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Biomechanical Reconstruction: Utilizing Ceramic Creation for the Treatment of Trauma in Traffic Accident Victims

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KEYWORDS

Biomechanical Reconstruction, Ceramic Fabrication, Trauma in Accident Victims

ABSTRACT:

Introduction: Biomechanical reconstruction through ceramic creation can serve as a therapeutic method for healing the physical and psychological trauma of traffic accident victims. This study addresses three crucial research questions: the triggers of trauma, the types of ceramic art creation, and the relaxation outcomes achieved through ceramic creation as part of biomechanical reconstruction.

Objectives: This research unveils the concept of biomechanical reconstruction, ceramic creation, and achievements in addressing trauma among accident victims.

Methods: This study employs artistic research and quantitative methods with a case study approach. Data are obtained through observations, interviews, and document analysis.

Result: The research findings indicate the existence of trauma triggers experienced by accident victims, which have implications for both physical and psychological disturbances. These physical and psychological disturbances can be addressed through the practice of ceramic art creation, undertaken through the stages of biomechanical reconstruction via the nerves of the hands

Conclusions: The research findings reveal the achievement of physical and psychological recovery through the creation of ceramic art. Another finding is that the process of biomechanical reconstruction serves as a therapeutic method utilizing clay as a medium for health. This is observable through graphical representations (X and Y axes) serving as indicators of the depth of trauma experienced by victims. The depth of trauma, as recorded in the data documents, where X=good and Y=4.5, demonstrates improved mental changes. This study provides recommendations that biomechanical reconstruction can offer solutions for broader societal issues of similar nature. The steps of biomechanical reconstruction in ceramic creation can be utilized as a method for healing trauma by therapists and psychologists through artistic endeavors.

1. Introduction

The experience of a traffic accident trauma significantly disrupts both the physical and mental well-being of individuals. Victims of accident trauma require immediate intervention, which may involve both non-operative and operative treatments [1]. Non-operative and operative interventions are crucial methods for resolving trauma in patients, one of which is through biomechanical reconstruction. The biomechanical process involves body movement to regulate muscle motion, motor control through creative activities [2]. The

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activity of creation is facilitated by the use of clay material in operating biomechanical therapy methods.

Previous research has extensively explored topics related to reconstruction, biomechanics, ceramic creation, and traumatic experiences. However, these studies have yet to delve into the method of biomechanical reconstruction of human hands during the creation of ceramic art. Three key points form the focus of research related to biomechanical reconstruction in ceramic art creation to address traumatic experiences. Firstly, several findings exist regarding the triggers of biomechanical reconstruction as a means of achieving relaxation in the human body [2], [3], [4], [5], [6]. Secondly, previous findings have explored art creation as a method for individuals to convey experiences through their work [7], [8]. Thirdly, findings related to art creation highlight the achievement of human psychological expression in overcoming trauma [1], [9], [10], [11], [12], [13]. Despite these various findings, none have addressed biomechanical reconstruction in ceramic art creation to address traumatic experiences, highlighting the importance of investigating this topic scientifically.

1.1 *Biomechanical Reconstruction*

Reconstruction is a deeply repetitive activity characterized by structured achievement. The achievement of reconstruction activities involves repeated analysis aspects referring to the acquisition process model [14], [15]. Reconstruction achievements can optimize goal functions involving forward and backward projection iterations [16]. This represents a means for the human body to adapt through controlled motion activities [17]. Based on several understandings, reconstruction can be performed to achieve goals through repeated analysis.

Repetitive activities within the human body's motion system can have both physical and psychological impacts. The physical impact involves managing the biomechanical system within the human body through nerves [2]. This is done in accordance with the body's ability to achieve new adaptations related to the body's tissue system [18], [19]. With the formation of habits within the body's tissue system, it will affect cognitive processes [4]. From several perspectives presented, it is suggested that biomechanical reconstruction in humans can stimulate both bodily and mental adaptations.

1.2 *Ceramic Creation*

The creation of ceramics is part of the cognitive management undertaken by humans to grasp a phenomenon of life. The experienced phenomenon can be manifested in an idea of artistic experience [20]. The aspect related to artistic experience is an expression expressed in artwork [21]. Ceramic artwork is crafted as an expression of feelings, with the strength of character in visual elements [22], [23]. From several statements, it is evident that ceramic artwork is created as a part of the human endeavour to express artistic experiences.

The artistic experience inherent in creating ceramic art is intricately linked to the adept management of materials and techniques. Proficiency in material handling within ceramic art serves as both a strength and a defining characteristic in the resultant artworks [24]. Furthermore, various types of clay materials capable of adapting to the technological advancements in ceramics are available [9], [11]. Technological innovation in ceramics serves as a supportive element in mastering exploratory techniques aimed at refining clay into aesthetic objects [8], [23], [25]. From various articulated perspectives, it becomes evident that the potency of the artistic experience in ceramic art creation lies in the depth of exploratory adaptation.

1.3 *Accident trauma*

The trauma arising from traffic accidents has repercussions on the human body's health system. This process occurs organically to facilitate the establishment of new bodily structures in shaping mental well-being [4]. Another assertion posits that accident events engender excessive fear [6]. This phenomenon stems from mental pressure that impacts human cognitive processes regarding personal safety [26]. Drawing from various assertions, experiencing an accident incident can lead to enduring mental detriment.

Prolonged distress constitutes trauma resulting from accident incidents. The unstable condition following an accident becomes a disruptive force in the form of recurring memories associated with the event [27], [28]. Addressing the mental disturbances entails redirecting the activities that bring pleasure to accident victims [12], [29]. Diversionary strategies serve as a method for constructing new mental frameworks [3]. From several perspectives presented, overcoming the trauma of an

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accident necessitates redirecting focus towards human thought processes.

2. Objectives

This scientific study complements previous researchers' findings, which lacked depth regarding biomechanical reconstruction in ceramic art creation to address trauma. This is crucial in addressing human issues related to accident trauma. This study specifically focuses on the method of healing trauma, which encompasses both physical and psychological aspects. It raises three important questions: (1) How do trauma triggers occur as part of biomechanical reconstruction through ceramic creation? (2) What types of ceramic art creation are involved in biomechanical reconstruction for patients experiencing trauma? (3) What are the relaxation achievement outcomes regarding trauma levels after undergoing biomechanical reconstruction through ceramic art creation? These three research questions can serve as scientific analyses to test the effectiveness of trauma healing methods through ceramic creation.

This study represents an extension of previous research, suggesting that through the process of biomechanical reconstruction in ceramic art creation, it is a means to produce artistic forms, unearth life experiences, and facilitate trauma healing in humans. Based on the engagement in biomechanical reconstruction activities in ceramic art creation, the researchers hypothesize that traumatic experiences could serve as a solution to create artistic visuals. Another hypothesis is that engaging in biomechanical reconstruction activities may provide physical and psychological comfort through artwork. Furthermore, there may be a reduction in the level of trauma experience from deep-seated issues to a more favourable direction, thereby achieving mental healing through biomechanical reconstruction in ceramic art creation. Thus, through biomechanical reconstruction in ceramic art creation, it can serve as an alternative solution to reduce trauma in humans, which has long been a physical and psychological concern.

3. Methods

The study focuses on the activity of ceramic art creation undertaken by a traffic accident victim. The victim is an individual who finds pleasure in creating ceramic art. This serves as a strong rationale for conducting biomechanical reconstruction to address the trauma experienced by the accident victim. The ceramic creation research took place in Hilir Kantor village, Nagabang district, Landak regency, West Kalimantan – Indonesia (Figure 1).

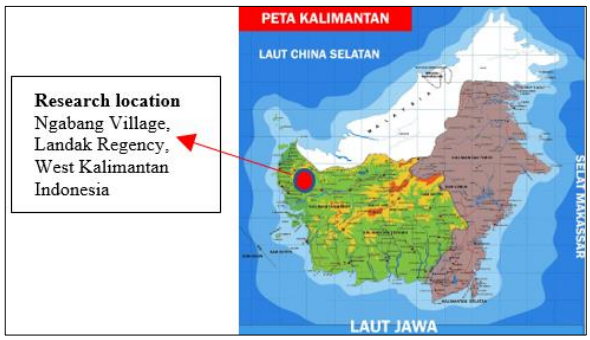

Figure 1: Research location map

The method employed in this research is artistic research to examine the depth of trauma through ceramic art creation. Reviewing the achievements of ceramic art creation in addressing trauma with numerical graphical representations requires quantitative methods. Both methods used are adapted from [30] to elucidate biomechanical reconstruction in ceramic creation to address trauma in traffic accident victims. Data were obtained through observations, interviews, photographs, videos, documents, and documentation from May 2023 to March 2024, during the period in which ceramic art creation was undertaken by traffic accident victims. Table 1 is the observation sheet used to guide biomechanical reconstruction in ceramic creation to address trauma in traffic accident victims.

Table 1. Biomechanical Reconstruction Creation Observation Sheet

Ceramics practice observation sheet (X)	Score (Y)
• Primely • Good • Passably • Deficient • Not good	• 1 • 2 • 3 • 4 • 5
Note:.....	Initials .....

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.....	

The observational data pertaining to ceramic creation comprise numerical values and descriptive accounts, which will subsequently be processed using statistical line graph axes (X and Y). In figure 2, the X-axis delineates achievement levels categorized as poor, fair, good, very good, and excellent, while the Y-axis encompasses numeric values ranging from 1 to 5. Following the acquisition of observational data, further elucidation will be sought through interviews involving psychologists, counsellors, physicians, and traffic accident victims engaged in biomechanical reconstruction through ceramic artistry. Presented below is table 2, delineating the interviewees and the types of data acquired.

Table 2. Interviewee Informants and Code

Informant code	Informant	Data type
BI 1	Individuals who have suffered trauma from accident	Picture, recordings
PA 1	Psychologist from police departement	Picture, recordings
PA 2	Psychology lecturer from Palangka Raya University	Photo, recordings
PA 3	Trauma counsellor from Palangka Raya University	Photo, recordings
DK 1	General practitioner treating accident victims	Photo, note
DK 2	Orthopaedic surgeon treating accident victims	Photo, recordings
DK 3	Therapist doctor treating accident victims.	Photo, note

Source : adaptated [31]

The data collection process involving interview activities will be augmented by documents possessed by various informants, along with print media documents. This endeavour aims to provide detailed affirmation regarding the accuracy of the obtained data. Presented below is table 3, enumerating the types of document data serving as references in this research.

Table 3. Document and code

Code	Document	Source
DD 1	Radiographic results of the accident victim's body from the hospital.	Antonius Pontianak Hospital
DD 2	Medical records from the doctor.	Antonius Pontianak Hospital
DD 3	Counsellor's notes related to the issues of a trauma patient.	Antonius Pontianak Hospital
DD 4	Psychologist's notes regarding trauma in the accident victim.	Tanjungpura Pontianak Hospital
DD 5	Health articles from a website.	https://www.halodoc.com/artikel/
DD 6	Articles on the benefits of clay from a website.	https://www.kompasiana.com/entertainmentgee

Source : adapted [31]

4. Results

4.1 *Triggers of Trauma in Accident Victims*

Accident victims often experience trauma that affects their daily lives, particularly in relation to their psychological well-being. Painful psychological events can lead individuals to experience abnormal conditions. Based on an interview with BI 1 (May 18, 2023), it was noted that after experiencing an accident, they felt vision disturbances, such as perceiving their surroundings as darker. Such sensory disruptions related to accident experiences are bodily responses to the traumatic event. According to an interview with PA 1 (May 7, 2023), several accident victims he had treated often experienced severe depression, subsequently expressing themselves through daydreaming, hysteria, and hallucinations. Table

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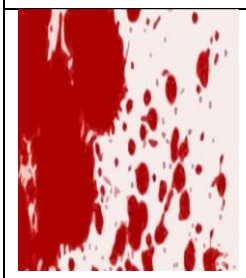
4 below presents traffic accident experiences, highlighting fear-induced depressive stimuli that can be visualized in graphical form.

Table 4: Visual Disturbances and BI 1's Description Related to Accident Trauma

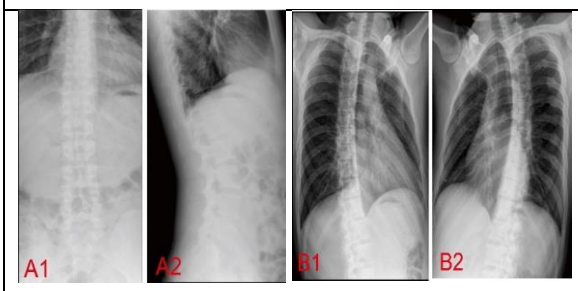
Disturbance description		Code
	After experiencing an accident, vision often becomes unfocused, as if there are dark shadows and lights. This induces panic, affecting respiration.	A 1
	The visual disturbances include seeing scattered blood clots, which appear as shadows when the individual is alone and away from others.	A 2
	These disturbances cause panic, leading to hallucinations of flying objects composed of layers with mixed colours.	A 3

Source : Documentation by Iwan Pranoto 2023

Trauma from accidents, in the form of visual disturbances, becomes a psychological issue. According to an interview with PA 2 (July 22, 2023), individuals who have experienced a tragedy in their lives will consistently face emotional pressure and mental disturbances, including illusory thoughts related to uncommon phenomena. In table 3, A2 and A3, it is shown that illusory thoughts provide stimuli that can be represented visually. PA 3 stated during an interview (August 3, 2023) that individuals experiencing mental disturbances due to accidents require psychological assessment to determine the depth of their trauma. An interview with BI 1 (May 30, 2023) revealed that experiencing high panic after a traffic accident results in anxiety and bodily instability

The anxiety experienced by the body can damage the mental state of accident victims. According to BI 1 (June 2, 2023), there is prolonged pain in the ribs and back when experiencing anxiety related to the accident. The anxiety manifested is a bodily response resulting from psychological disturbances. An interview with DK 1 (August 27, 2023) revealed that the body parts of patients who experience trauma from accidents can suffer pain due to mental panic, necessitating physical recovery. DK 2 (September 8, 2023) indicated that some patients with physical trauma experience pain in broken bones, requiring intensive treatment. Table 5 below outlines the prolonged pain in the ribs and back of traffic accident trauma patients.

Table 5: Document of Radiographic Issues Related to Rib Fractures in Traffic Accident Victims

Visual Documentation of Bone Issues in Traffic Accident Victims

❖ Document DK 2 (September 8, 2023): From the CXR image results, fractures of ribs 5 and 6 were found, specifically on the left posterior aspect, as depicted in images B1 and B2. The patient experiences chronic back pain with a history of trauma from an accident, as shown in images A1 and A2. Based on the medical findings, it is recommended that the patient undergo physiotherapy tailored to the specific needs of the body's musculoskeletal system. ❖ Document DK 3 (September 17, 2023): The recommended movement for the fracture in accident trauma patients involves physical contact through hand manipulation to train the spine, as depicted in images A1 and A2. Activities involving sensory

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touch of the hands may enhance emotional closeness for the patient and the materials used.

❖ Statement from BI 1 (September 8, 2023) during the interview indicated that there is pain felt in the lower back bones, as shown in images A1 and A2, which disturbs activities such as bending and carrying loads. The broken ribs on the left side, depicted in images B1 and B2, cause discomfort during sleeping, walking, and running.

Source : DD1 (2023)

4.2 Biomechanical Reconstruction of the Creation of Ceramic Art

The Biomechanical Reconstruction of Ceramic Art Creation is a response to the experience of traffic accidents leading to mental and physical disturbances. As expressed by PA 2 (July 24, 2023) during the interview, anxiety in trauma patients can be alleviated through clay massage treatment. Statement [32] suggests that clay massage can generate electrical energy, absorb toxins, and promote bodily wellness. An interview with DK 3 (September 24) emphasized the need for bodily stimulation during therapy as an energizing factor for patients' emotions. From the aforementioned statements, it can be inferred that providing stimulation in the process of practicing ceramic art is part of the biomechanical functioning system of the body. Table 6 presents the achievements of biomechanical therapy through ceramic art.

Table 6: The Act of Creating Ceramic Art

The Biomechanical Retraction Technique

❖ Conducting dense clay massage by positioning fingertips as support to generate sensory response and electrical signals in bone nerves..
❖ Repeatedly pressing the clay surface to reach nociceptors, thermoreceptors, and intrinsic muscles to achieve body relaxation.
❖ Gripping the clay to provide sensory stimulus and muscle pressure.
❖ Massaging and pressing, then repeatedly combining to convert pressure receptors into electrical energy in the body to aid in the body's combustion process.

Source : Adapted document DD 6 (15 January 2024) and Documentation of Iwan Pranoto 2023

The creation of ceramic art can be carried out with an appropriate control system. This refers to treatment being a guide in conducting biomechanical creation through ceramic art. Table 6 shows biomechanical reconstruction activities are performed in accordance with relaxation achievements through creation sheets. Reconstruction activities in Table 7, Action 1, involve providing stimuli to accident trauma victims, which are then redirected through ceramic creation. In Table 7, Action 2, the repetition of accident stimuli is conducted to assess the depth of trauma. Actions 1 and 2 in Table 7 are repeated five times to reduce anxiety through ceramic creation. Table 7 presents a visual reconstruction of biomechanical ceramic art creation as a diversion from trauma.

Table 7: Visual Biomechanical Reconstruction in Ceramic Art

					**Action 1**
Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	
The patient undergoes treatment repeatedly until there is an emotional change related to the feelings affecting their psychology. High levels of anxiety can then be channelled through various forms of clay to achieve a reduction in anxiety.					
					**Action 2**
Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	
The treatment activity of clay therapy progresses through several stages to achieve a reduction in trauma. The stages involve utilizing various forms of clay to transfer					

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energy to the body, aiming for the patient to feel better than before.	

Source : Documentation by Iwan Pranoto 2023-2024

The reduction of trauma through ceramic art creation can lead to psychological and physical well-being. As expressed by PA 2 (September 9, 2023) in an interview, the reduction of anxiety during ceramic creation can induce relaxation in the patient's body, especially in the healing of fractured trauma. An interview with DK 3 (September 24, 2023) revealed that by performing finger squeezing movements and massaging clay, it can burn fat in the body into electrical energy in the healing of bone fractures. [32] Clay in contact with human skin can act as a detoxifier, capable of repairing damaged cells. From the aforementioned statements, it is evident that clay is a medium capable of repairing damaged systems in the human body.

4.3 *The achievement of relaxation through ceramic art creation*

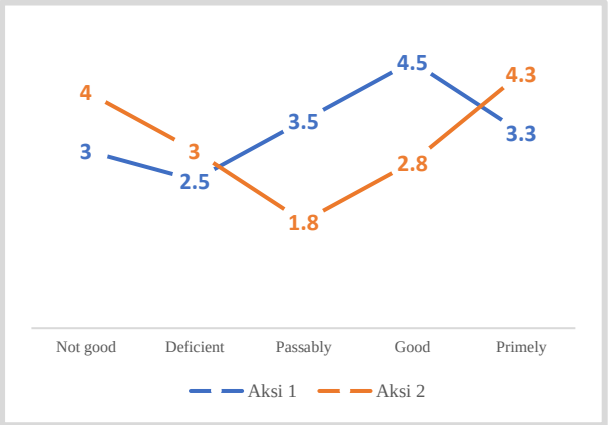
The achievement of relaxation through ceramic art creation is one of the outcomes of managing the hand's nervous system. [33] states that the nervous system in the human hand can exert control and have an impact on the entire body. This aligns with the biomechanical reconstruction presented in Table 4, where the management of creation achievements is conducted through numerical scales and achievement statements. In an interview with PA 2 (November 17, 2023), it was mentioned that the creation observation sheet can measure the level of trauma in accident victims, serving as an indicator of achievement in trauma management. Table 8 presents the achievements of biomechanical reconstruction in ceramic art, previously discussed in Table 7.

Table 8: Maximum Score Sheet for Biomechanical Reconstruction of Ceramic Art Creation

Type of action	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Action 1	X= Not Good Y= 3	X=Less Good Y= 2,5	X= Fairly Good Y= 3,5	X= good Y=4,5	X= very good Y=3,3
Action 2	X= Not Good Y= 4	X=Fairly Good Y= 3	X=Fairly Good Y=1,8	X=Good Y=2,8	X=Very good Y=4,3

Source: Observation Sheet by Iwan Pranoto 2023-2024

Based on the observation results of ceramic creation as biomechanical reconstruction conducted by accident victims. Table 6 shows the maximal values of each reconstruction stage performed five times in each action. The following is a line graph illustrating the results of biomechanical reconstruction in ceramic artwork to assess the depth level of trauma.



Graphic 1: Maximum Scores of Ceramic Art Biomechanical Reconstruction

The measured depth of trauma levels based on the data of biomechanical reconstruction process can serve as an indicator for subsequent actions. This is elucidated in graphic 1, indicating that actions 1 and 2 require biomechanical reconstruction of ceramic art creation to attain scores exceeding the maximum score on the X-axis (Excellent) and reaching point 5 on the Y-axis. As articulated during the interview with DK 3 (March 13, 2024), reconstruction is undertaken to train the nervous system in the hands through clay massage, thereby inducing relaxation in the muscular system and subsequently affecting the human brain. According to document DD 3 (February 17, 2024), patients are highly recommended to engage in physical contact through hands with clay to provide an energy response to every part of the body experiencing discomfort. Table 9 shows a duplicate of document DD 2 (January 7, 2024), which

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provides information concerning the outcomes of therapy through clay creation.

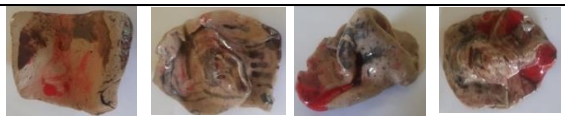
Table 9: Aspects of Biomechanical Reconstruction Achievements in the Creation of Ceramic Art to Address Trauma

Nerves in the hand	Achievements of Biomechanical Therapy through the Creation of Ceramic Art
Sensory Receptors	Generating electrical signals that impact the spinal nerves and extend to the brain.
Nociceptor	Pain response as a protective mechanism in the human body..
Thermoreceptor	Sensory response to the temperature of the human environment.
Sensory Receptors	Stimuli on the skin that respond to light touch with a deep sensation.
Intrinsic Muscles	High-level motor functions related to hand movement balance during activities..
Grasping Muscle Nerves	Triggering muscle contraction and relaxation according to instructions from the brain.
Sensory Stimulus	Stimulus nerves that signal external threats to the body.
Pressure Receptor	Rapid response through the brain system to pressure during activities.

Source: Copy of Document DD 2 (January 7, 2024)

The benefits of transforming clay into art can serve as a solution for healing trauma in accident victims. Document DD 4 (December 15, 2023) states that alleviating trauma can be achieved by providing opportunities for repeated ceramic art creation. This is reinforced by PA 3 (February 22, 2024) in an interview, asserting that repetitive ceramic art activities are part of addressing psychological issues. An interview with DK 3 (September 24, 2023) indicated that mental healing is facilitated by allowing patients to present several options of ceramic works created during therapy, which they feel most comfortable with. This aligns with document DD 3 (August 22, 2023), noting that patients experience happiness and joy when observing their ceramic works after firing. Table 10 show a copy of the results from document DD 4 regarding trauma victims of accidents, describing the happiness and joy patients feel upon seeing the therapeutic ceramics they created

Table 10: Achievement of Emotions in Accident Victims through Ceramic Art



A copy of document DD 4 (March 8, 2024) indicates that the victims selected four types of artwork representing the feelings associated with the mental disturbances they experienced. The resulting forms exceeded the creator's expectations, thus displaying gestures with increased confidence. Furthermore, the victims appeared more assured of their health condition, and their shift in focus from the trauma of the accident seemed to be diminishing. This was evidenced by their communication style and interaction with the creation facilitator.

Source: Document DD 4 (March 8, 2024) and documentation by Iwan Pranoto (2024)

5. Discussion

5.1. *Psychological Disorders*

Psychological disorders experienced after accidents pose challenges for individuals in their daily functioning. This condition leads accident victims to experience depression, which subsequently affects their social environment [4]. The psychological impact is felt by taxi drivers who experience accidents in Japan, becoming a serious issue concerning their performance and health [28]. Another feeling experienced by accident victims is mental pressure manifesting as hallucinations. Hallucinations in humans are a response to the body's stress related to perceived phenomena [34].

The social phenomena affecting the human mental system involve the acceptance of paradigms concerning every event. This constitutes the foundational framework for contemplating aspects of life that become life

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challenges [35], [36]. Several psychological issues experienced during accidents stimulate the body, resulting in a decline in concentration levels [27]. In the holistic context of life, it becomes imperative to augment both bodily and mental focus for individuals enduring accidents. This endeavour is pursued to facilitate the recovery from psychological disorders in humans, through activities such as engaging in ceramic art.

5.2 *Ceramic Art Creation for Cognitive Distraction*

Engaging in ceramic art activities involves a creative thinking process that engages every nervous system in the human hand. This is undertaken to formulate a visual language as a manifestation of imagination [37]. Achieving imaginative space in the mind can be responded to through hand movements to create a new form [18]. Through the process of creating ceramic art, a heightened level of focus in creation is induced. Engaging seriously in ceramic art creation activities will impact the nervous system of the artist.

Art produced through high levels of seriousness can stimulate the body's biomechanical system. Stimulation acquired through controlled movement aids the brain's system in achieving an artistic form [26], [38]. Activities related to artistic creation can provide relaxation for the human body [39]. For artists, the creative process is an emotionally enjoyable achievement. The ability to control emotions is part of achieving redirected concentration in human thinking [40]. From various statements, it can be inferred that the ability to create ceramic art has a positive impact on overcoming trauma as a life issue.

5.3 *Psychological Recovery*

Psychological recovery for accident victims can be achieved by improving mental health. This can be accomplished by providing specialized services through medical consultations regarding the outcomes of the treatment provided [41]. The implementation of measured ceramic art creation activities through achievement scale sheets can serve as an indicator of trauma recovery attainment. Various societal groups experiencing job-related trauma can be assessed using morphology boxes to review the understanding of negative emotions [28], [42]. Reviewing the level of trauma based on relaxation companion activities can serve as a reference for addressing mental health issues through follow-up processes [43].

Mental recovery from accident-related trauma is closely tied to lifestyle management. Taking steps to incorporate enjoyable activities into one's routine can lead to a better state of mind and have a positive impact on overall bodily health [9], [21], [44]. This is accomplished through engaging in ceramic art creation as part of treatment and documenting each creative achievement. Achieving success in ceramic art creation is inseparable from the process of providing appreciation to foster a high level of self-confidence [45]. From various statements, it can be inferred that psychological recovery for accident victims can be facilitated by exploring the enjoyment of creating ceramic art, supported by guidance processes and achievement records to provide mental reinforcement.

6. Conclusion

The most significant findings in this research include strategies for addressing prolonged trauma levels in accident victims through engaging in ceramic art creation activities. There are several non-operative and operative interventions through cognitive diversion to provide mental reinforcement. In the process of mental strengthening through ceramic art creation, the management of the hand nervous system was found as a response to the biomechanical processes shaping the body's system. This was structurally observed through monitoring the guidance associated with each ceramic creation action, enabling the depth of trauma levels to be addressed. Ceramic art creation reconstruction methods can be performed at various levels by controlling body movement systems so that accident victims feel physically and psychologically better.

This research contributes scientifically to the fields of art creation, psychology, and biomechanical therapy through body movement reconstruction. Previous research on biomechanical reconstruction has primarily focused on therapy interventions in the medical field, without specific attention to ceramic art, which plays a part in mental recovery processes. These findings serve as a method to address trauma in humans through ceramic creation, incorporating artistic thought as part of relaxation achievement. In formal and non-formal education, as well as in the fields of psychology and healthcare, this research will serve as a source and

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method for development, involving governmental, educational, and societal institutions.

There are several limitations in this research, including the number of variables, informants, and analyses. There are still other variables related to biomechanical reconstruction through ceramic creation to address trauma, including limitations in clinically-oriented approaches, and the precision of variables in measuring trauma levels. Another weakness lies in the focus solely on trauma victims of accidents, whereas there may be other victims with trauma levels that should be addressed through biomechanical reconstruction via ceramic creation. Limitations in informants represent another weakness that needs to be anticipated concerning the strength of research data. This research needs further refinement through additional studies that can delve deeper into biomechanical reconstruction through ceramic creation to address accident trauma.

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