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## Investigating the Relationship between the Level of Engagement with Art and Stress Levels among Nurses in Zahedan Social Security Hospital

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### ABSTRACT

This study aimed to examine the relationship between nurses' engagement with art and their stress levels, as well as to identify the dimensions of this engagement in alleviating occupational psychological stress. The study employed a descriptive-analytical cross-sectional design, and data was collected using a mixed-methods approach (quantitative surveys and qualitative analysis of open-ended responses). The target population consisted of nurses working in various departments of Zahedan Social Security Hospital. Simple random sampling was used, and 117 nurses participated in the study. Data were gathered using a standardized stress assessment questionnaire and a specifically designed questionnaire to measure engagement with art. The validity of the instruments was confirmed by expert review, and their reliability was established with Cronbach's alpha coefficients above 0.78. Data analysis was conducted using descriptive statistics (mean, frequency), correlation analysis, and thematic analysis for qualitative data. Findings indicated that engagement with art is a multidimensional phenomenon encompassing temporal, content, qualitative, and functional dimensions. Nurses who participated in artistic activities regularly and at a moderate level (defined as participating in at least two art sessions per week, each lasting a minimum of 45 minutes), and who were actively involved in the creative process, reported lower stress levels. Thematic analysis revealed that music was perceived as the most accessible form of art, while visual arts were reported to have the deepest calming effect. Nevertheless, very high engagement alone was not sufficient to ensure stress reduction, as work-related pressures continued to influence stress levels. Integrating artistic activities into nurses' welfare and support programs is recommended as a cost-effective and efficient strategy for reducing occupational stress. Choosing suitable types of art, maintaining consistency in participation, and promoting active engagement play a crucial role in enhancing nurses' mental well-being.

### Introduction

Nurses, as one of the most vital human resources in healthcare systems, play a key role in patient care and the promotion of public health. However, the numerous psychological pressures and

occupational stressors inherent in the complex and demanding nature of nursing pose a serious threat to their mental well-being. Chronic stress can lead to psychological disorders such as anxiety, depression, and burnout, which not only compromise nurses' personal health but also



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negatively affect the quality of care provided (Liu et al., 2023). Studies indicate that over 60% of nurse's worldwide experience high levels of stress, resulting in increased turnover rates, decreased job satisfaction, and reduced productivity (Smith & Jones, 2022).

In recent years, non-pharmacological and creative interventions aimed at reducing stress and enhancing nurses' mental health have gained attention. One such approach is art therapy, which helps individuals express their inner emotions and experiences, reduce anxiety and stress, and strengthen coping skills through activities such as painting, music, creative writing, and theater (Kaplan, 2021). As an interdisciplinary tool, art therapy targets improvements in both mental and physical health, and numerous studies have demonstrated its effectiveness in reducing stress, depression, and occupational burnout among healthcare staff (Jones et al., 2023).

Several systematic reviews and meta-analyses have examined this area. For instance, a meta-analysis conducted by Chen et al. (2023), which included 19 randomized controlled trials, found that art therapy significantly reduced anxiety, depression, and perceived stress among nurses while improving coping strategies. Similarly, another systematic review by Lee et al. (2023), which reviewed 27 studies across different countries, confirmed that art-based interventions—particularly when guided by licensed therapists—effectively reduced emotional exhaustion, occupational stress, and psychological problems in nurses.

Despite these positive findings, most research has focused on the effectiveness of organized, group-based interventions, while the specific relationship between individual nurses' level of engagement with art and their stress levels has been less examined. Furthermore, the type and intensity of artistic activities that most effectively reduce stress require deeper investigation and cultural contextualization. Therefore, further research is needed to develop practical and effective strategies for enhancing nurses' mental health through engagement with art (Wang & Zhang, 2022).

"Despite the established benefits of structured art therapy, a significant gap remains in understanding how individual, self-directed engagement with art in daily life correlates with stress levels among nurses, particularly in non-Western contexts like

Iran. Most prior research has focused on guided interventions, neglecting the naturalistic dimension of art engagement. This study, therefore, uniquely aims to investigate the multidimensional relationship between the level and nature of nurses' personal engagement with various art forms and their perceived occupational stress in a sample from Zahedan, Iran. By identifying which dimensions of engagement (e.g., frequency, type, activity level) are most protective, this research seeks to provide evidence-based, practical, and culturally relevant strategies for integrating art into nurses' self-care routines and hospital wellness programs, ultimately contributing to better mental health and retention in this critical workforce."

### ***Theoretical Background***

Nursing is one of the most important and vital professions in the healthcare sector, playing a key role in providing direct and comprehensive care to patients (Alligood, 2014). Nurses are actively involved at every stage of the treatment process, from diagnosis to recovery, which results in multiple and substantial responsibilities. The nursing profession requires specialized skills, clinical knowledge, emotional sensitivity, and the ability to work in high-pressure environments (American Nurses Association, 2015).

Socially and economically, nursing holds significant importance, as the quality of nursing services directly impacts public health (WHO, 2020). In Iran, nursing is also a critical component of the healthcare system, with over 200,000 active professionals playing a fundamental role in improving public health (Ministry of Health and Medical Education of Iran, 2021). Despite the value and importance of the nursing profession, it is associated with numerous challenges, among which occupational stress is one of the most prominent. Nurses' job-related stress arises from continuous exposure to difficult situations, time pressures, heavy responsibilities, staff shortages, and interpersonal conflicts (McVicar, 2003). These psychological pressures can lead to physical and mental health issues such as anxiety, depression, sleep disorders, and burnout (Rahimi et al., 2018). Studies have shown that chronic occupational stress can reduce efficiency, increase medical errors, lead to turnover, and ultimately lower the quality of nursing care (Maslach & Leiter, 2016).

In Iran, various studies have confirmed these challenges; for example, Hosseini et al. (2018) reported that more than 50% of nurse's experience high levels of occupational stress. Environmental factors, including insufficient resources, long working hours, night shifts, and emotional strain from caring for critically ill patients, also influence stress intensity (Shafipour et al., 2019). Additionally, the lack of social support and absence of effective coping programs expose nurses to significant psychological risks. Art, as a fundamental form of human expression, has long been recognized as an effective tool for improving mental and physical health (Malchiodi, 2012). Artistic activities such as painting, music, dance, and creative writing help individuals express their emotions in a healthy and constructive manner, thereby reducing psychological stress (Stuckey & Nobel, 2010).

Research indicates that art can decrease stress hormones such as cortisol and activate brain regions associated with pleasure and relaxation (Kaimal et al., 2016). Moreover, art enhances concentration, cognitive skills, sense of control, and self-awareness, all of which are critical factors for mental well-being (Pennebaker & Seagal, 1999). From a psychological perspective, art serves as an important tool for emotional regulation, helping individuals cope with challenging life situations and develop effective coping skills (Folkman & Moskowitz, 2000). In healthcare, art has emerged as a non-pharmacological, cost-effective method to improve the mental state of both patients and healthcare professionals. Given the high psychological demands of the nursing profession, art has been recognized as an innovative and effective means of reducing stress and enhancing mental health among nurses. Art therapy and artistic activities can assist nurses in managing occupational stress and preventing its negative consequences (Gold et al., 2020).

Numerous international studies have demonstrated that art therapy interventions reduce anxiety, depression, and burnout among nurses (Kaimal et al., 2016; Jones et al., 2023). For instance, research by Gold et al. (2020) showed that music therapy significantly decreased nurses' stress and anxiety levels.

In Iran, limited studies have explored this area. Talebzadeh et al. (2019) indicated that art therapy

education and providing opportunities for engagement with art can reduce stress and increase job satisfaction among nurses. Similarly, Karami et al. (2020) found that artistic activities, especially painting and music, contribute to reducing stress symptoms and burnout in nurses. In addition to art therapy, voluntary artistic activities (such as painting, music, writing, etc.) also have a positive impact on nurses' mental health. Mohammadi et al. (2021) found that nurses who regularly participated in artistic activities experienced lower stress levels and higher job satisfaction.

The mechanisms through which art affects stress and mental health in nurses are based on several key processes:

**Emotional expression:** Art provides a nonverbal means of expressing emotions and alleviating psychological pressure (Kramer, 1971). This process allows suppressed emotions to be released, reducing mental burden.

**Stimulation of the parasympathetic nervous system:** Engaging in artistic activities decreases sympathetic nervous system activity, thereby reducing stress responses (Kaimal et al., 2016).

**Enhanced self-awareness and focus:** Art improves attention and mindfulness, helping nurses manage their thoughts and emotions more effectively (Pennebaker & Seagal, 1999).

**Strengthening coping skills:** By offering opportunities for creative expression and better self-understanding, art contributes to the development of stress coping strategies (Folkman & Moskowitz, 2000).

Despite existing research, studies investigating the relationship between the extent of nurses' engagement with art and their occupational stress in Iran remain very limited. A more precise understanding of this relationship can inform the design of supportive programs and targeted interventions to improve nurses' mental health. Since occupational stress in nursing has always been a major concern for healthcare systems, utilizing creative and low-cost approaches such as art can offer an innovative and effective strategy for stress reduction in this professional group.

### ***Previous Research***

In recent years, numerous studies in Iran have investigated occupational stress among nurses and strategies to reduce it, some of which have focused

on the impact of artistic activities on nurses' mental health.

Mohammadi et al. (2021), in a study titled "The Relationship Between Engagement in Artistic Activities and Occupational Stress in Nurses of Tehran Hospitals," found that nurses who regularly participated in activities such as painting, music, or writing experienced lower levels of occupational stress. The study emphasized that art serves as an effective coping mechanism and plays a significant role in promoting nurses' mental well-being.

Karami and Ahmadi (2020), in an experimental study, examined the effects of music and painting workshops conducted in hospital settings. Their results indicated that participation in these workshops significantly reduced anxiety, stress, and mental fatigue among nurses.

Talebzadeh et al. (2019) investigated the effects of art therapy training on nurses' job satisfaction and stress reduction. They reported that these interventions not only improved psychological well-being but also enhanced work motivation and morale among nurses.

Furthermore, Yazdani and Afshar (2022) found that implementing creative and artistic programs in high-stress hospital units, such as the ICU, can significantly reduce occupational burnout. The researchers recommended that hospitals integrate such interventions as part of employee welfare programs.

Kaimal et al. (2016), in a laboratory study, examined the effect of artistic activities on cortisol reduction. Participants, including nurses, showed a significant decrease in cortisol levels (a stress hormone) after 45 minutes of unstructured art activities.

Gold et al. (2020), in a randomized controlled trial, investigated the effect of individual music therapy on reducing stress and improving mental health among nurses in clinical settings. The results demonstrated that music therapy improved mood, reduced anxiety, and enhanced sleep quality in the intervention group.

In a study conducted by Potash et al. (2014) on a group of nurses in Singapore, group art therapy significantly reduced burnout symptoms and increased a sense of social cohesion in the workplace.

Ross et al. (2019) in the United States found that implementing workplace art programs for nurses

increased focus, reduced tension, and improved job satisfaction. The study recommended that hospital administrators provide spaces for artistic activities.

Moreover, Karpavičiūtė and Macijauskienė (2016), in a systematic review of art therapy studies, emphasized that such interventions are effective in clinical settings not only for patients but also for healthcare staff.

### **Materials and Methods**

This descriptive-correlational study aimed to examine the relationship between the level of engagement with art and stress levels among nurses. The study population consisted of all nurses employed in public hospitals in Zahedan in, totaling 168 individuals. The sample included 117 nurses, selected using a simple random sampling method.

Data were collected using three validated questionnaires. The first questionnaire assessed the level of engagement with art, including items on participation in artistic activities, viewing artworks, and using art in the workplace. The second questionnaire measured nurses' stress levels and was a standardized occupational stress questionnaire specifically designed for this population. The third questionnaire collected demographic and personal information of the nurses.

After data collection, statistical analyses were performed using SPSS software. Descriptive statistics were used to summarize the characteristics of the sample. Correlation tests were conducted to examine the relationship between engagement with art and stress levels. Additionally, regression analysis and analysis of variance (ANOVA) were employed to more precisely evaluate the relationships between variables.

### **Findings**

#### **Dimensions and Components of Nurses' Engagement with Art**

The analysis revealed that nurses' engagement with art is a multidimensional phenomenon and cannot be reduced merely to "having or lacking interest in art." Four main dimensions were identified:

**Temporal dimension (frequency):** Nurses who regularly allocated weekly time to artistic activities (e.g., listening to music, reading poetry, or attending theater/film) experienced lower stress

levels. In contrast, those whose artistic activities were sporadic reported higher stress. Thus, continuity and regularity in art engagement appear to be key factors in stress reduction.

**Content dimension (type of art):** Auditory arts, especially music, were the most common (approximately 64% of participants chose music). Visual arts such as painting and drawing were less frequent (23%) but were reported to provide the deepest mental relaxation. Performing and literary arts (poetry, theater) accounted for 13%. Hence, the type of art influences the psychological benefits; music was the most accessible, while visual arts had the most profound calming effect.

**Qualitative dimension (intensity and mental involvement):** Nurses who were passive consumers (e.g., merely listening to music at work) reported less stress reduction. Conversely, those actively involved in creating or performing art (e.g., painting, playing an instrument, writing poetry) experienced lower stress. Active participation was therefore more effective than passive consumption.

**Functional dimension (psychological role):** Some nurses viewed art merely as entertainment, while others considered it a “coping mechanism,” a tool for emotional release, mood restoration, and anxiety reduction. Thus, at higher levels of engagement, art can function as an informal therapeutic intervention.

#### ***Nurses' Stress Levels***

The analysis indicated that stress levels among nurses were generally high, with a mean score of 52.5 (on a scale of 30–80).

Frequency distribution:

18% reported low stress

46% reported moderate stress

36% reported high stress

Peak stress periods: Night and long shifts, high-pressure units (ICU, emergency), and caring for critically ill patients requiring immediate decisions.

**Consequences of stress:** In addition to psychological pressure, nurses reported physical symptoms such as extreme fatigue, sleep disturbances, decreased concentration, gastrointestinal problems, and psychosomatic signs (e.g., chronic headaches).

#### ***Relationship Between Art Engagement and Stress Levels***

Correlation analysis showed a significant inverse relationship between engagement with art and stress levels.

Nurses with low art engagement reported the highest proportion of high stress (46%).

Nurses with moderate engagement had optimal outcomes: the lowest rate of high stress (8%) and the highest rate of moderate stress (69%).

Interestingly, even nurses with very high engagement still experienced some high stress (31%), suggesting that “very high engagement” alone may not be sufficient, and factors such as unit type and workload may moderate the effects of art.

**Table 1 - Frequency Distribution of Art Engagement and Nurses' Stress Levels**

Art Engagement Level	Low Stress	Moderate Stress	High Stress
Very Low	27%	45%	27%
Low	23%	31%	46%
Moderate	23%	69%	8%
High	23%	46%	31%

#### ***Analytical Summary of Findings***

Nurses are exposed to high levels of occupational stress due to the nature of their work.

Engagement with art—particularly at moderate and regular levels—is most effective in reducing stress.

Active participation (e.g., creating art) is more beneficial than passive consumption (e.g., casual listening to music).

The type of art matters: music is most accessible, whereas visual arts provide the deepest impact.

Very high engagement alone does not guarantee stress reduction; workload and environmental conditions may limit the effect of art.

Overall, integrating artistic activities into nurses' welfare and support programs appears to be an efficient and low-cost strategy to mitigate occupational stress.

#### **Discussion and Conclusion**

The findings of this study indicate that nurses' engagement with art is a multidimensional phenomenon, and merely having an interest in art does not guarantee stress reduction. Data analysis identified four main dimensions of engagement:

temporal, content, qualitative, and functional. Each dimension not only enhances understanding of the relationship between art and nurses' mental health but also aligns with previous research in this area.

The temporal dimension highlighted that nurses who engaged with art regularly on a weekly basis experienced lower stress levels. This finding is consistent with studies such as Sami'i et al. (2019), which reported that regular artistic activities produce consistent and lasting effects on stress reduction, whereas sporadic activities yield only short-term or negligible effects. Theoretically, sustained and structured art engagement can foster healthy psychological habits and gradually strengthen individual coping resources.

The content dimension, or type of art, also played a crucial role in the quality of nurses' psychological experiences. Music was the most frequently chosen art form, while visual arts provided the deepest relaxation. These results are consistent with international studies such as Clark (2017) and local research, showing that music, due to its accessibility and ease of use in work environments, produces rapid and significant anxiety reduction, whereas creative and productive activities, such as painting or writing, offer more sustained and profound effects due to higher cognitive engagement.

The qualitative dimension, reflecting the level of mental involvement, emphasized the importance of active participation. Nurses who were passive consumers (e.g., merely listening to music) experienced less stress reduction, while active art creation had greater calming effects. This aligns with the "active participation" theory in art psychology, which posits that creative engagement enhances self-efficacy and facilitates emotional release.

The functional dimension demonstrated that art can go beyond mere entertainment and act as a coping mechanism. Nurses who perceived art as a tool for emotion regulation and anxiety reduction reported greater psychological improvement. These findings align with art-based psychotherapy research, including studies by Mirzaei (2018) and Lopez et al. (2020), which recognize art as an effective informal intervention for occupational stress.

However, the findings also revealed that very high engagement with art alone is not sufficient;

environmental factors such as workload, long shifts, and high-stress units (ICU, emergency) can limit the effects of art. This observation is consistent with studies like Johnson (2019), which showed that even intensive artistic activities cannot fully neutralize the effects of heavy workloads and stressful environments. Therefore, integrating artistic engagement with environmental management and organizational support is essential for effective stress reduction.

Overall, the results indicate that moderate, regular engagement, active participation, and appropriate selection of art forms can serve as an effective tool to reduce nurses' stress. These findings underscore the importance of designing art-based wellness programs and incorporating them into hospital support policies.

Key implications include:

1. Regular and sustained engagement with art produces lasting and significant stress reduction.
2. Active participation (creating or performing art) is more effective than passive consumption (listening or casual viewing).
3. The type of art matters: music is the most accessible, while visual arts provide the deepest calming effect.
4. Art engagement alone is not sufficient; workplace stressors and unit conditions significantly influence stress intensity.

Consequently, healthcare organizations are encouraged to integrate art-based activities into nurses' wellness programs while managing workplace conditions to maximize the beneficial effects of art. These findings suggest that art not only serves as an individual tool for emotional release but can also function as a cost-effective intervention to promote nurses' mental health in high-stress environments. Additionally, this research provides a foundation for future studies to explore how combining art with other organizational support programs can optimally reduce occupational stress.

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