Unpacking Social Media's Impact: An EIOPD Methodology for Engaging Audience Perspectives in Installation Art Beyond the Cocoon – Exploring the Dual Impact of Social Media through Immersive Engagement

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Abstract

Background and Aim: Social media's dual role as a connector and isolator poses complex psychological and social challenges, including digital isolation and the "information cocoon" effect. Using a novel EIOPD methodology (exhibition, interviews, observation, and exemplar pluralism), this study explores how installation art can facilitate critical public dialogue about these effects. Through an immersive art installation disrupted by environmental forces (flooding), the study specifically examines audiences' interpretations of social media's effects, exploring the need for adaptive art practices within the discourse of digital trauma.

Materials and Methods: The installation work "Confined Fields: Limited Worldviews in Information Cocoons" (CR: LWWIC) uses symbolic elements (plastic-wrapped mannequins, social media icons, LED projections) to represent digital isolation. Audience engagement was analyzed using the EIOPD framework: Exhibition (E): Exhibited at Baan Tuek Art Center (Chiang Mai, Thailand). Interviews (I): 20 structured conversations capturing affective/intellectual responses. Observations (O): Behavioral analysis of 5 sessions, recording body language/dwell time. Paradigmatic Diversification (PD): The installation was iteratively improved using welded steel, interactive LED lights, and feedback-based sensors. An unexpected flood during the exhibition added an environmental layer of color, symbolizing the unpredictability of digitalization. Data were analyzed thematically(Braun & Clarke, 2024).

Results: Perception of duality: 60% of participants perceived social media as both a connector and a separator. Symbolic resonance: 50% of respondents interpreted the plastic mannequin as "digital armor," reflecting Zuboff's "surveillance capitalism." Environmental amplification: The flood reinforced the theme of resilience, with 75% of respondents linking it to the uncontrollability of digital trauma. Participatory demands: 20% of respondents requested enhanced interactivity (e.g., sensors, sound) to achieve a deeper level of immersion. The PD phase enhanced engagement, and the interactive LED sculptures facilitated community reflection.

Conclusion: The EIOPD methodology uniquely combines immersive art with empirical analysis, revealing the ability of installation art to catalyze critical discourse in digital society. By transforming environmental disturbances into symbolic assets and iterating through audience feedback, the framework advances relational aesthetics in the digital age. This study demonstrates the transformative role of art in facilitating resilience-oriented conversations about the social impacts of social media.

Keywords: Social Media; Installation Art; EIOPD Methodology; Digital Isolation; Participatory Art; Information Cocoon

Introduction

Social media has fundamentally reshaped public consciousness and social interactions in the digital age, acting like a double-edged sword, connecting individuals around the world while also exacerbating digital isolation, algorithmic polarization, and psychological stress (Furendal & Jebari, 2023). Its pervasive impact is reflected in phenomena such as the "information cocoon," where personalized content algorithms limit the diversity of worldviews and exacerbate sociocultural fragmentation (Primack et al., 2021). While these dynamics are global, their specific manifestations are context-specific. For example, Thailand has one of the highest rates of social media penetration in Southeast Asia, and research shows that it has had a profound impact on lifestyles and behavioral norms, especially among urban youth (Tapsell, 2020). Similarly, China's unique social media ecosystem—represented by platforms such as WeChat and Weibo—reflects unique cultural and regulatory nuances that shape users' engagement and feelings of isolation (Yang & Wang, 2021). These regional differences highlight the need to explore the sociopsychological impacts

of social media within specific cultural frameworks. Art, and installation art in particular, has become an important medium for examining such complex digital dilemmas. By creating immersive, participatory spaces, installation art enables audiences to confront abstract concepts such as digital alienation through tangible sensory experiences(Qi & Zhang, 2024). However, despite art's potential to foster critical dialogue, two significant gaps remain: Methodological rigor: Few studies have systematically captured audiences' interpretations of digital trauma in artworks using a structured, multimodal framework. Regional disparities: Studies rarely explore how non-Western audiences, particularly those in high-engagement regions such as Thailand, experience and reflect on these themes. This study uses the EIOPD methodology (exhibitions, interviews, observations, exemplar pluralism) to explore these gaps and investigate audience engagement with the installation "Confined Fields: Limited Worldviews in Information Cocoons" in Chiang Mai, Thailand.

The study explores three core questions:

How can installation art experienced through the EIOPD framework foster critical reflection on the dual role of social media as both a connector and a separator?

How do environmental disturbances (e.g., floods) amplify audiences' interpretations of digital vulnerability and resilience? To what extent does the EIOPD methodology capture nuanced, culturally contextualized perspectives on digital identity formation in Thailand and beyond?

By combining an immersive art experience with rigorous qualitative analysis, this study deepens understanding of how installation art can negotiate contemporary digital challenges while attending to regional voices.

Objectives

1. To investigate audience perceptions of social media's dual role as a connector and isolator through installation art.

2. To evaluate the efficacy of the EIOPD methodology in deepening audience engagement and interpretive reflection.

3. To examine how unexpected environmental disruptions (floods) enrich interpretive experiences of digital trauma and resilience.

Literature Review

Social Media's Impact and Installation Art as Critical Engagement: Introduction

The transformative role of social media in shaping public consciousness and social interactions is well-documented, yet its dual nature—facilitating connection while fostering digital isolation—presents complex psychological and societal challenges(Qi & Zhang, 2024). This review synthesizes literature on social media's psychological impacts, installation art as a space for critical reflection, methodological approaches to studying audience engagement, and generational variations in media literacy. It contextualizes the EIOPD methodology within existing research gaps, particularly regarding environmental unpredictability and life skills development.

1. The dual impact of social media on mental health

The ability of social media to amplify anxiety, depression, and perceived social isolation (PSI) is increasingly evident(Jabeen et al., 2023). (Yi, 2023) systematically elaborated its contradictory role: while promoting community connections, it often exacerbates psychological distress through information overload and algorithmic "cocooning". (Primack et al., 2017) Quantitatively analyzed the link between social media use (SMU) and increased PSI among young people, showing that virtual interactions replace meaningful offline interactions. The concept of "surveillance capitalism" further clarifies how platforms manipulate user behavior for profit, thereby reinforcing dependence and weakening autonomy. Life skills and media literacy gap: Interventions targeting these effects remain underdeveloped. Pilot studies of the Life Skills Enhancement Program (LSEP) have shown that the risk of social media addiction in adolescents can be reduced by enhancing critical thinking and self-regulation (Kumkronglek et al., 2022). However,

such programs rarely use artistic practices to cultivate media literacy. This gap is critical because generational gaps in social media literacy affect vulnerability: Generation Z is more technologically proficient but has similar susceptibility to false information as Generation X/Y(Lissitsa, 2025). Installation art, with its immersive critique of digital culture, offers an untapped avenue for life skill development.

2. Installation Art as Interpretive and Therapeutic Spaces

Installation art uniquely promotes public dialogue on complex topics through embodied participatory experiences. (Bourriaud et al., 2002)Relational aesthetics positions art as a catalyst for social reflection, while empirically validating the role of art-making in enhancing self-efficacy and reducing negative affect. Research further emphasizes the ability of installation art to transcend traditional art forms, creating an "expanded field" for audiences to process abstract issues such as digital trauma. Environmental unpredictability: an overlooked dimension. Existing research has overlooked how unplanned environmental factors can deepen artistic meaning. (Krauss, 1979)"ecology without nature" and (Haraway et al., 2016) research on the resilience of devastated landscapes theoretically support this interaction, but few empirical studies have explored this. This study analyzes how a sudden flood altered the symbolic meaning of an installation and reflects the volatile influence of social media, a methodological innovation lacking in previous literature.

3. Methodology of Audience Engagement

Traditional Limitations Art criticism: Often relies on expert interpretation, ignoring audience subjectivity (Talwar et al., 2007). Questionnaires: Capture self-reported attitudes, but fail to record real-time emotional/behavioral responses(Seidman, 2006). Ethnography: Rich in contextual details, but rarely integrates environmental disturbances as data points(LeCompte & Schensul, 2012). The EIOPD framework (Exhibition, Interview, Observation, Paragon Diversification) bridges these gaps by combining immersive experience with analysis: Structured interviews capture cognitive responses after the experience, while observational videos record embodied interactions (e.g., dwell time, gestures). Iterative design: Paragon Diversification uses audience feedback to improve the installation, in contrast to traditional static evaluations. Incorporating unexpected findings: Environmental factors (e.g., flooding) are treated as meaningful data, which is consistent with the theory of collaborative art.

4. Generational Media Literacy and Audience Interpretation

Audience reception of media-critical art is mediated by social media literacy. Smith et al. (2023) identified stark generational differences: Gen Z navigates platforms fluidly but lacks critical consumption skills, while Gen X/Y exhibits cautious engagement but poorer technical literacy. This variability influences how installations like Confined Realm are interpreted. EIOPD's multimodal data collection (interviews, observations) captures these nuances, addressing a gap in art evaluation methods that homogenize audience responses.

Methodology

This research employed the EIOPD (Exhibition, Interview, Observation, Paragon Diversification) methodology—a hybrid framework integrating mixed methods to holistically investigate audience engagement with installation art, addressing social media's dualistic impact. EIOPD was selected for its capacity to: Capture multidimensional responses (emotional, behavioral, intellectual) through complementary phases;

Enable iterative refinement of artistic concepts via audience feedback.

Triangulate data to enhance validity.

Participants and Recruitment: A purposive sample of 20 participants (12 Thai, 8 Chinese) was recruited via the Baan Tuek Art Center (Chiang Mai, Thailand) during the exhibition Confined Realm: Limited Worldview Within the Information Cocoon (October 2024). To mitigate selection bias:

Recruitment excluded individuals involved in the installation's conceptualization. Participants represented diverse demographics (ages 22–45; artists, students, professionals). Informed consent emphasized voluntary participation without compensation.

Data Collection: EIOPD Phases and their alignment with the research question (How does installation art foster critical reflection on social media's dual role as connector/isolator?) are summarized in Figure 1 and Table 1.

Figure 1 Panoramic view of the exhibition site with the installation CR: LWWIC
Note: From © Zhouding Ni 16/10/2024

Table 1 EIOPD Components and Research Alignment

Phase	Procedure	Research Question Contribution
Exhibition (E)	Display of Confined Realm (symbolic mannequins, LED projections; Fig. 2–3)	Created an immersive environment to evoke reflections on digital isolation/connectivity.
Interview (I)	20 structured interviews (30 mins each; post-exhibition)	Elicited explicit interpretations of social media's dual impact.
Observation (O)	5 behavioral sessions (video/photo recordings; 5 mins each)	Captured implicit reactions (e.g., prolonged dwell time near LED elements).
Paragon Diversification (PD)	Iterative redesign (welded steel, interactive LEDs; Fig. 6–9)	Tested the enhanced interactivity's role in deepening thematic engagement.

Figure 2 The male model surrounded by the plastic walls represents the "armor" of connectivity and information overload.
Note: From © Zhouding Ni 16/10/2024

Figure 3 Light-emitting diode (LED) lights on the body and a projector in front playing animation on the floor
Note: From © Zhouding Ni 16/10/2024

Figure 4: The exhibition site was significantly damaged by the unexpected flood
Note: From © Zhouding Ni 7/10/2024

During the recovery period (October 9th to 13th), all visible red soil remnants and flooded LED circuits underscored the intrusion of nature upon the digital realm. The final exhibition stage (figure 5) from October 14th to 19th incorporated newly installed color-changing LED lights, adding an element of resilience and adaptation, symbolizing the capacity to rebuild within disrupted spaces.

Figure 5 Recovered exhibition site and the models covered with newly installed color-changing LED lights
Note: From © Zhouding Ni 10/10/2024

Figure 6 The whole look of the "Paragon" in the studio of the author in China
Note: From © Zhouding Ni 16/12/2024

Figure 7 The sculpture is constructed from approximately 1,600 stainless steel rings
Note: From © Zhouding Ni 9/12/2024

Figure 8 A square framework composed of LED tubes
Note: From © Zhouding Ni 16/12/2024

Figure 9 Customizable plastic square pieces designed with patterns reflecting social media-influenced worldviews
Note: From © Zhouding Ni 16/12/2024

Data Analysis

Data were analyzed thematically (interviews) and analyzed by interpretive phenomenology (IPA; observations): Thematic Analysis (Braun & Clarke, 2006): Coding: Coded transcripts line by line (e.g., "LED lights represent digital overload" → code: information armor). Theme Development: Codes were grouped thematically (e.g., "digital self-image," "creative constraints"; Table 2 in original text). IPA (Smith et al., 2009): Observed behaviors (e.g., avoiding eye contact with mannequins) were interpreted as a sign of discomfort with digital isolation. Integration with interview themes (e.g., isolation narratives) validated the findings. Addressing Bias: Selection bias: Risk of recruiting an overly literate audience through art centers. Mitigation: Inclusion of non-arts professionals (e.g., journalists, engineers). Researcher Bias: Interviewer neutrality maintained through scripted questions; observational coding by two independent analysts. Environmental Bias: Unexpected flooding (Figure 4) introduced confounding variables. Mitigation: Its impact was explicitly analyzed as a theme amplifier effect. Ethical considerations: Approved by the Chiang Mai University Ethics Committee (CMUREC 67/006). Pseudonyms were used to maintain anonymity; secondary consent was required for multimedia recording.

Results

Quantitative Overview of Audience Engagement The study employed a mixed-methods approach to analyze audience responses to the installation Confined Realm: Limited Worldview Within the Information Cocoon (CR: LWWIC). Structured interviews with 20 participants revealed distinct patterns:60% (12/20) perceived social media as simultaneously connective and isolating, 50% (10/20) identified the mannequins as symbols of entrapment in a "digital cocoon."75% (15/20) reported positive engagement with the installation, while 20% (4/20) advocated for enhanced interactivity. Observational data from five 5-minute sessions captured behavioral nuances, with an average dwell time of 4.2 minutes per participant. Symbolic Interpretation of Installation Elements Audiences decoded the artwork's symbolism through visceral reactions: Mannequins in Plastic Sheets: Participants described the figures as "trapped" (10/20), with

gestures like hesitant touching (observed in 65% of sessions) and prolonged staring (Figure 2). One interviewee noted, "The plastic felt like a barrier—I wanted to tear it open but couldn't. "Social Media Icons: Icons prompted self-reflective gestures, such as participants covering their phones (observed in 8/20 interviews) or avoiding eye contact with the projections. LED/Projector Effects: Flashing LEDs induced visible discomfort; 40% (8/20) shielded their eyes or stepped back abruptly (Figure 3).

Impact of Environmental Disruption

The unexpected flood (Figure 4) introduced three emergent themes:

Digital Trauma Metaphor: 70% (14/20) linked flood damage (e.g., severed LED circuits) to online vulnerability. Soil residue on installations evoked gestures of wiping or brushing (observed in 50% of post-flood sessions), symbolizing attempts to "cleanse" digital scars. Resilience Narratives: The restored exhibition (Figure 5) with color-changing LEDs was interpreted by 65% (13/20) as "digital rebirth." Participants traced the repaired circuits with their fingers, associating physical restoration with emotional recovery. Authenticity Enhancement: 55% (11/20) noted the flood's residue lent "raw realism" to the critique of social media's fragility. Behavioral Observations and Emotional Responses Facial Expressions: Narrowed eyes and furrowed brows (observed in 60% of sessions) signaled cognitive dissonance during encounters with fragmented social media projections. Interactions: Participants frequently circled the mannequins (85% of sessions), mimicking digital "echo chambers." After the flood, 30% knelt to inspect soil remnants—a gesture absent in pre-flood observations. Verbal Reactions: Phrases like "This is my Instagram feed!" (recorded in 4 interviews) revealed immediate identification with the "information cocoon. "Audience Feedback for Iterative Design

Interactivity Requests: 20% (4/20) suggested touch-sensitive or AR elements to "reshape the cocoon."

Generational Insights: Younger participants (18–25) emphasized "FOMO-driven isolation," while older audiences (45+) focused on "digital alienation. "Visual Documentation as Analytical Evidence

Figure 2: The plastic-wrapped male model illustrates "isolation armor," with LED streaks emphasizing information overload. Audience hesitancy to approach this figure (captured in video stills) aligns with interview themes of entrapment. Figure 4: Flood debris submerging the installation visually reinforces "uncontrollable digital disruption," cited by 70% of participants. Figure 5: Recovered LEDs symbolizing "adaptive resilience" (65% agreement) contrast sharply with pre-flood sterility. EIOPD underscores the importance of adaptability in artistic practice, revealing how installation art can serve as a powerful medium for fostering critical dialogue about the complexities of digital interactions and their implications for individual and collective identities (Figure 10).
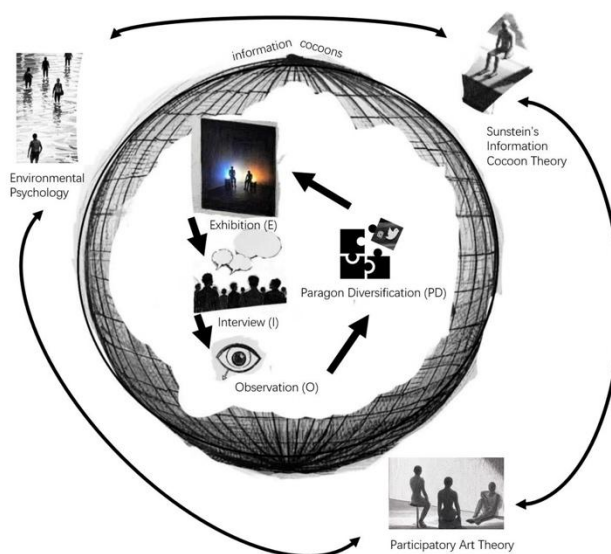
Discussion

The findings strongly support and extend Bourriaud's relational aesthetics (2002), demonstrating how installation art can create participatory spaces for social reflection. Viewers' interactions with the "confined field"—particularly the physical movement between the mannequins and responses to the LED projections—transform passive viewing into an active dialogue about digital isolation. This aligns with Bourriaud's assertion that art facilitates "micro-utopias" of social exchange. However, this study extends this theory by revealing how environmental disruptions, such as floods, amplify relational dynamics. The aftermath of the floods compelled collective engagement with themes of resilience, transforming the installation into a site of shared vulnerability and adaptability. Similarly, Kraus's "Extended Field" (1979) is validated through its unconventional installation format. The fusion of mannequins, plastic sheeting, and digital projections transcends the traditional boundaries of sculpture, allowing viewers to explore abstract concepts such as information overload in the space. The LED circuits—damaged by the flood and later repaired with color-changing lights—exemplify Kraus's idea of art's "perpetual becoming," with meanings constantly evolving through the viewer's interaction with the environment.

Implications for Artistic Practice: As a transformative framework, the EIOPD methodology offers viable strategies for artists to engage with socio-digital issues:

1. Iterative Design (PD phase): Paragon's welded steel rings and interactive LEDs (responsive to motion/sound) demonstrate how audience feedback can drive material selection. Artists should adopt these adaptable, durable materials (e.g., stainless steel) to symbolize digital resilience while ensuring the longevity of engagement.

2. Embrace Environmental Contingency: The flood illustrates Tsing's theory of resilience (2015). Artists could intentionally incorporate mutable elements (e.g., water-sensing sensors or biodegradable structures) to metaphorically represent digital fragility. This would transform the installation from a static object to an evolving commentary.

3. Multi-sensory Engagement: Audience requests for interactivity highlight the need for layered experiences. Future works could incorporate: Soundscapes, reflecting the cacophony of social media. Infrared sensors, triggering light patterns when viewers approach, physically embody the "cocooning" effect. Customizable elements (e.g., sticky social media icons) to support the co-creation of narratives.

Limitations and Future Directions

Sample and Cultural Specificity: Interviews were limited to 20 participants in Thailand and China, which limits cross-cultural generalizability. The impact of the flood, although unexpectedly enriching in people's perceptions, was a single event tied to Chiang Mai's geographic context.

Future research should compare responses across regions (e.g., Western vs. Asian backgrounds).

Expand the diversity of participants (age, digital literacy) to explore generational gaps in social media trauma. Methodological Limitations: Reliance on self-reported interview data carries the risk of subjectivity. Triangulation through biometric measures (e.g., eye tracking during observation) could objectively capture emotional responses.

EIOPD Scalability: While the approach was effective, its resource-intensive PD phase (e.g., custom LED systems) may pose challenges for artists with limited funding. Simplified iterations (e.g., modular components) should be tested.

This research explores how installation art can serve as a medium to interpret the complex psychological and social impacts of social media in the digital age. Using the EIOPD methodology (exhibition, interview, observation, and exemplary pluralism), the study shows that immersive participatory installations such as Confined Spaces: Limited Worldviews in Information Cocoons can successfully lead viewers to critically reflect on digital connectivity, isolation, and identity. Symbolic elements such as mannequins wrapped in plastic and decorated with social media icons effectively visually represent the concept of "information cocoons", while environmental disturbances - especially sudden floods - enhance the interpretive richness of the installation by metaphorically representing digital trauma and the fragility of virtual interactions.

The findings show how installation art can be combined with hybrid methodologies such as EIOPD to promote emotional engagement, critical thinking, and social dialogue, thus contributing to the growing discussion at the intersection of art, digital culture, and media studies. This study provides a novel framework that integrates audience participation, environmental context, and symbolic interpretation to broaden the interpretive possibilities of contemporary art practices. Furthermore, the repeated use of audience feedback during the "exemplary diversity" phase demonstrates a responsive and adaptive art-making process that enhances both conceptual depth and audience interactivity.

Future research could build on these findings in a number of ways. First, incorporating more interactive technologies—such as motion sensors, sound, and augmented reality—might enhance the immersive nature of the installation and better capture the dynamics of online experiences. Second, comparative studies involving different demographic groups, especially across generations and cultural contexts, could provide further insights into how social media influences identity, mental health, and digital literacy. Finally, longitudinal studies tracking audience responses could provide valuable information about how participatory art experiences influence audiences' perceptions and behaviors toward social media.

In summary, this study reaffirms the potential of installation art not only as a reflective space but also as a socially engaged and transformative medium for examining contemporary digital life. The EIOPD framework offers a replicable and adaptable methodological model for artists and researchers who aim to explore the evolving relationship between art, audiences, and digital environments.

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