fostering emotional connections with audiences. However, scant literature delves into the profound emotions within these installations or whether viewers can extract emotional worth from the visual components. Consequently, this study aims to explore the emotional interaction between digital media installations and viewers and how viewers can derive emotional value from them, based on the perspective of visual communication design. This study encompasses two primary objectives: firstly, analysing digital media installations that can be experienced in person, focusing on the visual elements in the installations to capture emotional interaction and value; secondly, probing the correlation between the level of visual design and the emotional interplay between viewers and the underlying concepts intended by the artist's creation. Data collection employed three techniques, with participants categorized based on artistic and non-artistic backgrounds. Firstly, using cyber ethnography on the Instagram platform, posts and comments related to the target digital media installation of the study were observed to analyse their sentiments towards the corresponding work. Subsequently, 10 local London participants were recruited on WeChat for an on-site experience of the digital media installations, followed by semi-structured interviews conducted by the researcher to explore their assessments of emotional interactions and values elicited by specific visual elements within the installations. Finally, participants engaged in a drawing workshop, providing a more direct avenue to visualize emotions and delve deeper into the emotional value of the digital media installation from the viewer's perspective. The findings reveal that visual elements in digital media installations can help viewers understand the concept of the work and interact emotionally, with generating emotional value depending more on whether the conceptual mood of the work preset by the artist is positive or not. This essay provides a comprehensive literature review concerning the connections among digital media installations, visual communication design components, emotional interactions, and emotional values. In addition, Chapter Three describes three methods of research design and data collection: cyber ethnography, semi-structured interviews and drawing workshops. Chapter Four describes the main research findings while Chapter Five merges these findings with theoretical literature for a critical discussion and analysis. Finally, Chapter Six summarises the main findings, limitations and recommendations for future research.*

Keywords: Digital Media Installations; Emotional Interaction; Visual Communication.

1. INTRODUCTION

1.1 Research Background and Significance

The term "installation" first appeared in The Art Index in 1978, referring to "artworks created on the site of an exhibition" (Reiss, 2001). The majority of installations in the late 20th century were made in specific spaces, using materials and graphic compositions to express the form of the installation (Reiss, 2001; Suderburg, 2008). As the 21st century emerged, along with advancements in computer technology and the surge in Internet popularity, a growing number of artists began opting for digital media technology as a novel form of installation art expression (Wands, 2007). In recent times, diverse digital media installations have become conspicuous across art exhibitions, museums, and social media platforms (Ahmed, 2018), signifying the expanding impact of digital media installation art in 21st-century art's landscape and its stronger interlinkage with society. Evidently, installations are no longer limited to collages and piles of materials but have become more engaging to the viewer using digital technology.

Besides, digital media installations serve as effective tools for aiding audiences' comprehension of artworks while facilitating physical interaction and emotional engagement (Plass and Kaplan, 2016). The immersive and interactive format of digital media installations, such as the reception of people's vision, is the most direct way to understand the artworks (Katja Kwastek and Dieter Daniels, 2015; Ahmed, 2018). Meanwhile, most digital media installation artists substantial emphasis on the audience's sense of experience, striving to heighten participant's experiential sensations through sensory and emotional interactions. The importance of emotions in installation art has been studied and confirmed in many kinds of literatures (Giulio Jacucci et al., 2009; Pelowski et al., 2018; Pelowski et al., 2020), as emotional values possess the ability to etch meaningful encounters in memory and steer

the experiential journey (Schmitt, 1999).

Nevertheless, the majority of the literature focuses on analyzing and exploring the sensory aspects and emotional expressions in digital media installations, primarily delving into visual elements such as graphics, forms, and colours (Gere, 2008; Purkis, 2015; Pelowski et al., 2020), along with the driving of emotions by digital technologies in installation art (Gilroy et al. Giulio Jacucci et al., 2009). Yet, limited research has examined the audience's acquisition of emotional value from digital media installations specifically through the lens of visual communication from digital media installations (Pelowski et al., 2020). Emotional value is the feelings, positive or negative, that viewers experience when interacting with digital media installations (Barlow and Maul, 2000). This emotional experience determines whether the audience is able to understand the concept of the digital media installation and the emotions that the artist is trying to express. Hence, affective value aids viewers in assessing the artwork's quality within digital media installations, while also enabling artists to hone their capacity for emotional expression, much akin to professionals (Pelowski et al., 2020).

1.2 Research Question and Objectives

The main research question is: How can digital media installations communicate concepts to audiences through visual elements with which they can emotionally interact and receive emotional value?

Consequently, two key objectives must be met: firstly, analysing existing emotionally interactive digital media installations, focusing on the visual communication elements that contribute to emotional interaction, and the capture of emotional value. Secondly, research on the visual element dimension, the connection between the audience and the artist in terms of emotional interaction.

1.3 Dissertation Structure

The dissertation is structured into six chapters as below:

Chapter One summarises the background, research gap, research questions and objectives of this study.

Chapter Two involves the literature review, which examines relevant topics in existing literature.

Chapter Three outlines the methodology, detailing the research process's evolution and data collection techniques.

Chapter Four provides an account of the research findings and analyses from various sources.

Chapter Five discusses the findings within the context of the existing literature.

Chapter Six serves the purpose of drawing the primary conclusions.

2. LITERATURE REVIEW

Existing research has indicated that digital media installations evoke emotional interactions through varied sensory approaches; however, limited attention has been given to exploring the more intricate aspects of emotion linked with these interactions, namely emotional value (Pelowski, et.al, 2020); and the specific factors that allow viewers to reap the benefits of emotional value from digital media installations in terms of the design of the visual communication.

This chapter first outlines the context of digital media installations and the ways in which they interact emotionally with participants. Secondly, it explains the impact of emotional value on digital media installations. Finally, the chapter delves into how the design of visual communication within digital media installations enhances comprehension of the artwork and the emotions evoked among participants.

2.1 Digital Media Art and Installations

Digital media art emerged as a result of late 20th-century advancements in computer technology (Wands, 2007; Paul, 2023) and has since evolved, merging with diverse art forms and digital technologies (Dewdney and Ride, 2014). The representation of digital media art in contemporary art is highly diverse (Paul, 2016), encompassing a

"mixed medium," as highlighted by Dewdney and Ride (2014). Over the past two decades, digital media art, apart from artists presenting specific works, has mostly been used to help users better understand relevant content: for example, assistive science in public spaces (Degner, et.al, 2022; Rinehart, 2007; Purkis, 2015), education (Gong, 2021; Rinehart, 2007; Peppler, 2010) and art therapy (Jamerson, 2013; Garner, 2017).

Among these interconnected categories, this research aligns with the focus on public spaces and art therapy. Public space is mainly concerned with museums and exhibitions (Degner, et.al, 2022; Rinehart, 2007), employing digital media such as videos, images, and virtual reality technology for artistic communication (Geismar, 2021). Additionally, art therapy almost always requires sensory interaction, which is all aimed at bringing positive results to the subject of study (Jamerson, 2013; Garner, 2017).

In the realm of digital media installation art, existing literature has primarily centred on scrutinizing specific works or particular genres, investigating the contextual underpinnings of such installations, their employment of digital technology, and the emotional dimensions of their connections (Pelowski et al., 2018; Pelowski et al., 2020; Reiss, 2001). Many researchers have claimed that installation art is the most rebellious art of the last 50 years (Pelowski et al., 2018; Kelly, 2010). Evidently, the concept of installation artworks has always been more avant-garde and newer. As pointed out by Ahmed (2018), many artists' works have embraced remarkably new digital media technologies combined with installation art to appear in famous exhibitions and festivals in recent years.

Digital media installation is a branch of installation art, differing from traditional installation art mediums like sculpture, painting, and text (Kelly, 2010); it relies on computer-based technology that allows different levels of interaction by stimulating the senses of participants (Song and Gu, 2022).

2.2 Emotional Interaction in Digital Media Installations

Most digital media installations centre on enhancing the viewer's experiential aspect. On the one hand, some scholars argue that sensory and emotional interaction is the key to distinguishing installation art from other traditional art forms (Ahmed, 2018, Pelowski, et.al, 2018; Pelowski, et.al, 2020). The viewers' sense of experience with digital media installations is mainly gained from both interactive and immersive aspects (Ahmed, 2018; Hornecker and Stifter, 2006). On the one hand, Pelowski et.al (2018) and Pelowski et.al (2020) suggest that installation art needs to take into account the relationship between the whole space and the installation, with the aim of prioritising the perception of the audience. This underscores the significance of factors such as participation, interactive interfaces, display environments, and the utilization of digital media as integral aspects that both artists and their works must comprehend. Meanwhile, Song and Gu (2022) suggest the need to prioritise the emotional and social context of the participants in order to be able to enhance the audience's experience. Previously there have been clear process strategies for how the interactive approach of digital media installations can specifically enhance the overall experience of the audience, as shown in Figure 1 (Song and Gu, 2022).

Furthermore, immersive experiences with digital technologies can also contribute to enhancing people's emotions and fostering an improved sense of experiential connection (Dincelli and Yayla, 2022). Presently, immersive digital technologies are mainly audio-visual installations, such as Niki Verstand's (2017) work <ARUA> (Figure 2), which uses wearable biosensors to visualise participants' emotions and elicit the audience's understanding of themselves or others.

Pelowski et.al (2018) and Scholz and Smith (2016) concur that digital media technologies possess the capacity to evoke emotions in the audience, whether positive or negative, contingent upon the concept being communicated by the installation artist. Findings from a study by Dincelli and Yayla (2022) suggest that immersive digital technologies can improve people's emotions to a certain extent and achieve clinical psychotherapy. However, this type of research remains in its early stages, with limited case studies and available literature in the realm of art therapy. Therefore, the current research only refers to the alteration of emotions by digital technology and refrains from delving into clinical psychological and emotional issues.

Moreover, the implementation of a multi-level interaction system can enhance users' engagement with emotional interaction installations. McCarthy and Wright's (2004) Experience Integration Framework (as shown in Figure 3) highlights four cues: a) 'Compositional'; b) 'Emotional'; c) 'Sensual'; d) 'Spatio-temporal'. This framework suggests that these cues are related to the user's preferences and experiences, and the overall atmosphere of the installation. Additionally, existing literature has demonstrated that installations with varied interactions tend to provoke more distinct emotional reactions from users (Gu et al., 2021). For capturing users' emotional responses in digital media

installations, most studies have used computer techniques to record emotional data, such as sight lines, facial expressions, or thermal imaging of body temperature to determine whether users are in a positive, negative, or neutral mood (Gu et al., 2021; Pelowski et.al, 2018; Nummenmaa et al., 2013).

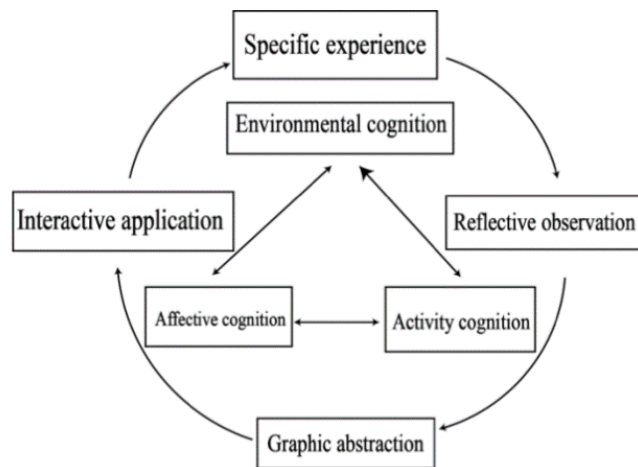


Figure 1: Interactive device design strategy (Song and Gu, 2022)

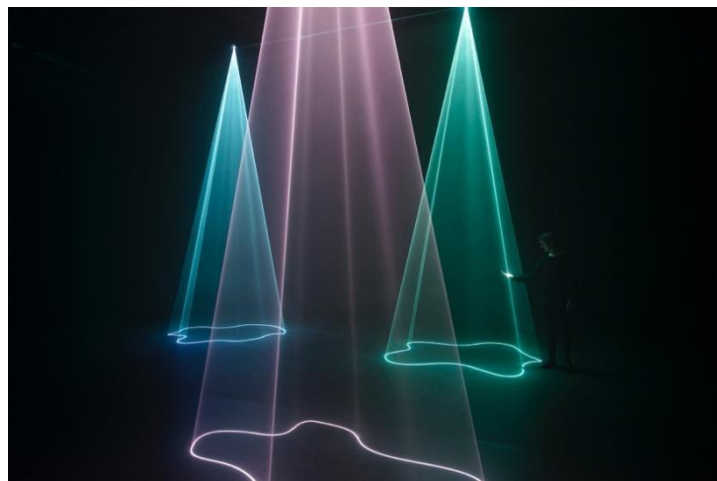


Figure 2: AURA- audiovisual installation (Nick Verstand, 2017)

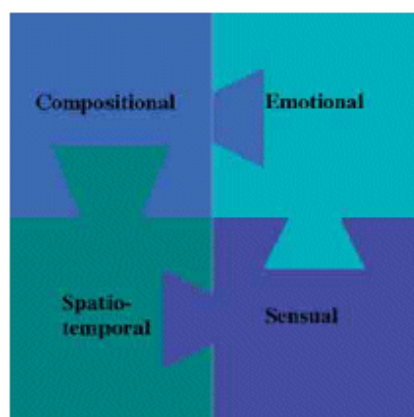


Figure 3: The Four Threads of Experiences Framework (McCarthy and Wright, 2004)

2.3 Emotional Value

The term 'emotional value' is mostly found in brand-consumer connections (Barlow and Maul, 2000). Specifically, emotional value signifies individuals experiencing positive emotional outcomes. Extensive prior literature emphasizes that when individuals undergo positive emotions, it establishes a connection with the source of

emotional value, leading to their recollection of or preference for that particular entity once more (Barlow and Maul, 2000; Butcher, et. al, 2016; Makransky and Lilleholt, 2018). In order to distinguish between specific emotions, Plutchik (1980) proposed Plutchik's Emotion Wheel (Figure 4), a model for categorising basic emotions and their relationships.



Figure 4: Plutchik's Wheel of Emotions. (Plutchik, 1980)

The wheel represents eight basic emotions (happiness, sadness, trust, disgust, fear, anger, surprise, and anticipation), each characterized by opposites and hybrids. These primary emotions are biologically based, universal, and underlie all other complex emotions (Plutchik, 1980). Thus, this model aids in recognizing primary and opposing emotions, as well as exploring mixed emotions. Plutchik's emotion wheel provides a visual representation of the complexity and interconnectedness of emotions, with the primary emotions forming the basis for the variety of feelings and reactions experienced by an individual. In essence, this understanding of emotions and their patterns empowers users to gain insights into the triggers of emotions.

2.3.1 Emotional Value in Digital Media Installations

It has been argued that immersive digital media installations enable participants to gain positive emotional value, which reduces negative emotions and in turn increases the participants' interaction with the installation (Makransky and Lilleholt, 2018). Most of the current research established that immersive and interactive digital media installations can bring emotional interaction to participants, engaging users to perceive and communicate physically as well as mentally (Dincelli and Yayla, 2022; Hu et al., 2013; Song and Gu, 2022). However, the literature seldom delves into the specific aspects of digital media installations from which emotional value originates. The limited studies available merely suggest that digital media installations possess the capability to share emotions (Pelowski et al., 2018), and convey emotions through the overall ambiance or concept of the artwork (Hu et al., 2013).

2.4 Visual Communication Design Elements in Digital Media Installations

The primary objective of visual communication design is to convey information through visual elements (Liu, 2021). Existing literature has highlighted that digital media installations stimulate participants' senses to communicate and interact (Giulio Jacucci et al., 2009; Pelowski et al., 2018; Pelowski et al., 2020), underscoring the significance of visual impressions in shaping participants' experiential encounters with the installation. Recent research on the design of visual elements within digital media installations has emphasized the beneficial influence of components like colour, composition, dynamics, and typography on the interaction environment for participants (Liu, 2021; Ahmed, 2018, Pelowski et al., 2018; Pelowski et al., 2020). In addition, it has been claimed that the use of light and electricity can help the installation art to gain a sense of ambiance, enhance the sensory experience of the participants, and near to promote emotional communication due to the specificity of digital media

installations that need to rely on electricity (Edensor, 2015). Moreover, Liu (2021) argues that the form of digital media enriches the communication of installation visual design. The combination of visual elements and sound deepens participants' memory points to a certain extent and promotes deep emotional communication (Liu, 2021). This implies that a comprehensive sensory experience can give the audience of the digital media installation the impression of the best experience.

2.4.1 Colours and Emotions

Many studies have confirmed that different colours produce different emotional responses (Kaya and Epps, 2004; Liu, 2021). Kaya and Epps (2004) discovered that the predominant tones (red, yellow, green, blue, and purple) evoke positive emotions, whereas intermediary shades (yellow-red, green-yellow, blue-green, and purple) and black and white generate decreasing emotional impact. However, different cultural background perceptions affect the response of colours to emotions (Kaya and Epps, 2004). This is corroborated by Pelowski et al. (2018), whose study states that participants' experiences and backgrounds affect how colours and environments change their moods. In addition, a study specifically analysed the influence of colours on emotions across different countries, highlighting how disparities in cultural backgrounds yield distinct emotional reactions to colours (Madden, et.al, 2000).

2.5 Chapter Summary

This chapter reviews the literature related to digital media installations, emotional interaction, emotional value and visual communication design. It states that digital media installations can promote sensory interaction among participants while facilitating emotional communication to reap certain effects (Pelowski et al., 2020). Simultaneously, visual elements offer the potential for heightened emotional experiences, bridging the gap between digital media installations and their audiences, and promoting a partial understanding of the artwork's concept (Liu, 2021). As such, achieving emotional interaction within digital media installations necessitates a visual focus to aid viewers in comprehending the work and reaping emotional value. Notably, a discernible connection appears to exist between changes in audience emotions and the colours, graphics, and forms in digital media installations (Pelowski et al., 2018).

3. METHODOLOGY

3.1 Introduction

This chapter outlines the methodology for research design, encompassing the research strategy, data collection, data analysis, and ethical considerations, guided by the "research onion" model (Figure 5) as proposed by Saunders et al. (2009), culminating in a discussion of the study's limitations.

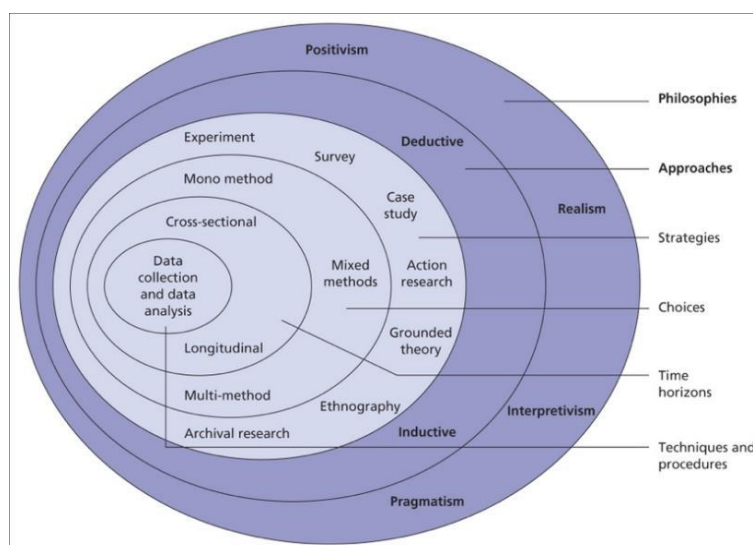


Figure 5: Research onion (Saunders et al, 2009)

3.2 Research Design: Philosophies and Approaches

The research philosophy adopted by the authors is Interpretivism. Firstly, this choice stems from the aim to comprehend and elucidate the impact of visual elements on the emotional interaction between the digital media installation and the audience, as well as the extraction of emotional value. This is needed to analyse the subjective experience. Secondly, given that this research falls within the realm of humanities and social sciences, which investigates and defines perceptions of the social world primarily in terms of the participants' "feelings". Specifically, these feelings might be expressed through the participants' words, gestures, facial expressions, and reactions to arrive at the final results of the study. This aligns with Saunders et al. (2009) that the researcher needs to consider the participants' perspectives. Consequently, this study will not engage with objective, quantitative data. At the same time, Interpretivism requires statements to be constituted and is "based on subjectivist ontological assumptions" (Melnikovas, 2018). Thus, Interpretivism constitutes the foundation of this study.

This study adopts an inductive approach, aligned with the Interpretivism perspective and qualitative research (Saunders et al., 2009). Qualitative research aims to generalise and summarise a phenomenon (Sandelowski, 2000). In this study, the focus is on "emotion", which is the human participants' connection to digital media installations. An inductive approach is to think and analyse the problem from a human perspective (Saunders et al., 2009). Furthermore, given that digital media installations represent unique works of art, each artist conveys distinct concepts and messages, thereby evoking varied audience responses. Evidently, it is necessary for the author to analyse different digital media installations and explore "emotional communication" and "emotional value". This necessitates inductive inference from the specific to the general (Saunders et al., 2009; Melnikovas, 2018).

Hence, this research will employ both primary and secondary data to investigate whether audiences can engage in emotional communication and derive emotional value through the visual elements of digital media installations.

3.3 Research Strategy

The research strategy provides guidance for the methodology of this study. In this research, the research question is: How do digital media installations communicate concepts to audiences by interacting with them emotionally and gaining emotional value through visual elements? Therefore, based on the direction of qualitative research, the researcher chose cyber ethnography, semi-structured interviews, and Workshops.

Firstly, cyber ethnography allows for more accurate data to be obtained in a shorter period of time on the web about humans with the same interest in the same things (Black, 2016), aligning with this research's focus on investigating the emotional impact of digital media installations from the perspective of visual communication design. Secondly, the choice of semi-structured interviews facilitates direct data collection from participants regarding specific subjects (Kallio et al., 2016). Thirdly, the workshop is an interactive and participatory method that motivates the participants and allows them to contribute their knowledge and opinions to achieve a specific goal (Rikke and Levinsen, 2017). The researcher considered the creativity theme of the workshop to be in agreement with this research question, allowing participants to show their emotions through drawing. Considering that certain memories and emotions can be challenging to convey verbally, drawing serves as a valuable means of emotional expression (Gameiro et al., 2018).

3.4 Method of Data Collection

The primary data will constitute the primary focus, supplemented by secondary data. All data will be human-centred due to the feelings associated with 'emotional interaction' and 'emotional value'. Considering the need to measure the experience of digital media devices and to capture a more accurate discussion of the experience, all structured research methods are unsuitable for researching 'emotions'. In other words, it is difficult to capture participants' attitudes. Moreover, to ensure the authenticity and diversity of participants' experiences and emotions, the three digital media installations under study are all physically accessible in London or locations enabling in-person engagement.

The data collection encompassed three distinct phases. Firstly, the researcher utilised online ethnography to identify three digital media installation works that could be experienced in person and observed the social media platforms of the relevant artists or exhibitions. The researcher also recorded the comments section of the relevant works to gain insights into the audience's emotional experiences and interpretations. Secondly, semi-structured interviews were conducted after leading the target participants to experience the digital media installations in person. Finally, the target participants are invited to a painting workshop, which guides them to express their

emotions after experiencing the installation in the form of drawings.

3.4.1 Cyber Ethnography

Cyber ethnography, also known as Internet ethnography or Netnography, extends from traditional ethnographic research, involving researchers in observing similar groups or subjects within an online context (Black, 2016). Given the prevalence of the internet and social media, artists and exhibitions have increasingly turned to these platforms for promoting their artworks and attracting audiences (Kang, Chen and Kang, 2019). Meanwhile, some people also share their sense of experience after visiting the artworks. The choice of cyber ethnography in this study serves to find the target digital media installation and to capture the emotional response of the audience of the corresponding artwork based on the visual elements appropriate.

3.4.1.1 Targeted Digital Media Installations

The author identified several goals when determining the digital media for the study; (1) it can be experienced by the participants themselves; (2) the digital media technology is obvious; and (3) there is a clear visual communication element. Instagram is a social platform where people can share artwork and communicate with each other (Sokolowsky, 2017). In addition, a number of users share pictures and feelings after experiencing it. Therefore, Instagram was chosen to find suitable digital media installations for this study before visiting them offline.

The author has identified a total of three digital media installations, two of which are based in London: a) Sarah Sze <The Waiting Room> (Figure 6) ; and b) David Hockney <Bigger & Closer> (Figure 7). 1 online web-based digital media installation: c) Jen Stark <Digital Painting> (Figure 8).



Figure 6: Sarah Sze <The Waiting Room> (Sze, 2023)



Figure 7: David Hockney <Bigger & Closer> (Hockney, 2023)

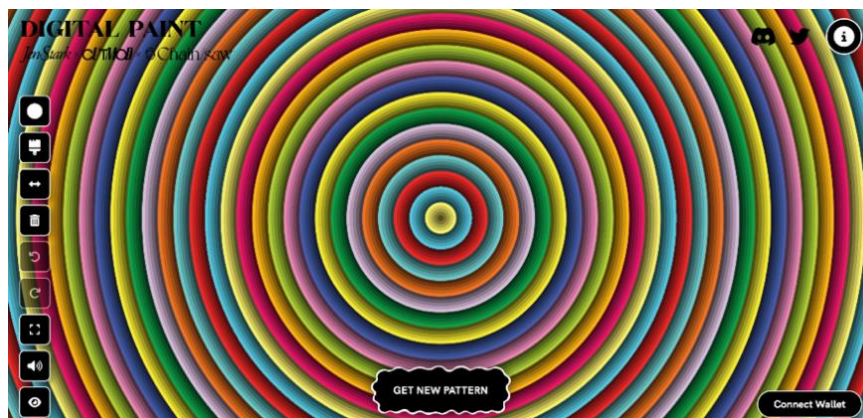


Figure 8: Jen Stark <Digital Painting> (Stark, 2021)

The three artworks have distinctive digital media features and outstanding visual design, all of which allow for varying degrees of sensory interaction with the audience.

The artwork (a) <The Waiting Room> is situated within the waiting room of Peckham Rye Station in London, a location with a history of over a century (Searle, 2023). The whole work is centred on a steel sphere filled with dozens of projection screens showing volcanoes, vehicles, wildlife, and other images. Surrounding walls are projected with silhouettes of natural elements, and the sound of a metronome ticking in the background. Participants were in total darkness, with only the light projected from the artwork itself, experiencing the interplay of large and small screens and the fast pace of the information age. The artist's intention is to guide the audience to consider the relationship between nature and the virtual world (Searle, 2023).

The artwork (b) <Bigger & Closer> is located in The Light Room, London, spotlighting the artist's previous illustrations, photographs, creative journey, and career anecdotes. The entire show is presented in the form of a video of the artist's own words. Projected onto the expansive walls and floor of the exhibition space, visitors can engage with it from various vantage points. The artist documented life in colour and wanted to make people observe the world from a different perspective (Lightroom, 2023). With an individualistic perspective on colour and imagery, the artist employs a profusion of shades and visuals for self-expression.

The artwork (c) <Digital Paint> is the eponymous work for a physical installation created by the artist in 2021 (Stark, 2021). Functioning as an NFT project, this creation manifests diverse dynamic colour realms within a web page framework, where participants can choose their favourite paintbrush to create, accompanied by sound feedback. Each interaction will be a combined visual and auditory experience. Through the richness of colours and forms, the artist investigates the coexistence of harmony and contrast in nature.

Firstly, a keyword search was performed on Instagram for the name of each artwork. Secondly, the 5 most relevant artwork posts (from any source) were selected, and within each post, 5-10 accessible accounts were randomly scrutinized, excluding clearly promotional accounts, to analyse their sentiments towards the artwork and understand their background. The acquired data consisted of comments, with the p emotions concerning the artwork being primarily inferred from the content of the comments.

The author, as a researcher, is conducting this study as a full observer. Since the data for this study was sourced from publicly accessible information on the Instagram platform, the participants observed through the online ethnographic approach remained unaware of being under observation. The researcher and the observed participant are kept completely separate (Kawulich, 2005).

3.4.2 Semi-structured Interviews

The methodology involves conducting interviews with target participants after they have experienced three digital media installations in person. According to the research vacancy proposed by Pelowski et al. (2020), this study explores whether participants' engagement and emotional communication with the installations vary based on their diverse backgrounds and experiences. Therefore, in order to refine this research, the authors used the social networking software WeChat to recruit a total of 10 local London respondents from different specialisms: six from artistic backgrounds and four from non-artistic backgrounds. The researcher then led the 10 respondents to

experience three digital media installations in person, followed by semi-structured interviews. The interviews, lasting approximately 20-30 minutes each, were conducted via phone or WeChat, according to participants' preferences, employing a semi-structured interview guide encompassing open-ended questions (Table 1). After transcription, the researcher analysed and coded the interviews data, categorising the data according to “a streamlined codes-to-theory model for qualitative inquiry” (Saldaña, 2013) (Figure 9), and refining the questions for this study by incorporating the emotions potentially available in the Plutchik's Emotion Wheel (Plutchik, 1980).

Table 1: Semi-structured interview guide

Age: Major:		Semi-structured interview guide
1	Can you describe your overall experience with the digital media installations of Sarah Sze/ David Hockney/ Jen Stark? What emotions did you experience during your interaction with the installation?	
2	How did the visual elements, such as form, color, and graphics, contribute to your emotional response to the installation?	
3	Did you perceive any specific concepts or messages conveyed through the visual design of the installation? (What is the concept? Is it the message or emotion the author is trying to convey about the work?) If so, how did they resonate with you emotionally?	
4	Can you elaborate on any specific moments or elements of the installation that particularly stood out to you emotionally? What made them impactful?	
5	How did your emotional experience evolve or change as you engaged with the installation? Were there any specific moments that intensified or shifted your emotions?	
6	In your opinion, how effectively did the visual communication design of the installation facilitate emotional interaction? Were there any aspects that could have been improved?	
7	Did you find yourself connecting with or relating to the installation on a personal or emotional level? If so, what aspects of the visual design contributed to this connection?	
8	How did the installations of Sarah Sze, David Hockney and Jen Stark differ in their ability to evoke emotional responses? Can you identify any commonalities or distinctive features in their visual communication design?	
9	Were there any surprises or unexpected emotional reactions that you experienced while interacting with the installations? If so, can you describe these moments and their impact on your overall experience?	
10	How would you describe the emotional value that you derived from your interaction with the installations? Did it leave a lasting impression or influence your perspective in any way?	

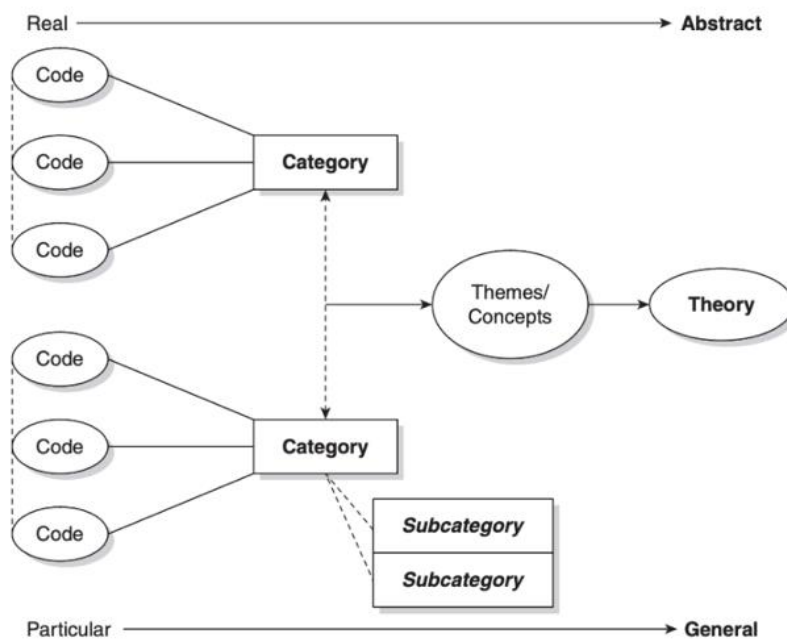


Figure 9: A streamlined codes-to-theory model for qualitative inquiry (Saldaña, 2013)

3.4.3 Workshop: Drawing

Following the semi-structured interview, participants were invited to a brief 15-minute online drawing workshop. Prior to the workshop, the researcher informed participants of the drawing theme: depicting their emotions regarding the three digital media installations they experienced. The researcher will provide all participants with Procreate, board drawing software for iPad. The choice of digital drawing was based on its capacity to provide a diverse array of colours and brushes, offering participants a swift yet comprehensive selection. Once the painting was completed, the researcher would record it through each participant's description of what they were painting, such as the corresponding artwork and emotions.

3.5 Limitations and Potential Difficulties

The study used three methods to ensure the collection and analysis of data objectively, while the researcher faced some limitations and potential difficulties.

In cyber ethnography, in the selection of roles can be complex and multifaceted, the comments made in the participants' online interactions may be different from the real situation, making it challenging to ascertain whether they have truly engaged with the target digital media installations. Analyzing subjective emotions solely through textual comments presents some difficulty. Additionally, due to the geographical separation of the studied digital media installations (a) and (b), considerable time was required to lead participants to visit both. Although all participants kindly agreed to interviews after the experience, a minority declined the painting workshop, citing time constraints and a lack of confidence in their artistic abilities. This may have resulted in a slight gap in the research data.

Interpreting the drawings from the drawing workshop might have been subjective and susceptible to bias, as the researcher and participants might have varying interpretations of the same drawing, potentially resulting in inconsistent conclusions. In response, following the supervisor's suggestion, the researcher opted for participants to describe and interpret the patterns and emotions they drew.

3.6 The Ethical Statement and Confidentiality

Prior to participation, the researcher has provided all individuals with clear and comprehensive information about the purpose of the study, procedures, and potential risks. The study aims to minimise the potential for physical, psychological, or emotional harm to participants. Any sensitive topics will be handled with sensitivity and consideration. Participants have the right to voluntarily or at any time terminate the study without consequence. All research is conducted with the consent of the participant. The researcher will uphold honesty and integrity throughout the research process, ensuring that findings are accurately presented, and sources are appropriately acknowledged. All data collected during the study will be treated with the utmost confidentiality. Personal identifiers such as participant names and contact information will be removed or pseudonymous to ensure participant anonymity.

3.7 Chapter Summary

This chapter outlines the research methodology and research methods. A qualitative research methodology was used to explore in depth the emotional responses of people in digital media installations in order to provide a deeper insight into the emotional value of the experience and to answer the research questions. Data collection was primarily conducted using web ethnography and semi-structured interviews. Web ethnography facilitates an in-depth exploration of emotions, as they are represented in digital media platforms, a methodology that will involve participant observation, interaction with digital media users, and analysing the content to facilitate a rich understanding of emotional connections in virtual environments. Semi-structured interviews are conducted to capture each participant's distinct perspective on the digital media installations, facilitating a thorough examination of the subjects at hand. All research is conducted in strict compliance with the Loughborough University ethics policy.

4. FINDINGS

4.1 Introduction

This chapter provides an in-depth exploration of the outcomes derived from the research methodology. Firstly, through cyber ethnography, the researcher as a full observer, collected data on the comments corresponding to the three digital media installations, discussing the emotional outcomes of the digital media for viewers from different backgrounds. Secondly, the chapter delves into the findings obtained from interviews conducted with attendees of specific digital media installations. These interviews scrutinized the influence of visual elements on participants' emotions, along with their personal emotional experiences and perceived emotional value of the artworks.

4.2 Key Findings and Presentation

This section is divided into two parts where the author analyses the findings of the two methods separately. Each subsection anonymises the participants and replaces the sample with a coded approach. The results of the study are presented in textual and graphical form.

4.2.1 Comments in Cyber Ethnography on Instagram Platform

The researcher compiled comments or shares from a total of 60 Instagram accounts, distributed as follows: (a) Works studied posts numbered S1-S5, (b) Works studied posts numbered D1-D3, and (c) Works studied posts numbered J1-J3. It was observed that (a) Works had very few comments on any of the related works posted on Instagram, and therefore only 5 related posts were collected for (a) Works, analysing the background of the posters of the posts and their sentiments towards the works. Both (b) work and (c) work have relatively more comments, thus the comments of three posts each were analysed, with 5-10 randomly selected comments per post, to analyse the background of the posters of the comments and their sentiments towards the work. Statistical information regarding the number of comments, commenter/publisher backgrounds, and sentiment toward the respective works for (a), (b), and (c) Works are presented in Tables 2, 3, and 4.

To achieve the research objective of comprehending individuals' emotional responses to digital media installations, the researcher noted that (a) work (Table 2) had the fewest relevant post comments and contributors compared to the other two works, (b) and (c). In an effort to gather data, the researcher had to invest significant time by using various keywords in the Instagram search bar, such as "Sarah Sze London", "The Waiting Room London" and "Sarah Sze the Waiting Room". It was observed that for posts S1-S5, all 5 posters had art-related backgrounds, which was reflected in their public homepage content, self-introductions as well as other posts that dealt with art. By using phrases like "amazing," "enjoyable," and "incredible" to describe the artwork (Figure 10), they expressed approval and a strong desire to share the artwork while providing an overall understanding of the post's content. Meanwhile, the postings of S1-S5 were all textual descriptions of the work by photographs of the (a) work. These posts detailed the steel sphere, projections, and the contributors' positive perceptions of the work.

The posts and comments related to works (b) and (c) are relatively extensive. A total of 25 comments were extracted from the D1-D3 research posts of work (b) (Table 3). The number of observed commenters with and without art backgrounds is nearly equal. The majority of comments employed positive adjectives like "amazing," "cool," and "wonderful" to express approval and convey their enjoyment of (b) work (Figure 11, Figure 12, Figure 13). The overall essence of the comments reflects an affection for (b) work and an evident desire to experience the immersive installation personally. This can be inferred as a positive sentiment towards (b) work. However, the researcher found a few comments where the sentiment was neutral and negative. This is reflected by the fact that the content of the comments was only a brief description of the work and "disappointment" after comparing it to other works. Neutral and negative sentiments were almost exclusively found among reviewers with artistic backgrounds.

A total of 30 comments were extracted from the research posts J1-J3 of (c) work. The majority of commenters had an artistic background. The researcher determined that their sentiment towards the work was positive by using adjectives such as "fun", "awesome", and "love" (Figure 14, Figure 15, Figure 16). Most of the commenters were from an artistic background. A few comments, however, labelled the work as "commercial," which the researcher identified as a neutral or negative sentiment towards the piece.

Table 2: Descriptive information about the relevant publishers of the (a) work

Posts	Publisher's background (art/non-art)	Emotional response (positive/negative/neutral)
S1	art	positive
S2	art	positive
S3	art	positive
S4	art	positive
S5	art	positive

Table 3: Descriptive information about the relevant commentators of the (b) work

Posts	Total number of comments	Number of comments extracted	Background of commentators (art/non-art)		Emotional response (positive/negative/neutral)		
D1	261	10	5	5	9	1	0
D2	39	5	1	4	5	0	0
D3	55	10	4	6	10	0	0

Table 4: Descriptive information about the relevant commentators of the (c) work

Posts	Total number of comments	Number of comments extracted	Background of commentators (art/non-art)		Emotional response (positive/negative/neutral)		
J1	57	10	8	2	10	0	0
J2	104	10	9	1	9	0	1
J3	123	10	9	1	8	1	1

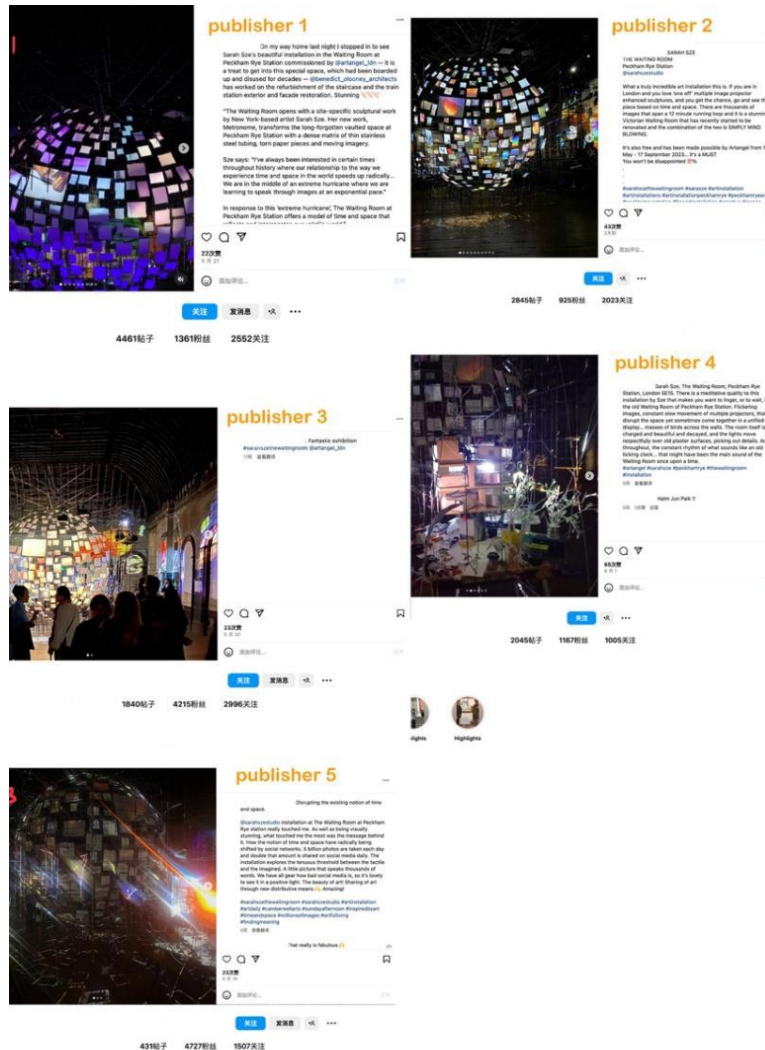


Figure 10: Information about Instagram comments on (a) work: S1-S5

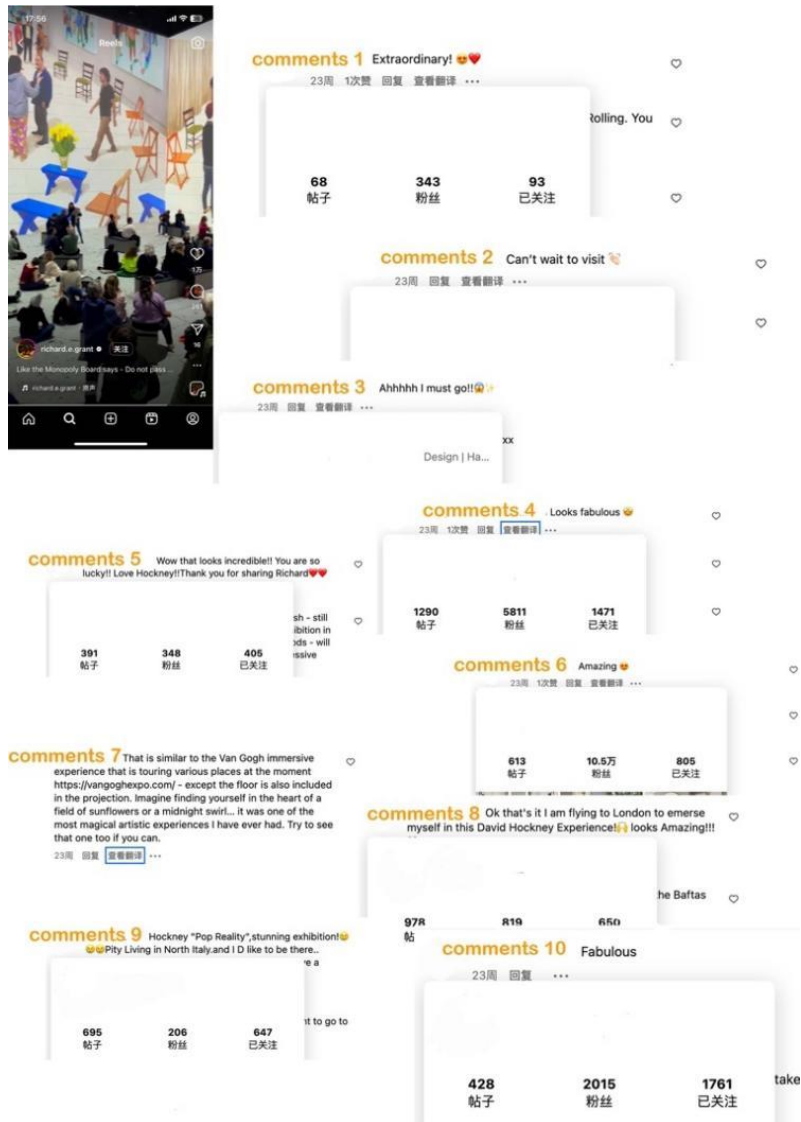


Figure 11: Information about Instagram comments on (b) work: D1

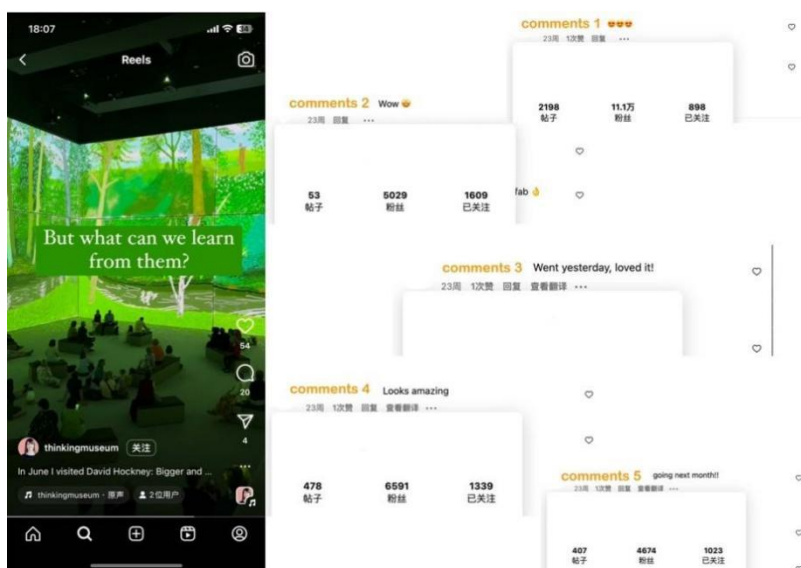


Figure 12: Information about Instagram comments on (b) work: D2

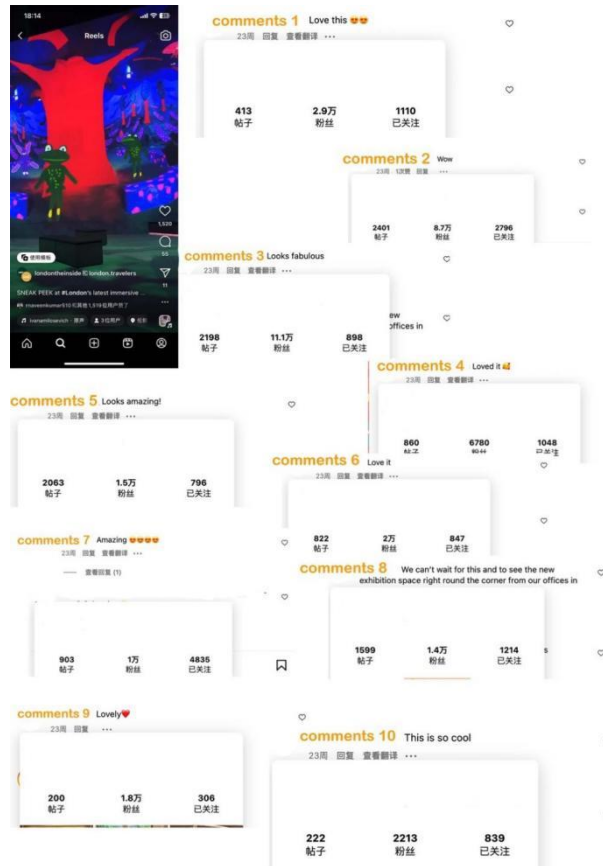


Figure 13: Information about Instagram comments on (b) work: D3

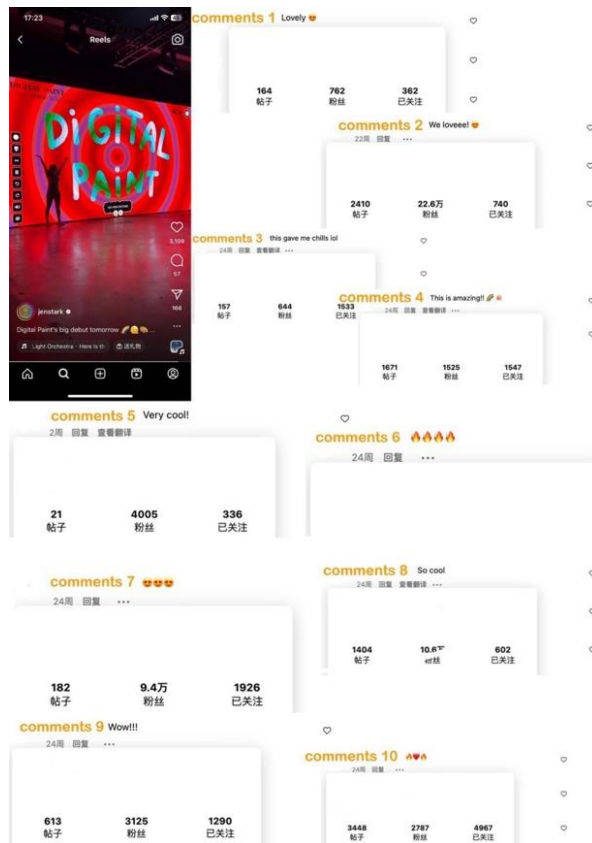


Figure 14: Information about Instagram comments on (c) work: J1

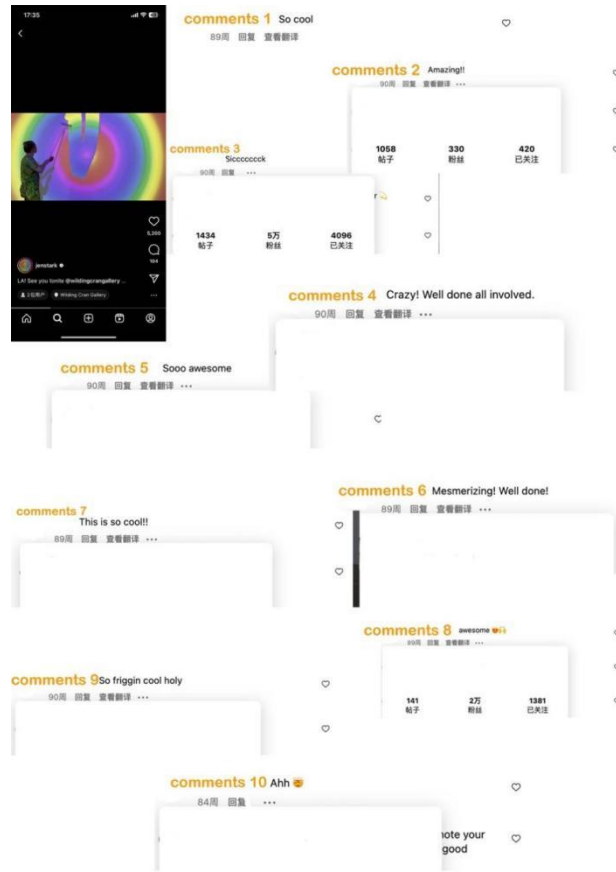


Figure 15: Information about Instagram comments on (c) work: J2

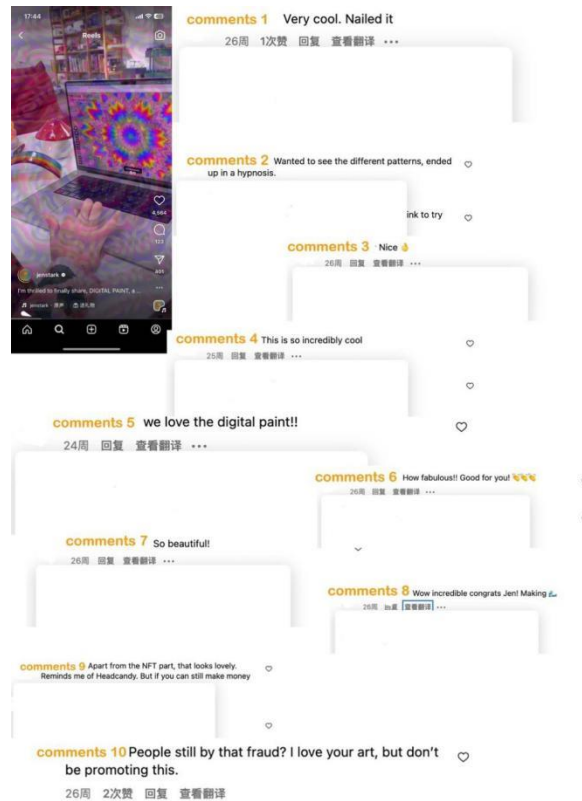


Figure 16: Information about Instagram comments on (c) work: J3

4.2.2 Interviews with Participants about Personal Experiences of Digital Media Installations

To enhance the objectivity of the study's findings, participants were recruited from the WeChat social media platform and individually interviewed after experiencing the three digital media installations. 10 participants were coded as C1-C10, and their backgrounds are listed in Table 5. Six participants had art backgrounds: C1, C2, C4, C5, C7, and C8. Four participants had non-art backgrounds: C3, C6, C9, and C10. To achieve the research objectives, the researcher engaged the participants to verbally describe the changes in appearance, feelings, and emotions from the 3 pieces according to the semi-structured interview guide (Table 1).

Table 5: Participants' profiles

Participants Code	Age	Major (Background)
C1	20-25	Visual and Communication Design
C2	20-25	Visual and Communication Design
C3	18-20	Economics
C4	20-25	Visual Art Design
C5	20-25	Visual and Communication Design
C6	20-25	Finance
C7	20-25	Jewellery Design
C8	20-25	Environmental Art and Design
C9	20-25	Radio and Television
C10	20-25	Creative Digital Media

The researcher manually coded all the interview transcripts, with each participant code being distinguished by a different colour. According to A streamlined codes-to-theory model for qualitative inquiry (Saldaña, 2013), the 10 interview transcripts were summarised separately. Ultimately, the different codes of the participants' digital media installations were grouped into two sections, experiential sensations and factors affecting the senses. The coding model for the three installations corresponded to the (a) work (Figure 18), the (b) work (Figure 19), and the (c) work (Figure 20), respectively.

Using the three coding models, it became evident that all participants were highly cognizant of visual influences, and all agreed that colour was the primary sensory stimulus. Participants with an artistic background all perceived colour as influencing their emotional changes towards the digital media installation. Participants from non-artistic backgrounds also used colour to understand the whole concept of the installation. Additional visual factors identified included graphics, lighting, and movement.

When recounting their experiences with (a) work, nearly all participants found the installation to be abstract, requiring considerable contemplation to grasp the artist's intended concepts. C7, C8, and C10 indicated that they felt "depressed" when they entered the dimly lit space with almost no lights. Among participants without artistic backgrounds, sentiments and emotions toward this work tended to be neutral or negative. Even C3 was resistant to (a) work during the interview as she could not understand it and clearly expressed her aversion to this work. Both C9 and C10 misunderstood (a) work, interpreting it in a manner inconsistent with its actual intent. This struggle to comprehend the overarching concept coupled with the subdued lighting and scarcity of colors contributed to difficulties in generating positive emotions and attaining emotional value. Despite the fact that most of the participants with an artistic background felt that they needed more time for reflection, the overall emotion gained after the experience was positive. Moreover, they were able to receive a basic idea of what the artist wanted to provoke in the audience and experienced the "age of information overload".

The outcomes of the interview coding for work (b) yielded intriguing insights, as all participants expressed enjoyment of the piece and claimed to have encountered "positive emotions" and "greater emotional value." More than half of the participants felt that they were 'cured' by work (b) and were even 'moved' by the experience. In addition, they found it to be the most "immersive" of the three digital media installations. Based on the interview findings, the concept of "narrative" emerged prominently, with nearly all participants referencing it. It appears that the artist of (b) work employs their own illustrations to convey a message encouraging viewers to cherish life and occasionally view the world from a different standpoint. Participants were required to completely relax in the projection-filled space, choose their own comfortable viewing style, and follow the narrative of the projected video to experience this work.

It's important to highlight that in the interviews, all the participants mentioned the sense of hearing in addition to sight in their sensory experience. They believed that the integration of sound and visuals could enhance the overall experience and make it more immersive. This aligns with Liu's (2021) point that a large part of the participants' immersive memory points in digital media installations depends on the combination of visual and auditory senses. However, it's worth noting that this study primarily focused on visual elements, and the impact of auditory components on the research objectives wasn't addressed at this stage. Future research could consider whether or not based on all sensory elements would influence participants' acquisition of emotional value in digital media installations.

Every participant discussed various visual aspects of the (b) work. They considered the colours of the work to be a key influence in moving and healing them. More than half of the participants shared those scenes like the "green forest" and "blue swimming pool" induced feelings of relaxation. C1, C4, and C6 suggested that when the video in the installation was finished, they wanted to watch it again because they were "moved".

The experience and emotional evaluation of (c) work was mixed. C2, C3, C4, and C10 felt that they gained positive emotions after experiencing the work. C1, C6, and C9 explicitly stated that they disliked the work, and therefore judged it as a direct negative emotion. C5, C7, and C8 were neutral about the emotions, neither positive nor negative.

The (c) work stands out as the most interactive and distinctive among the three, taking the form of a website-based digital media installation. Participants could directly manipulate patterns using their hands or a mouse. "Interactivity" was a common observation among all participants. After reviewing the interview transcripts, it became evident that those expressing negative, positive, or neutral sentiments were influenced by the colours of the artwork. Participants who explicitly liked (c) found the colours in the artwork to be 'interesting' and the dynamic lines in a circle to be very appealing to them to create. Participants expressed negative feelings and perceived the colours as overly vibrant, inducing feelings of "anxiety" and "confusion". C9 reported physiological discomfort due to the intense dynamics of colours and lines, prompting the researcher to offer immediate support and counselling. Additionally, half of the participants found the interactive format of the work to be monotonous and "tedious" in nature.



Figure 17: Participants' code and matching colour

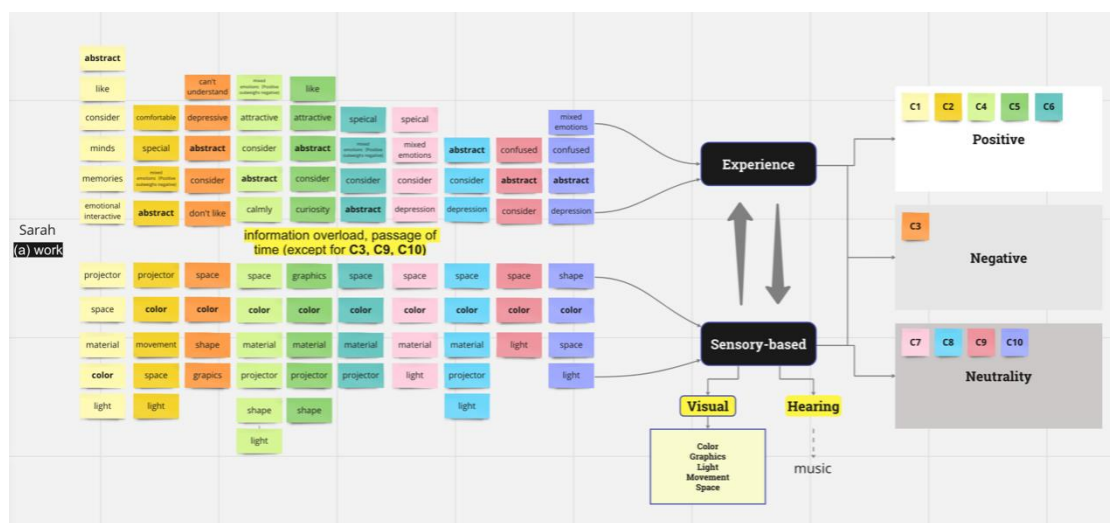


Figure 18: A model for coding interview transcripts of (a) work

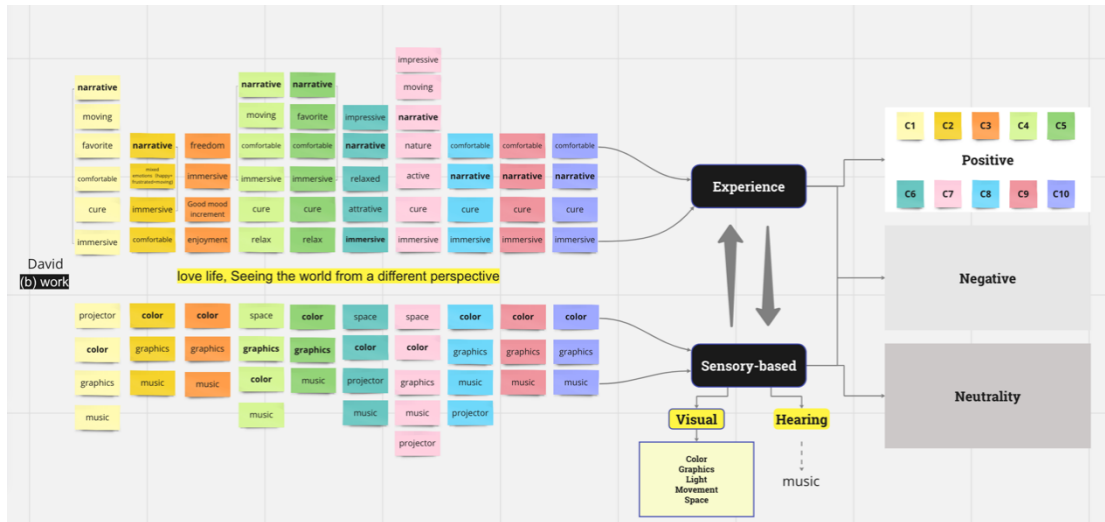


Figure 19: A model for coding interview transcripts of (b) work

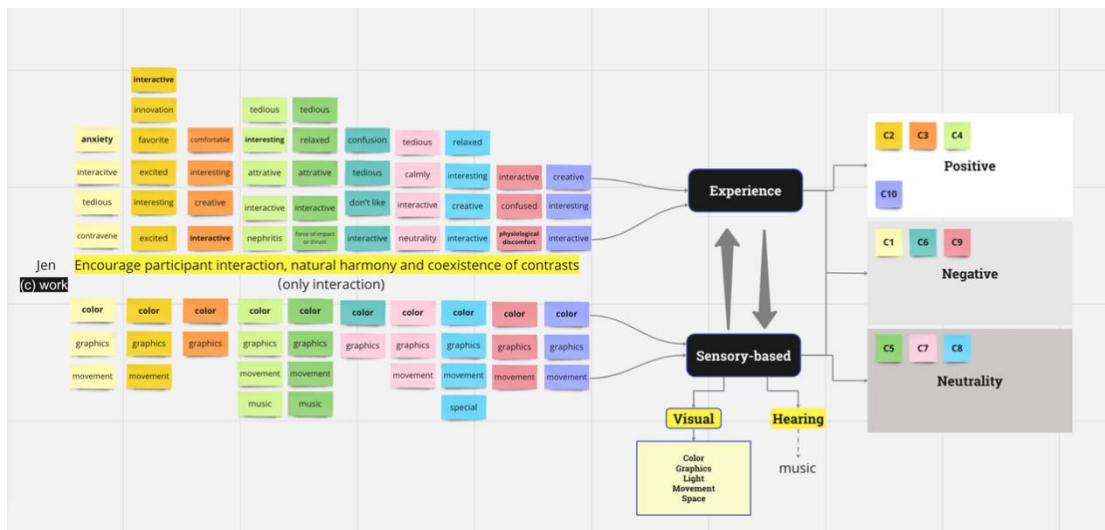


Figure 20: A model for coding interview transcripts of (c) work

4.2.3 Workshop: Drawing

At the conclusion of the interviews, the 10 participants were invited to engage in a final research activity: a drawing workshop. This approach aimed to examine participants' personal emotional visualization of the digital media installations, capturing their experiences and emotions from an individual standpoint, and investigating whether emotional value could be attained through a visual perspective. However, only six participants agreed to participate, while the remaining four declined on the grounds of "poor drawing skills" and "not knowing what to draw". Therefore, the participants in the drawing workshop were C1, C5, C6, C7, C8, C9, and their final drawings are shown in Figure 21- Figure 26.

Figure 21 is a drawing by C1. C1 stated that she only drew the work that impressed her the most and had the best experience: (b) work. She elaborated on her artwork, stating, "The use of blue, pink and yellow, which are very bright colours, means that I was in a very good mood after looking at David's work". She further described the elements within her drawing, explaining, "On the right is a little red heart repaired by a bandage, and the sun in the grass, which makes me feel empowered." It's evident that C1 is highly appreciative of the work in (b), and this sentiment aligns with her earlier interviews and depictions of the artworks, signifying a notable emotional value derived from the experience.

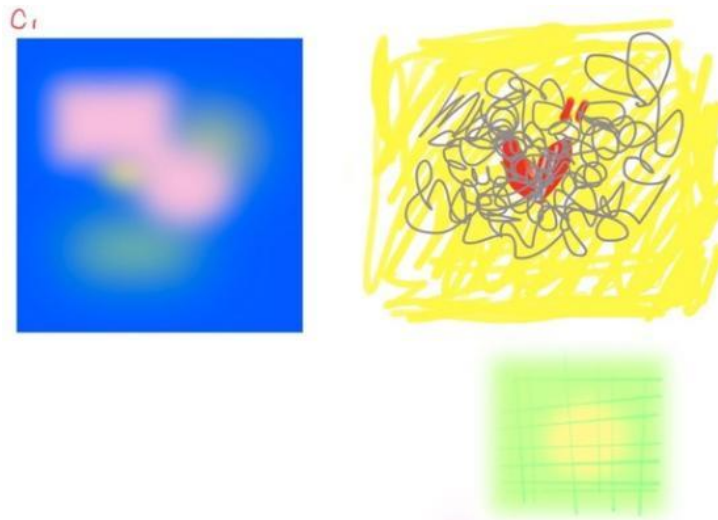


Figure 21: C1 Painting

Figure 22 is a painting by C5. As per her explanation, the incorporation of diverse colours mirrors her emotional connection to distinct works. The black at the top corresponds to (a) work, which she describes as, "The symbolism of the work in the dimly lit space is very abstract, and I used coloured lines to represent thoughts." The bottom left corner corresponds to (b) work, where she painted a large area with the colours that appeared in (b) work, which she said, "It was impressive and immersive." On the right is the feeling of (c) work, "More childlike, I have the same form as Jen, I have painted a flower with colours."



Figure 22: C5 Painting

Figure 23 is a painting by C6, who is more minimalistic in his description of his painting. According to C6's description, the top right corner corresponds to (a) work, in which he said, "Feeling abstract and cluttered, I used the steel lines of (a) work instead." On the left is the correspondence to (b) work, where he draws two trees: "The forest in the video makes me feel relaxed". The rest corresponds to (c) work, which he describes as "making me feel a little dizzy, so I drew vertigo. "



Figure 23: C6 Painting

Figure 24 is a drawing by C7. The pattern in the upper right corner corresponds to (a) work, which C7 describes as, "Sarah's work is in a dark environment, which causes the small screen in the middle of its sphere to be very significant in colour, so I used some bright colours such as fluorescent green and peach." Reflecting on the combination of many colours, she also mentions, "These colours are like information overload, you don't know where to see specifics." Corresponding on the far left is (b) work, which she claimed is "a thumbnail sketch of nature, a grassy field, blue sky and white clouds" that makes her feel "happy." On the bottom right is the feeling of (c) work, which she says, "It's a kaleidoscope, and (c) work makes me feel dizzy, like a maze."



Figure 24: C7 Painting

Figure 25 is a painting by C8, and the top right corner corresponds to (a) work. C8 notes that the most striking feature was the multitude of small projected screens within (a) work, saying, "I feel like it's made up of a lot of small pieces in front of me, with a lot of colours, which makes me a little bit anxious and I don't know where to look." On the left corresponds to (b) work, which he describes as giving him a good sense of natural ambience, hence the use of colours close to nature and "David Hockney-like brushstrokes". The bottom right corner corresponds to (c) work, of which C8 says: "I was a bit surprised when I opened the interface in black and grey, and when I found out that I could get other vibrant colours by touching it with my hand, I felt that this was a very special moment."

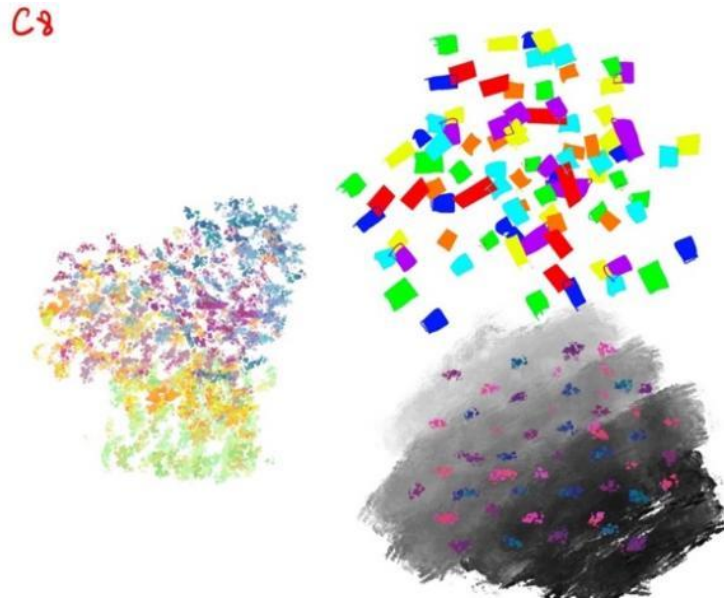


Figure 25: C8 Painting

Figure 26 is a drawing by C9. The top right corner corresponds to (a) work. C9 describes the pattern as being like the projections in (a) work, "The projections are all over the place and a bit messy, so I used darker coloured lines, giving me a feeling of depression and confusion." The counterpart on the left is (b) work. According to her description, it gives her a sense of being full of life and nature, "I used bright, high-key colours to represent my good mood." The remaining pattern corresponds to (c) work, in which she says, "This work was able to create itself to present different patterns, but it made me very dizzy and uncomfortable, and I used different coloured lines to express my uncomfortable feeling."

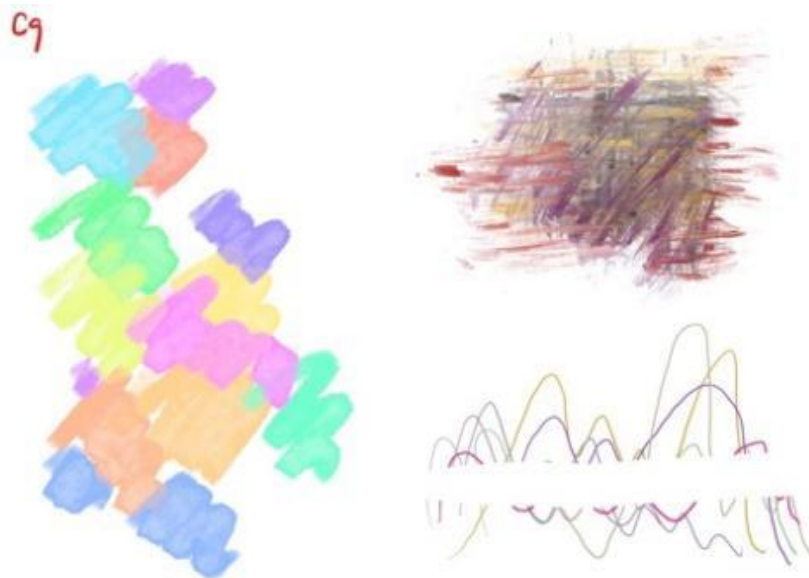


Figure 26: C9 Painting

4.3 Chapter Summary

These results suggest that the visual elements that allow the audiences to interact emotionally with the digital media installations and gain emotional value are the colours, lights, graphics, space and movement used in the work. Meanwhile, colour was the most emotionally interactive and valuable element for the participants. The artist adeptly employs colours in harmony with the installation's theme, effectively conveying the work's concept to the audience. This colour-centric approach is evident in participants' artwork, wherein colours are employed, either consciously or subconsciously, to articulate their emotions tied to the digital media installation. The outcomes of

this chapter illuminate differences among participants of distinct backgrounds. Those with artistic backgrounds consistently grasped the installation's concept from its visual components, thus offering valuable insights. Conversely, participants without artistic backgrounds occasionally struggled to fully apprehend the work's concept. Furthermore, most of the participants felt that immersive digital media installations gave them all positive emotions and could bring higher emotional value.

5. DISCUSSION

5.1 Introduction

In this chapter, the researcher explains and analyses the key findings from Chapter 4 in the order of the research methodology. Cyber ethnography, semi-structured interviews and drawing workshops were used to identify visual communication designs in digital media installations that influence viewers' emotional interactions and harvest emotional value. It is also critically analysed in relation to the literature in Chapters 2 and 3.

5.2 The Impact of Visual Communication Design in Digital Media Installations on the Acquisition of Emotional Value by Audiences from Artistic and Non-Artistic Backgrounds

The researcher observed that individuals with art backgrounds and those without understand the concept of digital media installations somewhat differently and therefore derive different emotional value from the installations. This confirms Pelowski et al.'s (2020) observation that viewers from non-artistic backgrounds may not be able to fully pick up on the concepts that the artist is trying to convey and struggle to emotionally resonate with them.

In the cyber ethnography phase, the analysis of posts and comments on the Instagram accounts related to the three digital media installations revealed distinctions between participants with artistic backgrounds and those without. Those with artistic backgrounds exhibited a tendency to offer more detailed sensory descriptions and provided explanations for their emotional interactions and the resulting emotional value, as exemplified in Figure 11. On the other hand, participants without artistic backgrounds displayed attraction to the visual aspects of the installation and expressed positive sentiments primarily through comments like "it looks great" (Figure 12). People from non-artistic backgrounds tend to decide on aesthetics because of emotions (Leder et al., 2012). This was further confirmed by the structure of our study in the semi-structured interviews, where participants from artistic backgrounds tended to focus on the colours, graphics, movement, lights and techniques used in digital media installations.

It appears that participants with artistic backgrounds are more drawn to works that demand contemplation and a focus on emotional engagement to derive maximum emotional value. In other words, when experiencing digital media installations, participants from an artistic background synthesised multiple aspects of visual communication design and thought about the artist's reasons for using this form of presentation. On the other hand, participants from non-artistic backgrounds seemed to be able to experience emotional changes only because of the change of colours in the digital media installation. Their access to emotional value depends on understanding whether the concepts and colours appear to their preference. Intriguingly, participants draw parallels to their personal life experiences when describing their positive or negative emotions. They incorporate their own life encounters into their reflections on the work and decide whether or not they can emotionally connect with it. Due to the diverse range of expression, digital media installations are capable of establishing broader resonance with audience preferences (McCarthy and Wright, 2004).

Based on the interviews, it was apparent that participants displayed more engagement in their emotional interactions with both (b) work and (c) work due to the more vibrant colours employed in these two pieces, as opposed to (a) work. This observation was also evident in the web ethnography results, with almost exclusively participants with artistic backgrounds posting posts and comments related to (a) work, and very few with non-artistic backgrounds. In the interviews, participants from non-artistic backgrounds perceived (a) work to be abstract requiring thought. Therefore, the emotional value could not be clearly obtained. Whereas the artist of (a) work wanted to convey the concept is that it needs to provoke different people to think. This seems to confirm Pelowski et al.'s (2018) view that non-specialised viewers can vaguely understand the concept of the work.

Colour plays a role in eliciting emotional reactions (Kaya and Epps, 2004). The researcher used a drawing workshop to investigate the participants' emotions towards different digital media installations. The findings revealed that participants employed colour and visuals to convey their emotions and encounters. Given that

participants without artistic backgrounds might struggle with specialized terminology to describe digital media installations, drawing emerged as an effective means for them to directly express their feelings and experiences. All workshop participants demonstrated commendable efforts in completing their drawings. It's worth mentioning that even though individuals lacking artistic backgrounds might not excel in drawing, their commitment was evident through the documented drawings and workshop discussions.

By analyzing participants' artworks and their accompanying descriptions, it became evident that the content of their paintings largely comprised elements taken from the graphics and colours that left the strongest impression during their experience with the digital media installations. Specifically, the colours and graphics in their paintings corresponded to each other and the visual elements of the work. For example, all participants used the colours in (b) work to express positive emotions about the work. They used "yellow", "green", and "blue" to represent the nature in (b) that impressed them, which made them feel relaxed and happy. "Black" is used to represent the dark environment in (a) work, reflecting sentiments of confusion and unease. The use of multiple colours to represent the dynamic forms in (c) work is interesting or dizzying. This is in line with the idea that painting is a projective technique that expresses something obvious or metaphorical in people's minds (Bergh and Geldenhuys, 2013).

Participants from different backgrounds tended to be the most descriptive about their favourite works and those that reaped the highest emotional value. Whether it was conveyed through language or drawings, they favoured works that held emotional significance for them. Across all three study methods, it emerged that participants who gained the most emotional value from (b) work, with nearly all reporting positive emotions. Of the three digital media installations, (b) work was the most immersive. This was a deliberate outcome of the artist's skilful use of colours and graphics to narrate a story and foster an overall ambient atmosphere, achieved through sensory and spatial connections. Simultaneously, (b) work notably communicated the artist's intention to evoke positive emotions. Both the artist of (a) work and (b) work are the most immersive of the three digital media installations, and the artist of (a) work is the most immersive of the three. This proves to some extent that the artist's preconceived notions affect people's emotions (Pelowski et al., 2018).

5.3 Limitation

While this study has unveiled significant findings, there are certain limitations to acknowledge.

Firstly, cyber ethnography, chosen as the research methodology due to its resonance with digital media devices' technological nature, does come with certain novel aspects. For the participants of cyber ethnography, we can only observe their textual comments and descriptions of the digital media installations, which leaves uncertainty about their actual physical experiences with these installations. As a result, their emotions with the devices could only be subjectively determined to be emotionally positive or negative in terms of their content, in order to determine whether they had gained emotional value or not. To counterbalance this limitation, the researcher took measures by engaging an additional group of 10 local participants from London. These participants were led through semi-structured interviews and drawing workshops, ensuring firsthand experience with the three digital media installations, and enhancing the credibility of the findings.

Secondly, the drawing workshop could be difficult for those participants with non-specialised backgrounds considering potentially poor drawing skills. Although they may use words to supplement their descriptions during the workshop, their emotional visualisation of the digital media installation was not as well expressed as that of participants with an artistic background. Especially in this study, emotional value is not actually a concrete thing that needs to be represented through language, words, and visual images side by side. The researcher can only maximise the integration of all research data to make the results as objective as possible.

5.4 Chapter Summary

This chapter delves into the analysis and discussion of the study's findings. The research substantiates that visual component within digital media installations—like colours, lighting, graphics, and motion—play a pivotal role in aiding individuals' comprehension of the work's concept, fostering emotional interaction, and attaining a degree of emotional value. Within this frame, people will gain more emotional value from immersive digital media installations, yet this hinges on whether the concept of the work is positive or negative as predetermined by the artist in advance.

The results of this study were drawn from data collected through three methods. Emotional visualisation through

drawing techniques is the innovation of this study. The drawing technique has been used mostly in art therapy before (Gameiro et al., 2018), and limited studies have used this technique to visualise emotions in digital media installations.

Moreover, digital media installation audiences encompass a range of professional backgrounds, wherein those with artistic inclinations tend to comprehend and derive emotional value from the work more readily compared to non-artistic individuals (Pelowski et al., 2020). Audiences from non-artistic backgrounds can be more ambiguous about the concept of the work compared to the former which can lead to ambiguity. Overall, almost all participants were able to understand the work to varying degrees through the visual communication design, relate it to their own experiences, and consequently extract emotional value from their preferred works.

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