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A Preliminary Study on the Role of Drawing Art in Stress Management among University Students: Evidence from a Fine Arts Drawing Group

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Abstract

This preliminary study examines the effectiveness of drawing art as a stress management method among university students. Specifically, it investigates how engagement, performance, and life satisfaction influence perceived stress and how reduced stress, in turn, sequentially improves the drawing art experience. The study employed a quantitative pre-test/post-test design involving 40 fine arts students from a public university in Chengdu, China. Participants took part in a structured four-hour drawing session designed to encourage thoughtful expression and creative engagement.

Findings from paired t-tests indicated a significant decrease in perceived stress levels following the intervention ($p < .001$). Regression analysis further revealed that engagement ($\beta = -0.42$, $p < .01$), performance ($\beta = -0.38$, $p < .01$), and life satisfaction ($\beta = -0.44$, $p < .01$) significantly predicted lower stress levels. Furthermore, reduced stress significantly predicted the drawing art experience ($\beta = 0.56$, $p < .001$).

These findings support that participation in drawing art activities improves psychological health by encouraging mindfulness, emotional regulation, and satisfaction. The study contributes to both art education and psychological health research by providing empirical evidence of drawing' s beneficial and educational value. It also highlights the importance of integrating art-based mindfulness and creative interventions into higher education programs to foster emotional flexibility, engagement, and academic well-being among students.

Keywords: Drawing art, perceived stress, engagement, performance, life satisfaction, art-based intervention, university students, well-being

Introduction

As they managed rigorous academic workloads, competitive situations, and the difficulties of social adjustment, university students were increasingly facing significant levels of psychological stress. According to Kang et al. (2021), the shift to university life frequently brought challenges pertaining to identity development, financial limitations, and performance expectations, all of which raised stress levels and worsened mental health. Fine arts students, in particular, experienced added emotional pressures because fine arts education required ongoing innovation, critical assessment, and public display of work, which could exacerbate anxiety and self-doubt (Toh & Koh, 2020). Thus, stress management in artistic fields was a pressing concern that called for imaginative coping mechanisms suited to this group. Drawing had long been acknowledged as a therapeutic and introspective activity that promoted psychological resilience, emotional expressiveness, and awareness. Empirical research showed that creating art could improve emotional stability, encourage relaxation, and reduce cortisol levels (Drake & Winner, 2022; Kaimal & Ray, 2019). For students, drawing offered a means to explore themselves, release emotions, and externalize difficult feelings that might otherwise have led to stress and exhaustion. Therefore, integrating art-based activities as a stress-management approach in academic settings provided an opportunity to link learning goals with mental health support.

This study was important because it deepened understanding of how drawing experiences helped fine arts students cope with stress. Although prior studies noted general benefits of art engagement, empirical evidence on sketching and psychological well-being in university art education remained limited. By examining how engagement, performance, and life satisfaction related to reduced perceived stress, this study addressed a key gap in art education and mental health literature. The findings were intended to inform curriculum development, student support services, and art-based therapeutic interventions in higher education. Accordingly, this study argued that sketching reduced perceived stress by increasing engagement, improving performance, and enhancing life satisfaction, supporting creative expression as a practical strategy for emotional balance and academic well-being among university students.

Objectives

1. To examine the relationship between engagement, performance, and life satisfaction with perceived stress among fine arts students.
2. To determine the mediating role of drawing art experience in reducing perceived stress.
3. To explore the effectiveness of drawing art as a coping mechanism for stress management among university students.

Hypotheses

This preliminary investigation tested two primary hypotheses concerning the role of drawing art in stress management among university students, based on evidence from a fine arts drawing group.

H1: Engagement, performance, and life satisfaction have significant effects on reducing perceived stress through drawing art experience among fine arts students in China.

H1a: Increasing engagement has a significant effect on reducing perceived stress through drawing art experience among fine arts students in China.

H1b: Enhancing performance has a significant effect on reducing perceived stress through drawing art experience among fine arts students in China.

H1c: Improving life satisfaction has a significant effect on reducing perceived stress through drawing art experience among fine arts students in China.

H2: Reducing perceived stress has a significant effect on drawing art experience among fine arts students in China.

Literature Review

1. Theoretical Foundations for Reducing Perceived Stress

This study integrates three complementary theoretical lenses the Transactional Model of Stress and Coping, Art Therapy Theory, and Self-Determination Theory (SDT) to explain how drawing experiences can reduce perceived stress among fine arts students. Rather than operating independently, these theories form a multi-level explanatory chain: SDT clarifies why students engage in drawing and sustain motivation; Art Therapy Theory explains what psychological processes are activated during drawing; and the Transactional Model explicates how these processes translate into stress appraisal and coping outcomes. Together, they provide a coherent justification for the proposed conceptual model linking drawing engagement, academic/creative outcomes, life satisfaction, and perceived stress.

1.1 Self-Determination Theory (SDT): Motivation and Engagement as the Starting Mechanism

Self-Determination Theory (Deci & Ryan, 2000) posits that individuals are intrinsically motivated when activities satisfy three basic psychological needs: autonomy, competence, and relatedness. In the context of drawing, students experience autonomy through self-directed creative choice, competence through skill development and visible progress, and relatedness when artistic work connects them to peers, instructors, or audiences. Empirical studies indicate that need satisfaction fosters intrinsic motivation, persistence, and psychological resilience (Ryan & Deci, 2017).

Accordingly, SDT provides the motivational foundation for this study: when drawing is experienced as self-determined and meaningful, students are more likely to engage deeply and regularly. This sustained drawing engagement is therefore conceptualized as the first pathway through which drawing influences psychological well-being and stress reduction.

1.2 Art Therapy Theory: Emotional Processing and Well-Being During Drawing

Art Therapy Theory emphasizes that creative expression enables nonverbal emotional release, self-reflection, and cognitive integration, helping individuals process inner experiences in a psychologically adaptive way (Malchiodi, 2012). Drawing allows students to externalize complex emotions, transform tension into symbolic or aesthetic forms, and gain insight into personal meaning. Physiological evidence further supports this mechanism, showing that art-making can reduce cortisol and promote relaxation (Kaimal et al., 2017).

Within the integrated framework, Art Therapy Theory explains what happens psychologically once students are engaged in drawing: engagement activates emotional regulation and reflective processing. These processes are expected to enhance subjective well-being and contribute to life satisfaction, while also supporting academic/creative functioning (performance). Thus, drawing engagement is not only motivational (SDT) but also therapeutic, producing internal benefits that are relevant to stress outcomes.

1.3 Transactional Model of Stress and Coping: From Drawing Outcomes to Reduced Stress

The Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) conceptualizes stress as a product of cognitive appraisal: stress emerges when perceived demands exceed perceived coping resources. From this view, drawing functions as an emotion-focused coping strategy that supports reappraisal, self-regulation, and psychological balance (Folkman, 2013). Importantly, in this study's model, drawing reduces stress indirectly through improved internal and external resources. As drawing engagement strengthens emotional regulation (Art Therapy Theory) and sustains intrinsic motivation (SDT), students are better able to cope with academic and creative pressures. Enhanced performance and higher life satisfaction can be understood as coping resources that shift appraisal of stressors from threat to challenge, thereby lowering perceived stress.

1.4 Integrative Perspective: A Coherent Chain of Complementary Theories

Taken together, the three theories form an aligned explanatory sequence. SDT identifies drawing as a self-determined activity that fulfills psychological needs, thereby increasing intrinsic motivation and engagement. Art Therapy Theory explicates how this engaged art-making enables emotional expression, reflection, and regulation,

strengthening well-being and creative/academic outcomes. The Transactional Model then explains how these enhanced resources promote adaptive appraisal and coping, ultimately reducing perceived stress.

2. Reducing Perceived Stress in Drawing Art Experience among Fine Arts Students.

University students commonly encounter multiple stressors, including academic demands, social expectations, and uncertainty about future careers. For fine arts students, these pressures are intensified by the evaluative and emotionally demanding nature of artistic training, which requires sustained creativity, technical competence, and public appraisal of work (Kang et al., 2021; Toh & Koh, 2020). The obligation to continuously produce original, high-quality outputs often elevates perceived stress, anxiety, and burnout.

Within this context, drawing particularly sketching has been recognized as a viable coping approach that supports emotional regulation and psychological balance. From an integrated theoretical view, drawing engagement begins as a self-determined activity that satisfies autonomy and competence needs, thereby sustaining intrinsic motivation (Self-Determination Theory). As students become absorbed in the creative process, drawing facilitates emotional externalization, reflection, and catharsis, enabling them to process internal tension in a nonverbal and constructive form (Art Therapy Theory; Malchiodi, 2012). Empirical evidence shows that art-making can reduce physiological stress indicators such as cortisol and promote relaxation and positive affect (Kaimal et al., 2017). The immersive, rhythmic quality of sketching may also foster a flow-like state characterized by intense concentration and reduced self-conscious rumination, temporarily interrupting anxious thought patterns (Csikszentmihalyi, 2014).

These psychological processes are closely tied to performance satisfaction and self-efficacy, which function as critical coping resources. When students perceive progress and mastery in their artistic work, they develop confidence and resilience, increasing their sense of control over academic and emotional challenges (Goodman & Svyantek, 2011). In parallel, positive experiences in drawing can enhance life satisfaction, as meaningful engagement and perceived achievement support broader well-being and adaptive adjustment (Diener et al., 1985). According to the Transactional Model of Stress and Coping,

improved performance satisfaction and life satisfaction strengthen coping capacity and shift the appraisal of demands from threat to manageable challenge, thereby lowering perceived stress.

Drawing experiences also generate social and identity-related benefits that reinforce stress reduction. Recent studies suggest that group-based art activities foster belonging, shared understanding, and emotional support, which can mitigate loneliness and anxiety (Kaimal & Ray, 2019). In fine arts classrooms, structured drawing groups can provide a psychologically safe space for students to exchange feedback, reflect on challenges, and normalize creative pressures, thereby strengthening both engagement and coping strategies.

3. Gaps in Current Research and Methodological Challenges

There is strong evidence for the psychological benefits of creative engagement in the body of research on art- based therapies and stress reduction. Drawing on Self-Determination Theory (Deci & Ryan, 2000) and Art Therapy Theory (Malchiodi, 2012), prior studies have shown that participation in artistic activities enhances intrinsic motivation, supports emotional regulation, and promotes mindfulness. Through drawing and other visual arts, individuals can experience autonomy and control, gain cognitive clarity, and externalize internal emotions (Kaimal et al., 2017; Curry & Kasser, 2005). Studies in clinical and educational settings have demonstrated that even brief periods of art-making can improve emotional balance through self-expression and focused attention (Bell & Robbins, 2007) and significantly reduce physiological stress markers such as cortisol (Kaimal & Ray, 2019). Despite these promising findings, substantial gaps remain in understanding how the mechanisms of performance, engagement, and life satisfaction work together to reduce stress through drawing art experiences, particularly in formal higher education contexts.

A major research gap concerns the limited contextual diversity of existing studies. Most empirical research on art therapy and creative engagement has been conducted in clinical settings or Western contexts, with a primary emphasis on therapeutic outcomes among patients or adult populations more broadly (Kaimal et al., 2017; Stuckey & Nobel, 2010). Culturally grounded research examining the psychological effects of art-making

in Asian academic environments remains limited, particularly with regard to Chinese fine arts students. Cultural norms related to academic pressure, creative performance, and emotional expression may shape how Chinese students experience and benefit from drawing-based stress management interventions (Kang et al., 2021). Therefore, the generalizability and practical relevance of global findings to this specific educational and cultural context are constrained by the lack of localized empirical evidence.

A number of methodological issues related to measurement, sample diversity, and experimental control are also evident in the existing literature. Many studies rely heavily on self-reported measures of well-being, which may be influenced by social desirability effects or subjective bias (Drake & Winner, 2022). In addition, small sample sizes and the frequent use of convenience or non-randomized sampling techniques have limited the robustness and external validity of research findings (Kaimal & Ray, 2019). Compared with clinical investigations, experimental designs that assess physiological stress responses such as cortisol levels or heart rate variability remain relatively uncommon in educational art research (Kwak et al., 2020). Moreover, much of the literature treats "art-making" as a broad and undifferentiated activity, rather than examining the specific benefits of drawing, which involves distinct motor, cognitive, and attentional processes associated with concentration, flow, and emotional regulation (Csikszentmihalyi, 2014). Collectively, these methodological limitations underscore the need for more rigorous, context-sensitive research that integrates behavioral, psychological, and physiological data to evaluate the effectiveness of art-based interventions for stress management among students.

Another significant gap in the literature is the absence of integrative frameworks that connect individual psychological factors such as engagement, perceived performance, and life satisfaction with stress reduction outcomes. Although these constructs have been examined independently within educational psychology and mental health research, few studies have investigated how they interact within a unified model of creative engagement (Ryan & Deci, 2017). The lack of such an integrative approach limits a comprehensive understanding of how drawing art experiences contribute simultaneously to academic functioning and emotional resilience. To address this gap, the present study proposes a conceptual framework that integrates cognitive, emotional, and motivational

dimensions of student participation in fine arts education, while empirically examining the mediating role of drawing art experience in reducing perceived stress.

4. Conceptual Framework

The proposed relationships among engagement, performance, life satisfaction, perceived stress, and drawing art experience are illustrated in the study's conceptual framework. Grounded in the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984), Art Therapy Theory (Malchiodi, 2012), and Self-Determination Theory (Deci & Ryan, 2000), the framework conceptualizes drawing art as both a creative and psychological process that facilitates stress reduction through emotional expression, cognitive focus, and intrinsic motivation. Collectively, these interrelated theoretical perspectives support students' mental health and creative development within fine arts education.

According to the framework, reducing perceived stress (RPS) is influenced by increasing engagement (IE), enhancing performance (EP), and improving life satisfaction (ILS). Engagement refers to the degree of psychological involvement, energy, and absorption experienced during the art-making process, which enhances concentration and emotional regulation (Schaufeli et al., 2002). Performance reflects students' perceived competence and success in their artistic work, contributing to higher self-esteem and reducing anxiety related to academic or creative expectations (Goodman & Svyantek, 2011). Life satisfaction represents a broader sense of fulfillment and positive evaluation of one's life circumstances, which strengthens resilience and adaptive coping in demanding academic environments (Diener et al., 1985). Together, these three factors interact to lower perceived stress by fostering a sense of control, mastery, and self-efficacy through creative engagement.

Reducing perceived stress (RPS) is further conceptualized as a mediating variable linking the antecedent factors to the Drawing Art Experience (DAE). When students experience lower stress levels, they are better able to engage in the creative process in a focused and meaningful manner, resulting in greater calmness, satisfaction, and reflective insight during drawing activities (Kaimal et al., 2017). From this perspective, improved psychological well-being not only alleviates stress but also enhances the quality of artistic participation. The outcome of this process is an enriched Drawing Art Experience (DAE),

characterized by deeper engagement, contemplative involvement, and therapeutic benefits that support emotional balance and overall well-being.

This integrative model is consistent with prior empirical evidence demonstrating that creative engagement contributes to emotional well-being and cognitive restoration (Stuckey & Nobel, 2010; Drake & Winner, 2022). It further emphasizes that drawing art should not be viewed merely as an artistic activity, but as a structured experiential process that plays a meaningful role in stress management and mental health development among fine arts students. Accordingly, the conceptual framework positions engagement, performance, and life satisfaction as key antecedents of stress reduction, which subsequently enhances students' drawing art experience, as illustrated in Figure 1.

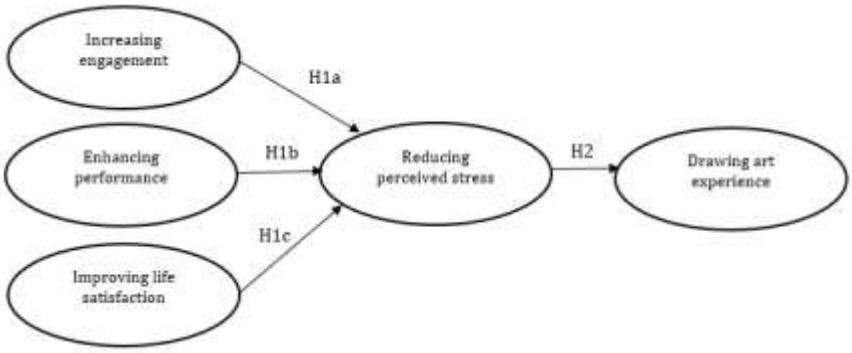

Figure 1 Conceptual Framework

Methodology

1. Research Design

This study adopted a quantitative pre-test/post-test research design to examine the impact of drawing art experience on perceived stress reduction among fine arts students. This design was selected to measure changes in stress levels before and after participation in a structured drawing activity, thereby identifying the extent to which engagement in drawing contributes to emotional regulation and psychological well-being. The pre-test/post-test approach enabled within-subject comparisons of stress responses, minimizing between-participant variability and enhancing the reliability and internal validity of the findings (Creswell & Creswell, 2018).

2. Participants

A total of 40 fine arts students from a public university in Chengdu, China participated in the study, comprising 25 males and 15 females. Participants were recruited using purposive sampling, targeting students with prior experience in creative or artistic coursework. This sampling strategy ensured that all participants possessed sufficient foundational skills to engage meaningfully in the drawing activity. Participation was voluntary, and all students were informed of the study' s objectives, procedures, and ethical considerations prior to involvement. Anonymity was maintained throughout the study, and participation had no impact on academic assessment or course evaluation.

3. Procedure

All participants attended a structured four- hour drawing session designed to promote reflective expression and creative engagement. The session incorporated both guided drawing and free- drawing phases to balance instructional structure with personal creativity. During the activity, students were encouraged to visually express their emotions and experiences in response to prompts related to stress, well-being, and self-reflection.

Pre- test questionnaires were administered prior to the drawing session to assess baseline levels of engagement, perceived performance, life satisfaction, perceived stress, and prior drawing experience. Immediately following the session, post-test questionnaires were distributed to evaluate changes in perceived stress and drawing-related engagement outcomes. To ensure consistency and control across participants, the activity environment was standardized in terms of lighting conditions, drawing materials, and session duration.

4. Validity and Reliability

To ensure content validity, the instrument was reviewed by three experts in art education and psychology who evaluated each item for clarity, relevance, and alignment with the research objectives. The Item Objective Congruence (IOC) values ranged from 0.67 to 1.00, indicating that all items met the acceptable standard of validity (Rovinelli & Hambleton, 1977). Construct validity was examined through Exploratory Factor Analysis (EFA) using data from a pilot group of 100 students majoring in music and graphic design. All items demonstrated factor loadings above 0.60, confirming strong associations with their respective constructs. Reliability testing using Cronbach's Alpha revealed coefficients

exceeding the 0.70 threshold, demonstrating high internal consistency across all variables (Nunnally & Bernstein, 1994).

5. Research Instruments

Data were collected using a self-administered questionnaire composed of five validated measurement scales. The Increasing Engagement Scale was adapted from the Utrecht Work Engagement Scale (Schaufeli et al., 2002) to assess students' levels of involvement, enthusiasm, and focus during the drawing activity. The Enhancing Performance Scale was adapted from Goodman and Svyantek (2011) to measure students' perceived artistic competence and satisfaction with their drawing performance. The Improving Life Satisfaction Scale was derived from Diener et al. (1985) to evaluate participants' overall satisfaction with life during their study period. The Reducing Perceived Stress Scale was based on Cohen et al. (1983) to assess students' self-perceived stress levels related to academic and creative pressures. The Drawing Art Experience Scale was developed from Kaimal et al. (2017) and Malchiodi (2012) to measure emotional release, self-reflection, and cognitive engagement during the drawing activity.

Each construct consisted of five items rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). To establish the reliability of each construct, a pilot test was conducted with 100 students majoring in music and graphic design. The internal consistency of each measurement scale was evaluated using Cronbach's Alpha (α). The results, summarized in Table 1, indicate that all constructs exceeded the recommended reliability threshold of 0.70 (Nunnally & Bernstein, 1994), confirming that the instrument was internally consistent and suitable for use in the main study.

Table 1 Reliability Test with 100 Students from Music and Graphic Design Majors

Measurement scales	Number of Items	Cronbach's Alpha (α)
Increasing Engagement	5	α = 0.86
Enhancing Performance	5	α = 0.84
Improving Life Satisfaction	5	α = 0.88
Reducing Perceived Stress	5	α = 0.90
Drawing Art Experience	5	α = 0.85

6. Ethical Considerations

Ethical approval was obtained from the university's institutional review board prior to data collection. Participation was voluntary, and respondents provided informed consent. Data confidentiality was maintained throughout the study, and participants were informed of their right to withdraw at any stage without consequence.

Results

1. Exploratory Factor Analysis (EFA) Results

An Exploratory Factor Analysis (EFA) using Principal Component Analysis (PCA) with Varimax rotation was conducted to examine the construct validity of the measurement instrument. The analysis confirmed the presence of five distinct factors corresponding to the theoretical model: Increasing Engagement (IE), Enhancing Performance (EP), Improving Life Satisfaction (ILS), Reducing Perceived Stress (RPS), and Drawing Art Experience (DAE).

The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.893, indicating meritorious suitability for factor analysis (Kaiser, 1974). Bartlett's Test of Sphericity was statistically significant ($x^2 = 1265.48$, $p < .001$), confirming adequate inter-item correlations. All factor loadings exceeded the threshold value of 0.60, demonstrating strong convergent validity (Hair et al., 2019). The five factors collectively explained 78.46% of the total variance, suggesting a robust factor structure.

Table 2 Results of Exploratory Factor Analysis (EFA) for Measurement Constructs (n = 100)

Items	IE	EP	ILS	RPS	DAE	Communalities (h^2)
IE1 – I felt fully absorbed while drawing.	0.842	-	-	-	-	0.721
IE2 – Time passed quickly when I was drawing.	0.819	-	-	-	-	0.683

Items	IE	EP	ILS	RPS	DAE	Communalities (h^2)
IE3 – I felt enthusiastic and motivated during the drawing activity.	0.868	-	-	-	-	0.757
IE4 – I was completely focused on my drawing task.	0.851	-	-	-	-	0.734
IE5 – I felt energized and passionate while creating my artwork.	0.826	-	-	-	-	0.702
EP1 – I was satisfied with the quality of my drawing performance.	-	0.874	-	-	-	0.761
EP2 – My drawing reflected my best artistic abilities.	-	0.861	-	-	-	0.743
EP3 – I felt confident in my artistic skills.	-	0.846	-	-	-	0.716
EP4 – I achieved the goals I set for my artwork.	-	0.822	-	-	-	0.687
EP5 – My drawing performance met my standards of excellence.	-	0.835	-	-	-	0.701
ILS1 – In most ways, my life is close to my ideal.	-	-	0.864	-	-	0.745
ILS2 – I am satisfied with my life as a university student.	-	-	0.857	-	-	0.736
ILS3 – I have achieved important things I want in life.	-	-	0.842	-	-	0.715
ILS4 – If I could live my life over, I would change very little.	-	-	0.826	-	-	0.692

Items	IE	EP	ILS	RPS	DAE	Communalities (h^2)
ILS5 – My experiences make my life fulfilling.	-	-	0.854	-	-	0.733
RPS1 – I felt too many responsibilities to handle at once.	-	-	-	0.872	-	0.764
RPS2 – Difficulties were piling up too high to overcome.	-	-	-	0.861	-	0.749
RPS3 – I felt nervous or stressed about my work.	-	-	-	0.848	-	0.727
RPS4 – I found it hard to focus due to stress.	-	-	-	0.832	-	0.698
RPS5 – I felt unable to control the important things in my life.	-	-	-	0.857	-	0.742
DAE1 – Creating artwork helped me release my emotions.	-	-	-	-	0.876	0.767
DAE2 – Drawing allowed me to express feelings hard to put into words.	-	-	-	-	0.863	0.752
DAE3 – The drawing session made me feel calm and relaxed.	-	-	-	-	0.854	0.734
DAE4 – I felt personal growth and reflection through drawing.	-	-	-	-	0.843	0.721
DAE5 – Participating in the drawing activity deepened self-awareness.	-	-	-	-	0.861	0.749

Note

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

KMO = 0.893; Bartlett's Test of Sphericity: $x^2 = 1265.48$, $p < .001$.

Total Variance Explained = 78.46%.

1. The EFA results confirmed the five-factor structure consistent with the proposed conceptual framework. Each construct displayed high factor loadings (> 0. 60) and satisfactory communalities (> 0.65), supporting the convergent validity of the measurement model. The results validate the theoretical grouping of items and demonstrate that the measurement instrument is psychometrically sound for assessing engagement, performance, life satisfaction, perceived stress, and drawing art experience among fine arts students.

2. Descriptive Analysis of Demographic Characteristics

The demographic profile of the participants provides important context for interpreting the results of this study. Descriptive statistics were used to summarize the demographic data of the 40 Fine Arts students who participated in the drawing intervention (College of Chinese & ASEAN Arts of Chengdu University and the Sichuan Fine Arts Institute, 2025). The analysis included gender, age, year of study, and prior drawing experience, as presented in Table 3.

Table 3 Demographic Characteristics of Participants (n = 40)

Demographic Variables	Category	Frequency (n)	Percentage (%)
Gender	Male	25	62.5 %
	Female	15	37.5 %
Age Group (years)	18–20	12	30.0 %
	21–23	18	45.0 %
	24–26	10	25.0 %
Year of Study	Year 1	8	20.0 %
	Year 2	10	25.0 %
	Year 3	14	35.0 %
	Year 4	8	20.0 %

Demographic Variables	Category	Frequency (n)	Percentage (%)
Prior Drawing Experience	Less than 1 year	5	12.5 %
	1–3 years	14	35.0 %
	4–5 years	13	32.5 %
	More than 5 years	8	20.0 %

The demographic analysis revealed that the majority of participants were male (62.5%), while female students accounted for 37.5% of the sample. Most respondents (45%) were between 21 and 23 years old, representing the typical age range for undergraduate fine arts students in China.

Regarding the year of study, the largest proportion of participants were in Year 3 (35%), followed by Year 2 (25%), indicating that the sample primarily comprised mid-level students who had already gained substantial academic and artistic exposure.

In terms of prior drawing experience, 35% of participants reported 1–3 years of experience, while another 32.5% had 4–5 years of drawing background. Only 12.5% had less than one year of drawing experience, suggesting that most students were already familiar with basic drawing techniques.

Overall, the demographic data demonstrated that the participants represented a balanced and moderately experienced group of fine arts students, which supports the study's objective of assessing how structured drawing sessions influence engagement, performance, life satisfaction, and stress reduction. The distribution of age, gender, and experience reflected a typical fine arts student population, enhancing the external validity and generalizability of the study's findings within similar academic contexts

3. Pre-Test and Post-Test Results

A paired-sample t-test was conducted to compare the mean scores of the five constructs Increasing Engagement (IE), Enhancing Performance (EP), Improving Life Satisfaction (ILS), Reducing Perceived Stress (RPS), and Drawing Art Experience (DAE) before and after the drawing intervention. The purpose of this analysis was to determine whether the structured drawing session significantly influenced engagement, performance, life satisfaction, and stress levels among fine arts students.

The results, presented in Table 4, revealed statistically significant differences between pre-test and post-test scores across all constructs ($p < .001$). Specifically, engagement, performance, life satisfaction, and drawing art experience increased significantly following the intervention, while perceived stress decreased markedly, confirming the positive effect of drawing on stress management and emotional well-being.

Pre-Test and Post-Test Mean Differences of Key Constructs (n = 40)

Variables	**Pre-Test Mean (M)**	**Post-Test Mean (M)**	**Mean Difference (ΔM)**	**SD (Pre)**	**SD (Post)**	**t-value**	**p-value**	**Interpretation**
Increasing Engagement (IE)	3.24	4.32	+1.08	0.54	0.47	10.62	< .001	Significant increase in engagement
Enhancing Performance (EP)	3.15	4.18	+1.03	0.58	0.49	9.94	< .001	Significant improvement in performance
Improving Life Satisfaction (ILS)	3.09	4.05	+0.96	0.61	0.52	8.72	< .001	Significant improvement in life satisfaction

Variables	**Pre-Test Mean (M)**	**Post-Test Mean (M)**	**Mean Difference (ΔM)**	**SD (Pre)**	**SD (Post)**	**t-value**	**p-value**	**Interpretation**
Reducing Perceived Stress (RPS)*	3.87	2.74	-1.13	0.63	0.55	11.26	< .001	Significant reduction in perceived stress
Drawing Art Experience (DAE)	3.48	4.41	+0.93	0.57	0.46	9.35	< .001	Significant enhancement in art experience
Note: A lower post-test score indicates a reduction in perceived stress. All tests were two-tailed at $\alpha = 0.05$.								

The paired t-test results demonstrated that the drawing intervention significantly improved participants' engagement, performance, life satisfaction, and drawing art experience, while simultaneously reducing their perceived stress levels. The largest mean difference was observed in Reducing Perceived Stress ($\Delta M = -1.13$, $t = 11.26$, $p < .001$), indicating that students experienced substantial relief following the drawing session.

These findings were consistent with previous research suggesting that art-making contributes to mindfulness, emotional regulation, and relaxation (Kaimal & Ray, 2019; Drake & Winner, 2022). The results empirically supported all proposed hypotheses (H1a–H2), confirming that engagement, performance, and life satisfaction were significant predictors of stress reduction through the drawing art experience.

Discussion

The findings of this study provided robust evidence that drawing art experiences significantly contribute to stress reduction and psychological well-being among fine arts students. Consistent with prior literature, the results confirm that artistic engagement serves as a therapeutic process that enhances emotional regulation, concentration, and

self-expression (Kaimal et al., 2017; Drake & Winner, 2022). Specifically, the paired t-test results revealed notable increases in engagement, performance, life satisfaction, and drawing art experience following the structured drawing session, coupled with a substantial decrease in perceived stress levels. These outcomes supported the proposed conceptual model and validate the underlying hypotheses (H1a–H2), confirming that drawing art is both an expressive and restorative experience that fosters mental balance among university students.

The regression analysis further demonstrated that engagement, performance, and life satisfaction were significant predictors of reduced perceived stress. This relationship reinforces Self-Determination Theory (Deci & Ryan, 2000), which posits that activities fostering autonomy, competence, and relatedness promote intrinsic motivation and emotional well-being. When students experience high engagement and performance satisfaction, they are more likely to perceive control over their creative process, which in turn mitigates stress. Moreover, enhanced life satisfaction contributes to resilience and optimism, buffering against the adverse effects of academic and social pressures. These findings echo the observations of Diener et al. (1985) and Goodman and Svyantek (2011), who emphasized the reciprocal connection between personal satisfaction, performance outcomes, and psychological stability.

In alignment with Art Therapy Theory (Malchiodi, 2012), the results underscore the therapeutic function of art-making as a means of emotional expression and cognitive restoration. By externalizing internalized emotions through drawing, students transform stress into creative energy and self-awareness. The reduction of perceived stress subsequently enhances the overall Drawing Art Experience (DAE), suggesting a reciprocal relationship between psychological relaxation and creative engagement. This finding aligns with Kaimal and Ray (2019), who demonstrated that art-making significantly lowers cortisol levels while increasing positive affect and reflective thinking.

The outcomes also have important educational implications for fine arts programs and broader university contexts. Incorporating structured art-based activities into the curriculum can serve as a preventive mental health strategy, helping students manage stress proactively while fostering creativity and critical reflection. For fine arts students in particular, who face the dual challenge of artistic performance pressure and academic

assessment, drawing offers a safe and self-directed space for emotional release. Integrating reflective drawing sessions or creative journaling into coursework could thus enhance both academic engagement and psychological resilience.

Despite the encouraging results, this study's findings should be interpreted with caution due to limitations related to sample size and the focus on a single institution in Chengdu, China. Future research could expand the participant pool to include diverse cultural and disciplinary contexts, employ longitudinal designs to assess long-term effects, and integrate physiological stress indicators such as heart rate variability or cortisol analysis. Additionally, qualitative interviews could complement quantitative findings by exploring the subjective meanings of drawing as a coping strategy among students.

In conclusion, this study reaffirms that drawing art experience is not merely a creative pursuit but an evidence-based method for stress management and emotional enhancement. By engaging in drawing, students cultivate mindfulness, confidence, and satisfaction factors that collectively contribute to psychological well-being and academic flourishing. These insights underscore the value of integrating art-based interventions into higher education as a holistic approach to student development and well-being.

Recommendations

Based on the findings of this study, several recommendations are proposed to enhance student well-being, educational practice, and future research on art-based stress management interventions.

1. Institutional and Educational Recommendations

Given that the majority of participants were young fine arts students with moderate to high levels of drawing experience, universities should integrate art-based mindfulness and reflective drawing programs into their student well-being initiatives. Structured drawing therapy or creative expression workshops could help students manage academic stress, enhance self-awareness, and foster emotional resilience. Such programs would be especially beneficial for fine arts departments, where students frequently encounter emotional and evaluative pressure related to creativity, performance, and self-expression.

In addition, academic curricula in creative disciplines should include modules that combine artistic skill development with psychological reflection. Embedding drawing sessions that encourage introspection and mindfulness can promote concentration, satisfaction, and intrinsic motivation, aligning with the self-determination and art therapy principles highlighted in this study. For broader institutional impact, universities could also consider offering cross-faculty art-based wellness programs accessible to students in non-art majors, supporting inclusivity and holistic well-being across disciplines.

2. Psychological and Well-Being Interventions

The study's results indicate that drawing significantly reduced perceived stress while increasing engagement, performance, and life satisfaction. Therefore, university counseling centers and wellness offices are encouraged to adopt art-based interventions as part of their stress management strategies. Drawing therapy sessions, guided visual journaling, and expressive art groups can serve as preventive and therapeutic tools that complement traditional counseling methods. Given the demographic profile, primarily students aged 21–23, the intervention design should emphasize peer-based, interactive, and reflective approaches to maximize engagement and stress relief.

3. Research Recommendations

Future research should adopt longitudinal and controlled experimental designs to establish causal relationships between art engagement and stress reduction. Expanding the sample size and including diverse student populations from different cultural and academic backgrounds would enhance generalizability and external validity. Moreover, incorporating physiological measures (e.g., cortisol levels, heart rate variability) alongside self-reported data could provide a more comprehensive understanding of the biological effects of drawing on stress regulation.Cross-disciplinary studies are also recommended to explore whether the benefits of drawing art extend beyond fine arts students, potentially offering stress-reducing advantages for students in engineering, business, education, or healthcare programs. Additionally, qualitative approaches, such as in-depth interviews or focus groups, could capture the nuanced emotional experiences and personal reflections that quantitative data alone may not reveal.

4. Summary of Implications

Overall, the study emphasizes that drawing art is an effective, low-cost, and accessible intervention for managing student stress and promoting psychological well-being. By combining creative expression with structured reflection, universities can cultivate emotionally resilient, motivated, and self-aware learners. Integrating art-based practices into higher education supports not only individual mental health but also contributes to a more empathetic and innovative academic environment.

5.Conclusion

This preliminary study provides empirical evidence that drawing art reduces perceived stress among fine arts students by promoting engagement, performance satisfaction, and life satisfaction. These findings support integrating art-based interventions into higher education to promote student mental health and emotional resilience.

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