

Review

From Art Therapy to Art Healing: Solutions for College Students' Mental Health: A Review

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Abstract

Depression, anxiety disorders and sleep disorders are becoming increasingly prevalent among college students. While psychotherapy and pharmacotherapy remain important interventions, their practical implementation in university settings may be constrained by factors including limited service accessibility, scheduling constraints, privacy concerns, stigma, and poor long-term adherence. As a low-threshold supportive intervention that can be readily integrated into campus environments, art healing offers a complementary approach to promoting college student mental health. This review includes 20 studies retrieved from the Web of Science and PubMed databases. These studies provide evidence for the mental health benefits of auditory art, visual art, and integrated art healing. The findings indicate that music-based interventions (the primary form of auditory art) have relatively robust supporting evidence for alleviating stress and anxiety; visual art and integrative art healing also yield measurable positive mental health outcomes. However, existing research is limited by heterogeneous intervention delivery protocols, small sample sizes, short follow-up periods, and substantial variation in methodological quality. Current evidence supports art healing as a complementary strategy for mental health promotion in higher education settings, rather than an alternative treatment modality. Future work should test standardized protocols in multi-site student samples. Long-term follow-up designs to further clarify its target populations, underlying mechanisms, and sustained efficacy.

Keywords: college students; mental health; art healing; intervention; non-pharmacological treatment



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1. Introduction

With the sustained expansion of China's higher education system, tertiary education now reaches a substantially larger share of the population. Official data from the National Bureau of Statistics (NBS) indicate that the gross enrollment rate of higher education in China reached 60.8% in 2024 (NBS 2025). In this context, college students are confronted with multiple transition-related stressors, including academic pressure, career uncertainty, financial concerns, independent living, and adaptation to new social networks and learning environments—factors that render them particularly vulnerable to psychological distress (Gao et al. 2020; Li et al. 2024). Empirical evidence from Chinese university samples shows a substantial mental health burden: the pooled prevalence of depression was 28.4%, and the pooled prevalence of anxiety symptoms during the COVID-19 pandemic was 25.0% (Gao

et al. 2020; Wang and Liu 2022). Sleep disturbance is also common among Chinese college students, with an updated meta-analysis reporting a pooled prevalence of 26.4% (Zhang et al. 2026). Furthermore, stress is closely associated with depression, anxiety, and sleep disturbances, with symptom severity escalating as stress levels increase (Li et al. 2024).

In response to these challenges, the Ministry of Education and 16 other departments issued the Action Plan for Strengthening and Improving Student Mental Health Work in the New Era (2023–2025), which promotes a school–family–society coordination mechanism and a four-in-one framework covering health education, monitoring and early warning, counseling services, and intervention (Ministry of Education of the People’s Republic of China et al. 2023). Student mental health is increasingly treated as a campus-level issue, and a review of art healing is particularly timely (Chen et al. 2022; Guo 2024).

Art therapy is a regulated mental health profession that integrates artistic creative practice into a psychotherapeutic framework, delivered by certified art therapists in professional clinical settings. As a specialized form of psychotherapy, it fosters psychological well-being and personality integration through active artistic creation and creative engagement. By contrast, art healing typically refers to the use of activities such as drawing, music, and handicrafts to facilitate emotional regulation, stress relief, or improved subjective well-being (Stuckey and Nobel 2010). It does not constitute formal clinical psychotherapy and can be facilitated by non-medical professionals, emphasizing the experience, relaxation, and self-expression inherent in the process (Ke et al. 2025). However, as empirical literature explicitly designated as “art healing” remains relatively scarce, this review also draws on evidence from studies of art therapy and creative arts therapies. These bodies of research are not treated as conceptually equivalent to art healing; rather, they serve as complementary evidence to elucidate the mechanisms and potential mental health benefits of arts-based interventions.

Research on art interventions targeting adult women as an example. The art therapy has been found to be associated with improvements in participants’ emotion regulation capacity, which may in turn help alleviate anxiety (Abbing et al. 2019). This finding suggests that art interventions may offer psychological regulatory benefits when delivered to specific populations. Currently, college students exhibit varying degrees of anxiety, stemming from factors such as social pressures, family issues, and academic demands (Barbayannis et al. 2022; Estrella-Proañó et al. 2024; Mofatteh 2021). Improving students’ psychological well-being, alleviating stress, and fostering holistic physical and mental development are key challenges facing higher education institutions today. Although the college student demographic differs somewhat from the populations typically studied in mainstream art therapy experiments, there are significant commonalities. Studies on similar populations may offer indirect evidence, but extrapolation should be cautious.

Based on the aforementioned background, this review begins with an overview of common psychological issues among college students, examines the intervention effects and limitations of traditional approaches for college students’ mental health, and summarizes the intervention mechanisms, effects, and unresolved issues associated with art healing. The objective of this review is to provide intervention strategies for addressing college students’ psychological problems through art healing.

2. Existing College Students’ Mental Health Issues and Solutions

2.1. Current Status of Psychological Problems Among College Students

As shown in Figure 1, the pooled prevalence rates of depressive and anxiety symptoms are found to be 33.6% and 39.0%, respectively. The highest prevalence of depressive symptoms was observed in the African region (40.1%), low- and middle-income countries (42.5%), and medical student populations (39.4%). Similarly, anxiety symptom prevalence

peaked in North America (48.3%), lower-middle-income countries (54.2%), and medical student populations (47.1%) (Li et al. 2022). In the WHO World Mental Health International College Student (WMH-ICS) project, 31.4% of first-year college students screened positive for at least one common mental disorder in the prior 12 months, and 17.2% reported 12-month suicidal ideation. The lifetime prevalence of suicidal ideation, plans, and attempts was 32.7%, 17.5%, and 4.3%, respectively. These findings indicate that mental health problems are already prevalent upon college entry, and that a considerable proportion of this burden may originate in adolescence or even earlier (Auerbach et al. 2016, Bantjes et al. 2023; Mortier et al. 2018).

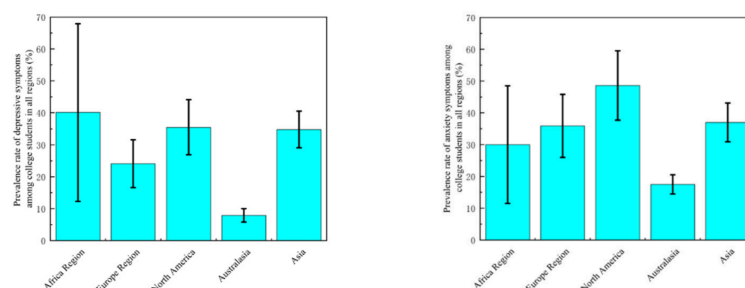


Figure 1. Prevalence of depression and anxiety among college students in various regions of the world (Li et al. 2022).

Figure 2 further illustrates the association between stress levels and symptom network connectivity. The numerical values indicate the intensity of each symptom within the corresponding stress group, with higher values reflecting stronger symptom expression. Depressive symptoms, anxiety-related symptoms, and sleep disturbances grow increasingly interconnected as stress levels rise. Symptoms including hopelessness, worthlessness, anxious restlessness, elevated mental stress, and impaired academic functioning appear particularly prominent, indicating that stress may amplify a broader symptom network rather than produce isolated psychological symptoms. Stress-related mental health problems across diverse populations consistently manifest as impaired emotion regulation, sleep disruption, and persistent psychological burden (Sloan et al. 2017). They provide mechanistic support for intervention targets applicable to campus settings, and they complement the relatively limited body of research exclusively focused on college student samples.

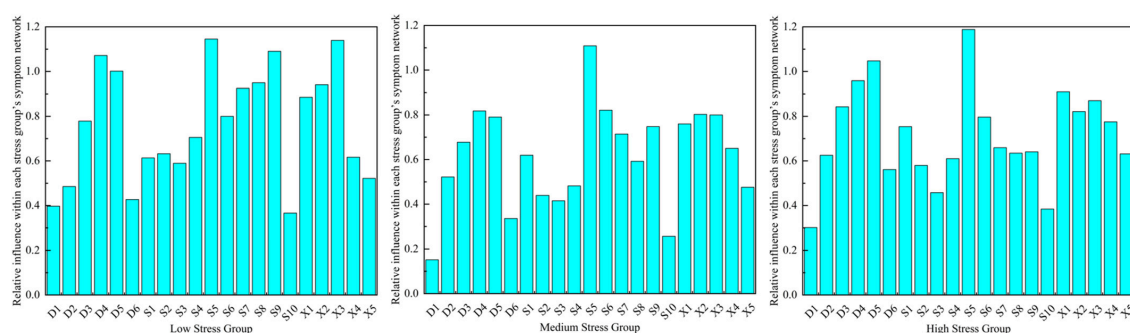


Figure 2. Symptom network of depression, anxiety, and sleep disturbances among college students under different stress levels: D1: Hopeless future; D2: Meaninglessness; D3: Loss of confidence; D4: Hopelessness about life; D5: Feeling worthless; D6: Life is a struggle; S1: Insufficient sleep; S2: Post-sleep fatigue; S3: Daytime sleepiness; S4: Short sleep duration; S5: Difficulty falling asleep; S6: Frequent nocturnal awakenings; S7: Difficulty falling back asleep; S8: Recurrent nightmares; S9: Taking sleeping pills; S10: Poor mood after insomnia; X1: Worry-induced insomnia; X2: Sleep disturbance caused by irritability; X3: Anxious restlessness; X4: High mental stress; X5: Stress-induced work and study impairment (Li et al. 2024).

2.2. Factors Contributing to Psychological Problems

In China, the majority of college students fall within the 18–21 age range (Sun and Cheng 2026), and their psychological development has yet to reach full maturity. When faced with external pressures, they commonly exhibit deficits including impaired emotion recognition, limited emotion regulation capacities, and insufficient stress coping strategies (Liu et al. 2025; Oliveira et al. 2024). As summarized in Table 1, these factors do not operate in isolation; instead, they interact through shared pathways such as chronic stress activation, diminished self-efficacy, impaired coping capacity, and sleep disturbance (ten Brink et al. 2021). Over time, these processes may contribute to anxiety symptoms, depressive symptoms, sleep disturbances, reduced academic functioning, and diminished overall well-being (Barbayannis et al. 2022). The table further details the specific effects and underlying mechanisms of these factors on student mental health, as well as the individual differences and potential downstream consequences associated with each factor.

Table 1. Major risk factors contributing to psychological problems among college students and their associated pathways.

Factors	Specific Effects	Mechanisms of Action	Individual Differences	Exacerbating Consequences	Refs.
Academic pressure	Exams, heavy workload, sense of competition, GPA, graduation, job anxiety, time management conflicts	Sustained psychological stress activates the stress response system, and chronic stress leads to poor sleep, decreased attention, and reduced self-efficacy. It amplifies existing vulnerabilities and weakens coping resources.	Learning self-efficacy, coping strategies, perfectionist tendencies, early mental health history, and the influence of school resource accessibility on the strength of responses.	Anxiety, depressive symptoms, decreased motivation, declining academic performance, truancy, and risk of dropping out of school; long-term effects may lead to learned helplessness or persistent physical symptoms.	(Barbayannis et al. 2022)
Social impact	Lack of social support or conflict, exclusion, peer comparison, cyber harassment, or negative interactions on social media	Negative social interaction increases feelings of isolation and weakens self-esteem. Social media can indirectly affect mood through comparison, addictive use, or sleep disruption.	An individual's need for belonging, emotional regulation ability, personality, cultural background, and family dynamics can alter the direction and magnitude of social influence.	Social isolation increases the risk of depression and anxiety; good support enhances psychological resilience, willingness to seek help, and ability to recover; social conflict can trigger sleep disturbances, eating disorders, and self-harm.	(Ruihua et al. 2025)
Economic pressure	High tuition fees, conflicts between part-time jobs and studies, feelings of debt, inability to afford basic necessities, and economic uncertainty.	Subjective financial stress affects mood through persistent cognitive burden and damaged self-esteem; the time spent working to make a living reduces sleep and study time, creating a chain reaction.	Family background, socioeconomic status, financial literacy and planning skills, availability of scholarships or subsidies, cultural attitudes towards debt, and individual tolerance all influence the intensity of economic stress transforming into psychological distress.	Associated with depression, anxiety, declining academic performance, and damaged self-esteem; those with severe financial difficulties show higher rates of self-harm, suicide attempts, and academic failure.	(Boe et al. 2021)
Lifestyle	Insufficient sleep or disrupted circadian rhythms, sedentary lifestyle, malnutrition, alcohol abuse, e-cigarette or drug use, lack of exercise	Directly affects brain function and mood regulation: sleep disorders, mood swings, and poor attention; lack of exercise, poor diet, inflammation or abnormal energy metabolism, and poor self-esteem; substance use provides short-term relief but long-term exacerbates anxiety and depression.	The psychological impact of prior health status, self-control, time management, school environment, peer influence, and lifestyle changes.	Poor sleep is highly correlated with depression and anxiety; physical activity is a protective factor; unhealthy lifestyle habits are associated with chronic stress, addictive behaviors, and declining academic performance.	(Rahimi et al. 2024)

Academic pressure remains one of the most consistently reported contributors to psychological problems among college students (Barbayannis et al. 2022; Zhang et al. 2025). Higher academic stress is associated with poorer mental well-being, greater academic burnout, and worse sleep quality, and this pattern has been observed across multiple samples and contexts (Gardani et al. 2022; Huang et al. 2024). In particular, studies conducted post-pandemic evidence suggest that academic stress continues to interact with anxiety, depressive symptoms, and sleep disturbance, rather than acting as an isolated short-term pressure (Pérez-Jorge et al. 2025).

Social factors are also important. Loneliness, weak social support, and social isolation have repeatedly been linked to depression, anxiety, and sleep problems in college students, and the pandemic intensified these risks by reducing face-to-face interaction and weakening campus social connectedness (Akram et al. 2025; Ruihua et al. 2025; Vicary et al. 2025). Loneliness and low social connectedness are consistently associated with poorer mental health among college students, including higher depressive and anxiety symptoms. The students experiencing greater loneliness, fewer positive social interactions, or weaker social support have worse psychological outcomes and, in some cohorts, steeper increases in depression over time (Farrer et al. 2024; Park and Bui 2024; Supke et al. 2024).

Financial pressure is another meaningful risk factor, subjective financial stress and financial difficulties are more consistently associated with poorer mental health than debt amount alone (McCloud and Bann 2019; Nasr et al. 2024). College students often face tuition fees, housing costs, daily living expenses, debt concerns, and financial restrictions, all of which are associated with higher psychological distress and lower well-being (Cadaret and Bennett 2019; Kornbluh et al. 2024; Kreniske et al. 2023). Financial stress can adversely affect both academic performance and mental health, and students from economically constrained backgrounds may experience stronger and more persistent stress exposure.

Lifestyle-related factors are equally relevant. Poor sleep quality is highly prevalent among college students and is closely associated with stress, depression, and anxiety; a large study of 8178 college students found that higher perceived stress was directly related to poorer sleep quality (Huang et al. 2024; Zou et al. 2020). Dietary quality is also associated with mental health outcomes, with better diet quality generally linked to lower depression, anxiety, and stress, whereas unhealthy eating patterns and emotional eating are more common among students with poorer mental health and sleep problems (Budnick et al. 2025; José et al. 2025; Solomou et al. 2024). In addition, internet addiction remains common among college students and has increased since the COVID-19 pandemic; students with depression are a higher-risk group (Xie et al. 2021; Zhang et al. 2024).

College students' psychological problems arise from the interaction of academic, social, economic, and lifestyle pressures rather than a single dominant cause. This pattern is particularly relevant for the post-pandemic period, when stressors have remained complex and more widely shared across student populations (Bennett et al. 2023).

2.3. Clinical Treatment

2.3.1. Methods of Psychotherapy

Common evidence-based psychotherapeutic approaches used in clinical practice include cognitive behavioral therapy (CBT), interpersonal psychotherapy (IPT), psychodynamic therapy, humanistic-experiential therapy, dialectical behavior therapy (DBT), and acceptance and commitment therapy (ACT) (Bian et al. 2023; Duffy et al. 2024; Schaeuffele et al. 2024; Zhao et al. 2023). Psychotherapy is a structured clinical intervention. It uses dialog, skill practice and therapeutic relationships to ease symptoms and improve function. The choice of therapy modality relies on evidence, diagnosis, symptom severity, patient preference and service availability.

CBT remains one of the best-supported approaches for depression and anxiety. CBT targets maladaptive thoughts and behaviors. In guideline-based care, CBT-based interventions remain core recommended options for depression. A transdiagnostic CBT meta-analysis found benefits maintained at 3-, 6-, and 12-month follow-up, although heterogeneity remained high (Lorentzen et al. 2022). IPT focuses on grief, role disputes, role transitions, and interpersonal deficits, and it has evidence for improving depression-related symptoms and social functioning (Young et al. 2010). Psychodynamic therapy is empirically supported for mood disorders: short-term treatment delivers rapid psychosocial/quality-of-life gains, while long-term therapy provides additional sustained benefits, with 12-month outcomes comparable to CBT for generalized anxiety disorder (GAD) (Salzer et al. 2011). Humanistic-experiential therapies show clear short-term efficacy for depression, backed by emotionally focused therapy's 18-month maintained gains and a non-inferiority trial validating process-experiential client-centered therapy as a formal intervention (Ellison et al. 2009). DBT, a CBT-derived approach, is especially relevant for emotion dysregulation and high-risk presentations such as chronic suicidality (Linehan et al. 1999; Mehlum et al. 2019). ACT, a third-wave behavioral therapy, integrates acceptance, mindfulness, and values-based action, and recent meta-analyses indicate improvements in anxiety, depression, and psychological flexibility (Gould et al. 2021).

For college students, digital psychological interventions have become an important extension of conventional care (Ferrari et al. 2022). The meta-analysis focused on college students found that digital interventions produced small but significant improvements in psychological well-being; evidence for ACT-based online programs is promising, but the format-specific and long-term effects still need further study (Morey et al. 2024; Wang et al. 2025a). This makes online delivery particularly relevant for campuses where access, time, stigma, and resource constraints limit face-to-face service use, although the optimal format and long-term durability of these interventions still need further study (Shafir et al. 2020).

2.3.2. Drug Treatment Methods

Pharmacotherapy mainly relies on antidepressants including selective serotonin reuptake inhibitors (SSRIs), which have definite clinical value in relieving depressive and anxiety symptoms. In the context of adolescent depression, fluoxetine has shown superior acute therapeutic effects in placebo-controlled trials (Emslie et al. 1997, 2002). The TADS study demonstrated that fluoxetine, whether used alone or in combination with cognitive behavioral therapy, can accelerate symptomatic improvement. For patients in need of long-term disease management, maintenance medication is effective in lowering relapse risks. Findings from the ANTLEP randomized trial revealed that the 52-week relapse rate was lower in the continuous medication group than in the drug withdrawal group (Kratochvil et al. 2006; March et al. 2007).

In the practical practice of mental health intervention for college students, pharmacotherapy is not suitable as the sole intervention measure (De Crescenzo et al. 2025). Antidepressants only yield small-to-moderate therapeutic effects, and their acceptability declines significantly at the 12-month stage. The prescribing antidepressants for depression in adults trial also indicated that sertraline failed to substantially alleviate depressive symptoms within 6 weeks, suggesting its slow onset of action and prominent individual differences in treatment response. Meanwhile, adverse reactions and antidepressant discontinuation symptoms impair treatment adherence. In the antidepressant tapering and long-term relapse prevention trial, the drug withdrawal group suffered from more severe depression, anxiety and withdrawal symptoms (Duffy et al. 2019). Abrupt discontinuation of antidepressants may induce new physical and psychological symptoms. In addition, some SSRIs can cause sexual dysfunction, further reducing patients' willingness to sustain

medication (Clayton et al. 2002). Therefore, pharmacotherapy is more applicable as a fundamental intervention for moderate and severe symptoms or a part of integrated treatment plans, rather than a single solution to mental health issues among college students.

3. Art Healing

3.1. The Role of Art Healing

Art healing can be defined as a non-clinical, arts-based supportive practice aimed at fostering emotional expression, reflection, relaxation, meaning-making, and social connection. Its role is best positioned as complementary and preventive rather than curative. A 2024 systematic review and meta-analysis of Arts on Prescription programs identified statistically significant improvements in well-being outcomes, with qualitative findings further highlighting social benefits, psychological benefits, and opportunities for personal progression (Jensen et al. 2024). Complementary evidence indicates that arts engagement can enhance social connectedness through pathways including social opportunity, shared experience, sense of belonging, and collective understanding (Perkins et al. 2021). Meanwhile, arts interventions have been shown to reduce mental-health-related stigma among young people, albeit with a small effect size (Crockett et al. 2025; Gaiha et al. 2021). These findings suggest that art healing serves as a low-threshold supportive resource that facilitates coping, belonging, and active engagement across community, educational, and public health settings.

3.2. Risks, Contraindications, and Ethical Precautions

Art healing should not be characterized as risk-free, universally appropriate for all users, or interchangeable with psychotherapy or pharmacotherapy. A qualitative systematic review examining art therapy for individuals with non-psychotic mental health disorders identified occasional adverse outcomes, including heightened anxiety, increased pain, unresolved emotional activation, inadequate therapist competence, and distress following abrupt session termination (Uttley et al. 2015). Although such adverse events were rare and the supporting evidence base remains limited, these findings indicate that emotional activation can occur during arts-based interventions, and that skilled facilitation, privacy protection, emotional containment, and clear referral pathways serve as critical safeguards. Accordingly, for individuals with depression, trauma histories, or acute psychological distress, arts-based activities should be positioned as adjunctive supportive measures rather than a stand-alone treatment modality (Yehuda et al. 2015).

4. Art Healing Intervention for College Students' Psychological Problems

4.1. Auditory Art Healing

Auditory art healing is used here, such as receptive listening, singing, improvisation, songwriting, and group rhythm work, rather than formal music therapy (Prick et al. 2024; Sojia et al. 2025). This distinction is critical because music therapy constitutes a tailored intervention delivered by a trained and qualified music therapist, whereas music listening alone falls under the umbrella of broader music interventions (Clark et al. 2006; Giordano et al. 2023; Goel et al. 2024; Robb et al. 2014). As shown in Figure 3, a study involving 64 participants found that music interventions were associated with alleviated anxiety and stress, with scores for both of these psychological outcomes decreasing between pre-intervention baseline and post-intervention assessment.

Evidence specific to college students is emerging but remains limited (Finnerty and Trainor 2025; Wang et al. 2025b). In undergraduate populations, online group music therapy has been shown to reduce stress and anxiety both immediately after sessions and over a 6-week intervention period (Finnerty et al. 2023). Separately, campus-based group

music therapy has been associated with lower hair cortisol alongside reduced perceived stress and anxiety, suggesting a possible physiological stress-buffering effect (Finnerty and Trainor 2025). Conversely, a separate randomized controlled trial involving senior college students showed that a 6-week mindfulness-based music therapy program improved depression and anxiety symptoms, obsessive-compulsive symptoms, sleep quality, and resilience (Wang et al. 2025b). These findings support auditory art healing as a promising campus-appropriate intervention; nevertheless, larger multi-site trials and extended follow-up periods are warranted before confident modality-specific recommendations can be formulated. Within the realm of music therapy, therapeutic songwriting is also a recognized technique for facilitating emotional expression and social engagement (Baker et al. 2008), though its evidence base in college populations remains relatively sparse (Gee et al. 2019; Zhang 2019).

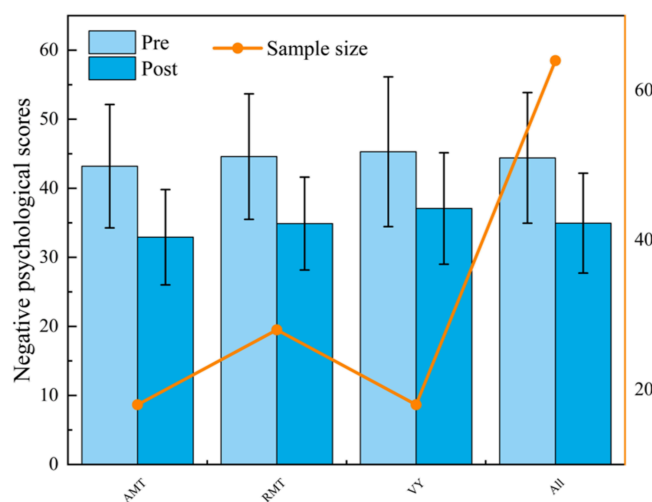


Figure 3. Changes in stress and anxiety scores after online music therapy sessions—STAI-S/Likert stress (AMT, Active music therapy; RMT, Receptive music therapy; VT, Verbal therapy) (Finnerty et al. 2023).

Meta-analytic findings indicate medium-to-large stress-reducing effects, with significant reductions in both physiological and psychological markers of stress, pointing to a relatively consistent pattern of beneficial effects across studies (De Witte et al. 2020). Nevertheless, the evidence for long-term follow-up outcomes is less robust: for instance, anxiolytic effects are more pronounced immediately post-intervention than at subsequent follow-up assessments, suggesting that intervention duration and booster maintenance strategies may be key determinants of sustained efficacy (de Witte et al. 2025; Lu et al. 2021). Turning specifically to college student populations, the available evidence is promising yet limited: existing studies are few in number and highly heterogeneous in intervention format, dosage, and target sample characteristics (Abuiram et al. 2025). However, these apparent beneficial effects warrant cautious interpretation, given the substantial heterogeneity in study designs and marked variability in outcome measures across the included studies.

4.2. Visual Arts Healing

As shown in Figure 4, visual art interventions exhibit facilitative effects on participants' psychological regulation. Post-intervention declines were observed across participants' negative emotion scores. Visual arts healing is defined as a broad art-based supportive approach, rather than a synonym for formal art therapy (Forzoni et al. 2010; Öster et al. 2006). The visual arts healing in a broader sense may encompass non-clinical or campus-

based practices such as drawing, painting, collage, clay work, mandala coloring, and receptive art viewing.

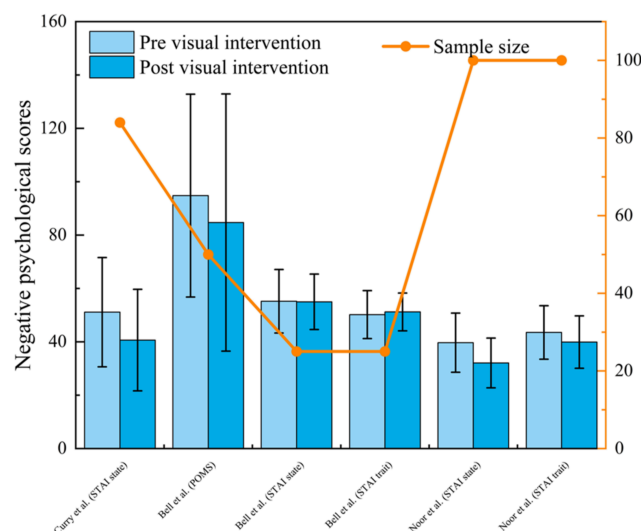


Figure 4. Improvement in Mental Health via Visual Art Intervention (Bell and Robbins 2007; Curry and Kasser 2005; Noor et al. 2017).

A four-week art-making intervention conducted among college students demonstrated a significant reduction in perceived stress and suggested improvements in emotional regulation and positive personal development (Chen et al. 2022; Jiang et al. 2025; Liu et al. 2024). Related college-based studies focusing on craft creation and other visual arts-oriented activities similarly indicate potential benefits for students' mental health (Arriaga et al. 2024; Margrove 2015; Secker and Heydinrych 2009). However, these studies are limited by small sample sizes and heterogeneous study designs.

Beyond campus samples, recent systematic reviews in adult populations support the potential of visual arts healing as a mental health intervention. The 2025 systematic review of RCTs suggested that visual art therapy can reduce anxiety symptoms in adults (Huang et al. 2025; Mizera and Krysta 2025). While a 2024 systematic review and meta-analysis of randomized clinical trials found that active visual art therapy was associated with benefits for some health outcomes, although study quality was generally low and heterogeneity was substantial (Joschko et al. 2024). Simultaneously, these reviews highlight that outcomes are influenced by intervention format, dosage, guidance intensity, and target population, indicating that visual arts healing should be regarded as promising but not yet fully standardized.

Unlike auditory art healing, visual art healing has weaker supporting evidence and greater inconsistency across research findings (Bosman et al. 2021; Huang et al. 2025). Visual art engagement may facilitate emotional expression, symbolic externalization, and self-reflection, yet the underlying mechanisms remain incompletely elucidated (Czamanski-Cohen and Weihs 2023; Weinfeld-Yehoudayan et al. 2024). In adult populations, systematic reviews and meta-analyses suggest potential benefits for anxiety and select related outcomes, but they consistently note generally low methodological quality and substantial heterogeneity in intervention format, dosage, and participant characteristics (Bosman et al. 2021; Huang et al. 2025). In college student samples, available studies report short-term reductions in perceived stress and potential improvements in emotion regulation, yet most are limited by small sample sizes and short follow-up periods (Sandmire et al. 2016). Accordingly, visual art healing should be regarded as a promising yet still emerging field

of research, with stronger empirical support for immediate well-being outcomes than for sustained clinical effects.

4.3. Integrative Art Healing

Integrative art healing combines multiple expressive modalities, rather than relying solely on a single sensory modality (Ho et al. 2025; Roque-Lopez et al. 2021). Engagement with the arts can contribute to health promotion, illness prevention, and illness management across the lifespan (Andersen et al. 2019; Carswell et al. 2021; Günay et al. 2022). Table 2 presents the effects of different forms of art intervention on psychological problems.

Among integrative art healing approaches, drama- and movement-based methods are particularly prominent as formal modalities within the broader arts-and-health field (Figure 5). Dramatherapy can foster new perspectives, improved interpersonal relationships, reduced anxiety, and enhanced self-understanding (Dogan 2018; Kaya et al. 2022). In college settings, only a small number of studies have investigated dramatherapy or psychodrama, including group counseling and university-based psychodrama programs, suggesting that this field holds promise but remains in the preliminary stage of research (Biolcati et al. 2017; Chang et al. 2019; Kaya et al. 2022).

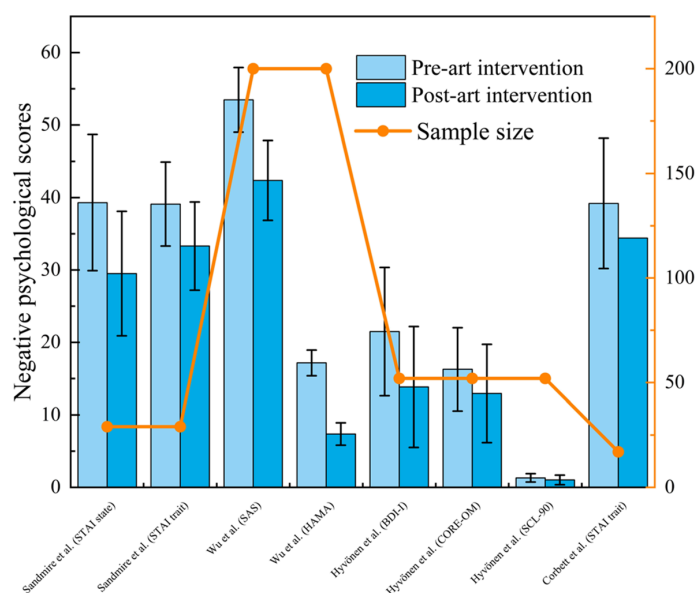


Figure 5. Effects of comprehensive art interventions including handicraft, dance and drama on human mental health (Corbett et al. 2017; Hyvönen et al. 2020; Sandmire et al. 2012; Wu et al. 2023).

Dance movement therapy is similarly rooted in the integration of emotional, social, cognitive, and physical dimensions. It demonstrate benefits for depression, anxiety, quality of life, and interpersonal functioning (Chang et al. 2019; Yang and Li 2022). College-based studies also suggest potential stress-regulatory effects of dance movement therapy, yet most of these trials are limited by small sample sizes (Xu et al. 2024).

Handcraft-based and writing-based components are increasingly incorporated into arts-based supportive programs. Art-making can significantly reduce stress among college students. Craft-based interventions may confer benefits for mental health and well-being (Jiang et al. 2025; Liu et al. 2024). Expressive writing, and related creative writing approaches, are appealing because they are flexible, low-cost, and easy to implement in school or campus settings (El-Kader et al. 2026). However, the evidence base remains heterogeneous, and findings should be interpreted as supportive rather than definitive (Niles et al. 2014).

Table 2. Case study on the effects of art intervention on college students' mental health.

Intervention Modality	Project Executor	Example	Mechanism	Psychological Intervention for College Students	Relevant Data	Refs.
Auditory Arts Therapy	The music therapists	Music therapy, sound waves, singing bowls, guided sound meditation or chanting	Regulates the autonomic nervous system, emotional resonance and rhythmic synchronization, quickly reducing physiological stress responses	Easy to implement in groups; attention should be paid to noise sensitivity, auditory overload and venue acoustics.	Students randomized to 6-week weekly group music therapy (vs. usual-routine controls) showed significantly lower hair cortisol and reduced stress/anxiety scores.	(Finnerty and Trainor 2025)
Mindfulness-based art therapy	The art therapist/researcher	5 min mindfulness practice and 10 min of intentional art making with earth-based clay	Perceived stress, generalized anxiety, and salivary cortisol concentrations of participants were measured and compared.	It can yield anxiety-reducing benefits and potentially foster a conditioned biofeedback response to stress, helping to address the mental health crisis on college campuses.	15 college students randomized to 10-week clay-based MBAT or unstructured clay task (NCT). Outcomes: anxiety, salivary cortisol, perceived stress.	(Beerse et al. 2019)
Mandala group art therapy	Psychologist/Doctor of Clinical Psychology	Mandala drawing sessions	Provide course materials and analyze and discuss their artworks based on the questions raised.	Focusing on aspects that can improve college students' psychological adaptability.	2 × 3 mixed design (intervention/control × pre/post/2-month follow-up), time as within-subjects factor.	(Li et al. 2025)
Integrative Art Healing	Dance instructor	Dance or dance therapy, physicalization of theatrical roles, rhythmic group activities, yoga-style artistic practices	Reshaping emotional memories through physical movement, improving mood regulation and self-efficacy; proprioceptive input helps reduce anxiety and hyperarousal.	Suitable for high-energy stress release and social skills training; Note: Consider physical differences and safety, and venue risk management.	150 participants in 5 groups (4 dance forms + control); 12 week 20-min 4 × /week dance intervention. Modern dance outperformed others for depression recovery.	(Zhao et al. 2025)
Art-making	Instructors	Painting	Art-making program intervention	Emphasize the richness of the curriculum and allow for a greater diversity of artistic forms.	400 college students equally split into control and experimental groups (<i>n</i> = 200 each). Experimental group received 12-session art-making intervention (twice weekly, 6 weeks).	(Wu et al. 2023)

Table 2. Cont.

Intervention Modality	Project Executor	Example	Mechanism	Psychological Intervention for College Students	Relevant Data	Refs.
Mindfulness-based coloring	Instructors	Coloring in mandalas, free coloring/drawing activity	The study compared the effects of mindful coloring (mandala), free drawing/coloring, and a non-coloring control activity on exam anxiety among college students, and examined the relationship between dispositional mindfulness and the response to mindfulness-based and exam-anxiety-focused interventions.	Materials can be provided for students to use before exams or during periods of high stress; incorporating these into actual lessons allows students to find moments of calm.	167 students assigned to mandala, free coloring, or non-coloring groups. Coloring significantly reduced test anxiety and increased state mindfulness.	(Carsley and Heath 2020)
Performing arts	Instructors	Drumming and dancing	offered a music, dance, and improvisation-based approach to support students' mental, social, and emotional health that has no stigma attached	The intervention can be scheduled earlier to avoid finals week, ideally taking place before the various final examinations.	Pilot parallel-group RCT: 76 participants equally randomized ($n = 38$ per group). Data collected at baseline, mid- and post-intervention. MGW improved mental health, quality of life, social relationships and creative expression.	(Agres and Chen 2025)
VR sculpting	Instructors	VR sculpting	the VR sculpting software (Oculus Quest 2 with haptic feedback controllers), a 3D creation platform simulating realistic sculpting processes was employed, supporting a range of virtual materials (e.g., wood, stone, clay) and tools (e.g., chisels, scrapers, brushes), along with real-time rendering of different carving effects or texture changes	Universities could adopt more flexible approaches to incorporate sculpture into art electives and mental health courses; research should aim to expand sample sizes, extend intervention and follow-up periods, and utilize a combination of diverse physiological and cognitive measures for support.	30 students enrolled; pre-post analysis of ART intervention showed VR sculpting promotes physiological relaxation.	(Ding et al. 2025)

Current studies suggest that integrative arts-based interventions may benefit well-being, but the evidence remains limited. However, as these interventions are inherently complex and multimodal, encompassing emotional, cognitive, social, esthetic, and behavioral components, it remains unclear which specific active components drive the observed therapeutic outcomes. Furthermore, although short-term improvements are consistently reported across studies, evidence regarding the long-term durability and sustained maintenance of these benefits remains limited (Sandmire et al. 2016; Warran et al. 2022).

5. Research Challenges, Limitations, and Impact of Art Healing

5.1. Research Challenges and Limitations

Research on art healing has expanded, but the evidence quality remains uneven. A WHO scoping review on arts and health synthesized over 3000 studies and demonstrated that the arts serve a critical role in disease prevention, health promotion, and illness management and treatment (Fancourt and Finn 2019). However, the field is marked by substantial heterogeneity across study populations, intervention protocols, implementation settings, and outcome measures, posing considerable challenges to evidence synthesis.

From a methodological perspective, the most prominent limitations include small sample sizes, limited adoption of RCT designs, inconsistent operational definitions of interventions, heterogeneous control conditions, highly variable outcome measures, and generally short follow-up periods (McDonald and Drey 2018). Active visual art therapy interventions are associated with improvements in select outcomes, but overall heterogeneity is high and study quality is low; the authors accordingly emphasized the need for higher-quality empirical research, alongside international collaboration and methodological harmonization (Joschko et al. 2024). Common methodological flaws include inadequate randomization procedures, weak control conditions, challenges in isolating the specific “art” component from non-specific common factors, inadequate or absent blinding, non-standardized statistical analyses, and overinterpretation of correlational findings as evidence of a direct causal effect of art itself (Skov and Nadal 2025).

At the implementation level, art healing is not yet a standardized psychological intervention that can be reliably replicated across settings without barriers. Art therapy has demonstrated acceptable feasibility and acceptability in pandemic and other contexts, but larger-scale studies with longer intervention durations and extended follow-up periods remain warranted (Le Vu et al. 2022). While these interventions may yield improvements in select outcomes, most available studies are small in scale, carry a high risk of bias, and are insufficient to support definitive conclusions (Versitano et al. 2025). Pilot investigations of online art therapy have similarly focused predominantly on feasibility and acceptability, while identifying notable implementation challenges in real-world service settings. Accordingly, the long-term durability of effects and the scope of its practical applicability have yet to be firmly established (Zubala et al. 2023).

5.2. Research Impact

Although the current evidence base remains highly heterogeneous, the research value and practical potential of art healing remain evident. The WHO scoping review further emphasizes that the arts play a critical role in public health strategies (Fancourt and Finn 2019). For high-stress populations such as college students, this body of evidence positions art healing as a viable complementary modality of psychological support (Liu 2026).

At the theoretical level, a core contribution of art healing is its distinct framework for emotional externalization, nonverbal expression, meaning-making, and self-regulation, which stands in contrast to traditional verbal, language-centered psychological interventions. It also encourages researchers to move beyond symptom reduction as the sole

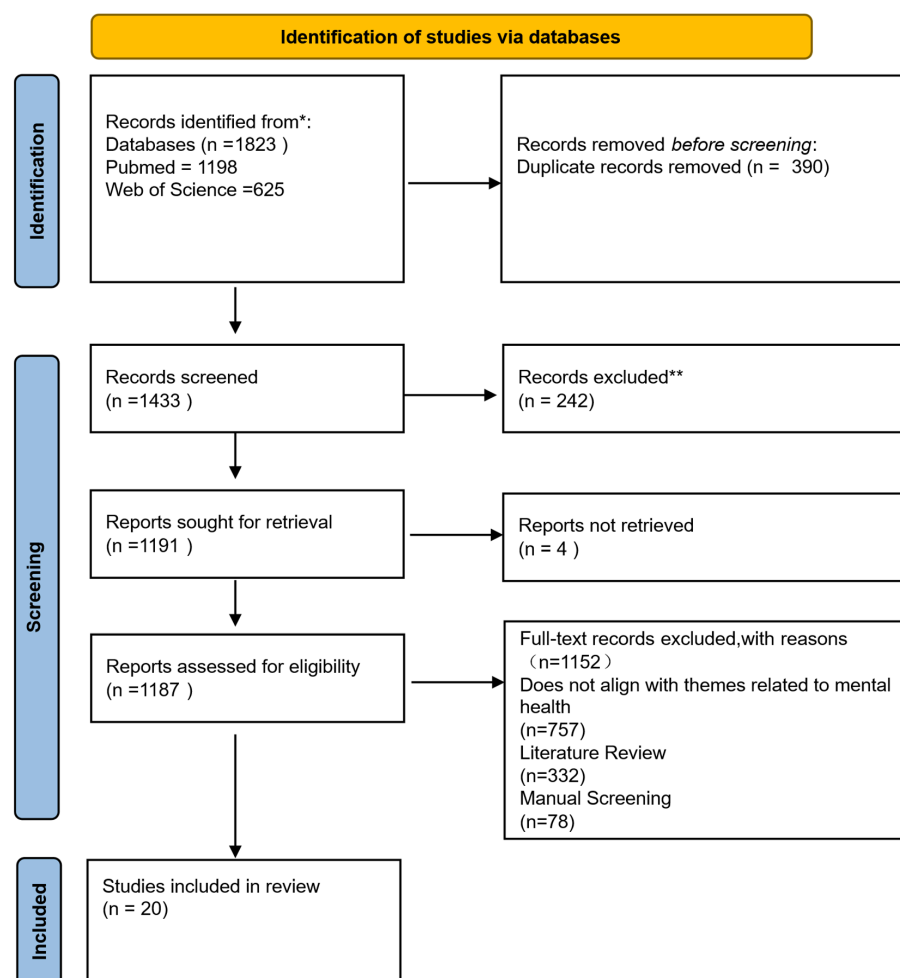
outcome endpoint and to consider broader well-being outcomes, including emotion regulation, psychological resilience, social connectedness, and self-identity (Liu 2026).

Art healing could be integrated into group counseling, online support, or campus-community programs (Boyle 2025). In this context, the value of this review lies not only in examining whether art healing yields therapeutic benefits, but also in delineating the boundaries of available evidence, identifying core methodological bottlenecks, and outlining future research directions, thereby laying an empirical foundation for more standardized, scalable, and evaluable art healing delivery models.

6. Methods

6.1. Data Extraction Module

As shown in Figure 6, we conducted a systematic literature search in Web of Science (WOS) and PubMed using the keywords “art healing” or “art therapy” or “creative arts therapy” or “expressive arts therapy” combined with “mental health” or “psychological well-being” or “anxiety” or “depression” or “stress”. The search retrieved 625 records from WOS and 1198 records from PubMed, totaling 1823 records. After removing 390 duplicate records, 1433 records remained for initial screening.



*Preliminary literature retrieval results from two databases: 1,198 articles from PubMed and 625 articles from Web of Science, with a total of 1,823 retrieval records.

** During the initial screening of literature, 242 records published before 2010 were manually excluded, leaving 1,191 records remaining.

Figure 6. Flowchart indicating identification and selection of studies used in the present analysis following PRISMA statement guidelines.

During the screening process, 242 records published before 2010 were excluded, leaving 1191 records. Four non-journal articles that were inaccessible were also excluded, leaving 1187 records. By reviewing titles and abstracts, 757 records irrelevant to the study topic were excluded, resulting in 430 records for full-text assessment. Full-text evaluation further excluded records that were review articles, had ineligible study populations, unclear methods, or insufficient data, ultimately including 20 studies in the systematic review.

This selection process was conducted in accordance with the PRISMA 2020 guidelines, ensuring transparency and reproducibility in the literature inclusion process.

6.2. Data Description

To be included in this review, studies must meet a clear set of eligibility criteria designed to select literature providing the most relevant empirical evidence for the research topic. Eligible studies met the following criteria: (1) the study population consists of currently enrolled college students or other young adult groups at equivalent educational stages; (2) the interventions clearly involve art healing or art therapy, including but not limited to music therapy, painting and visual arts, dance and movement therapy, drama therapy, expressive writing, and other art-based interventions; (3) the outcome indicators focus on mental health-related variables, such as anxiety, depression, stress, psychological resilience, self-perception, emotion regulation, well-being and interpersonal adaptation; (4) the articles are published in academic journals or peer-reviewed conference proceedings; (5) the articles are written in English.

Gray literature and other non-peer-reviewed materials are also excluded. In addition, articles that do not meet the language requirements or whose full texts are unavailable will not be included in the analysis.

7. Conclusions

7.1. Key Findings

College students experience a substantial mental health burden, encompassing depression, anxiety, and sleep disturbances. These difficulties are shaped by a confluence of academic, social, financial, and lifestyle-related stressors, while access to and uptake of campus mental health services remain constrained by barriers including stigma, scheduling conflicts, privacy concerns, and limited service availability.

Art healing appears to be a promising adjunctive strategy for campus mental health promotion, particularly given its capacity to be delivered in low-threshold, nonverbal, and campus-adaptable formats. Among the modalities reviewed, music-based interventions currently have comparatively stronger empirical support for stress-related outcomes, whereas visual and integrative arts-based approaches also show promise but remain less standardized and more methodologically heterogeneous. Current evidence supports art healing as a potentially valuable complementary option, rather than a standalone, fully validated intervention.

Nonetheless, the on-campus implementation of art healing remains limited by heterogeneous intervention protocols, small sample sizes, short follow-up periods, and variability in facilitator training and implementation contexts. Furthermore, the available evidence does not yet warrant definitive claims that art activities alone are sufficient to produce stable therapeutic effects; any observed benefits are likely contingent on structured facilitation, meaningful participant engagement, and an appropriately supportive environment.

7.2. Outlook

Future research should prioritize multicenter randomized controlled trials, extended follow-up periods, and standardized intervention protocols to enable cross-study compara-

bility of findings. In particular, studies should explicitly operationalize the core components of each intervention modality, including dosage, duration, delivery format, facilitator training requirements, and outcome assessment measures, and employ appropriate control conditions to disentangle art-specific effects from non-specific benefits associated with attention, relaxation, or social participation.

Future studies should examine who benefits, under what conditions, and for how long. This includes stratifying analyses across distinct student subgroups—such as those with exam anxiety, sleep disturbances, loneliness, or financial stress—and evaluating whether the durability of observed benefits is sufficient to support routine on-campus implementation.

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Abbreviations

The following abbreviations are used in this manuscript:

CBT	Cognitive behavioral therapy
IPT	Interpersonal therapy
DBT	Dialectical behavior therapy
ACT	Acceptance and commitment therapy
GAD	Generalized Anxiety Disorder
SAD	Social anxiety disorder
PD	Panic disorder
SSRIs	Selective serotonin reuptake inhibitors
VR	Virtual reality
RCT	Randomized controlled trial
AMT	Active music therapy
RMT	Receptive music therapy
VT	Verbal therapy

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