The Role of Art Therapy in Strengthening the Psychological Immunity of Pre-service Teachers: A Systematic Literature Review

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ABSTRACT:
Background: There are growing academic, emotional and professional expectations for pre-service teachers which can impact their resilience, stress tolerance and psychological health. Art therapy may provide a creative approach for strengthening psychological resources linked with psychological immunity. The purpose of this systematic literature search was to explore the significance of art therapy to the study of the connection between stress coping, resilience outcomes, and psychological immunity in the context of pre-service teachers and other education-related populations.
Methods: Literature published between 2010 and 2025 was searched in Web of Science, ScienceDirect, and Google Scholar. A narrative synthesis of the 21 studies eligible for the synthesis was conducted to determine their methodological quality using the Joanna Briggs Institute appraisal tools.
Results: Being associated with art-based interventions when moderates were included through the total group analysis, participants reported lower levels of stress and anxiety and increased emotional awareness, self-efficacy, problem-solving, social connection, and some measures of resilience. Strategies that were structured and repetition, multimodal, mindfulness and group-based were promising but there was little direct evidence with pre-service teachers. The benefits showed different along the interventions, type of participants, measures, and follow-up periods. Conclusion: While art therapy may have an impact on psychological resources which are related to psychological immunity, risks are identified of no direct causal impact. The effectiveness, durability, and implementation of this approach needs to be more rigorously tested with pre-service teachers, especially in special and inclusive education.

Keywords: Psychological Immunity, Professional Resilience, Stress Tolerance, Education System, Pre-Service Teachers, Art Therapy, Psychological, Pedagogical Training, Emotional Burnout

1. Introduction

The modern educational environment is characterized by rapid change, increasing professional demands, competition, and complex social and emotional challenges. The circumstances have fostered greater interest in the psychological resources accessible to the individual to achieve emotional stability and effective adaptation to stress (Mayang, 2025). This is an important challenge in teacher preparation overall, as it requires students who are in the process of forming their professional identity to balance academic demands, professional norms, relationships with others and emotionally challenging aspects of teaching. Therefore, it is crucial that teachers in training are developed psychologically to promote the well-being, strength and resilience of future teachers.

Psychological immunity is an overall psychological mechanism (based on psychological processes and mechanisms) while when overcoming the effects of an adverse impact or stress that helps an individual recover from the impact and stay resilient to further negative factors. Choochom et al. (2019) state that psychological immunity is the ability to manage problems, stressful situations and being able to rebound from problems. It has strong links to resilience, coping, self-efficacy, mindfulness, hope, self-sufficiency, and emotion regulation. Similarly, Bredács (2016) highlighted psychological immunity as a personality feature with psychological and social resources that facilitate adaptation and self-control. The characteristics are most important for pre-service teachers who must be able to manage their response to the emotions they may experience, deal with uncertainty, and remain effective in their transition to teacherhood.

Studies in recent years have highlighted the significance of psychological resilience and the training of related resources in teacher preparation. According to the findings of Fokkens-Bruinsma et al. (2024), personal resources, contextual resources and coping strategies contributed to the resilience of pre-service teachers during the COVID-19 pandemic. In a similar way, Sánchez-Jiménez et al. (2025) reported that components of pre-service teachers' resilience changed after attending a Service-Learning programme that was designed as a structured educational experience, suggesting that structured learning experiences can help develop adaptive psychological resources. It is especially pertinent to research with pre-service special education teachers. In their study, Cavioni et al. (2023) examined the profiles of mental health, perceived stress, and resilience developed by pre-service special education teachers, and further explored the correlation between their profiles and self-efficacy as well as work engagement. The findings showed that psychological well-being and resilience are significant factors in education preparation for teachers who can experience significant emotional and interpersonal demands.

There are also difficulties teachers face in the profession, including extraneous student needs, curriculum variations, assessment demands, heavy workloads, and insufficient resources and teacher-student relationships. When coping resources are inadequate, this can have a negative impact on teachers' motivation, performance and wellbeing. Further studies with pre-service teachers have also found psychological resilience to be a key factor in stress management and fostering positive growth in the profession (Song et al., 2026). Psychological resources developed prior to entering the profession may thus constitute an important preventive strategy in teacher preparation.

Using art in psychological correction and psychotherapy is one way to enhance these resources, whereby the application of art creativity allows the person to express and be aware of their emotions and to regulate these emotions (Savytska et al., 2022). Art therapy encompasses a variety of practices such as visual art, music, drama, movement, poetry and other creative activities. As a means of expression, people can experience what they are struggling to put into words, gain more insight into themselves and reinforce their coping mechanisms. These processes raise the possibility that art therapy and

psychological immunity are related, as emotional regulation, self-awareness, coping, resilience, and social support are all key in adaptive psychological functioning.

Prior studies have found improvements related to a focus on the arts. Research has shown decreased anxiety and stress, and increased emotional states, self-awareness, self-confidence and subjective well-being. For instance, Arriaga et al. (2024) studied a creative arts therapies group workshop with college students, finding some increase in well-being, self-awareness, and outcomes related to loneliness. The findings of such explorations can be used as a starting point for reasoning about how art therapy might be included in educational and psychological support programs.

The academic, emotional, interpersonal and professional demands of pre-service teachers can affect their capacity to handle stress, emotional regulation and psychological well-being and this is a substantial burden (Valente, 2022). In the field of special and inclusive education, teachers of the future face challenges related to the diversity of the teachers' needs as well as to the diversity of the situations faced in the classroom. Therefore, teacher education should be implemented based on the approaches that increase teacher psychological resources, including resilience, coping, self-regulation and self-efficacy. Art therapy has the potential to offer a supporting strategy with the use of art, emotional awareness, emotional management and adaptive coping. Therefore, studies on the current literature about art therapy and bolstering psychological immunity have been conducted among various populations and outcomes, leaving challenges to understanding the specific impact of art therapy on pre-service teachers (Kocaarslan & Eryaman, 2024). This problem warrants systematic examination of the available evidence.

The purpose of this systematic literature review is to investigate the impact of art therapy on stress management, psychological resilience and resources of pre-service teachers and related students. The review seeks to gather the empirical evidence available, to discern trends in existing research and to delineate the possible role of art therapy in the formation of teacher psychological immunity.

Objectives

In particular, the objective of the review is to:

- To investigate the correlation between pre-service teachers and related student groups who use art therapy and stress coping and participation in art therapy practices;
- To recognize the art forms and techniques related to psychological resilience and other adaptive psychological outcomes;
- To examine the psychological and social pathways where art therapy can assist pre-service teachers' psychological immunity.

The purpose of the review through these objectives is to explain what existing evidence is, what needs further research, and what is still to be drawn out from the status of teacher education, particularly the preparation of future special and inclusive education professionals. The way this approach is followed is in line with the purpose of the original manuscript, which entails studying art therapy in the context of stress management, psychological immunity, and psychological resources among future professionals.

2. Methodology

Design

Research Design

Systematic Literature Review (SLR) method was chosen in this study to determine the existing knowledge, evaluate, and synthesize the literature about psychological factors such as stress management, psychological resilience, psychological immunity, and psychological resources of art therapy for pre-service teachers and related student populations. The review was organized following the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 protocol (Zeng et al., 2025). The review was carried out in four stages: the development of research questions,

the establishment of eligibility criteria, an academic search for relevant studies and screening and selecting studies, data extraction, and a review of the quality of studies and relevance of their findings.

Research Questions

The following research questions guided the systematic review:

RQ1. Is there a relationship between participation in art therapy practices and the ability to cope with stress?

RQ2. Which forms and methods of art therapy are most effective for developing psychological resilience in future professionals?

RQ3. How does art therapy contribute to the development of psychological immunity in pre-service teachers?

These questions are related to the three key areas used for structuring and summarizing the contents of this review.

Participants/Sample

Inclusion and Exclusion Criteria

The following criteria were used to select studies:

1. **Topic relevance**: The study focused on the relevance of art therapy or arts-based interventions on psychological immunity and/or psychological resilience, stress management, coping, emotional regulation, self-efficacy or related psychological resources.
2. **Population/Context:** pre-service teachers, university students, teachers, or population relevant to teacher preparation and educational contexts.
3. **Publication Period**: The study was from 2010 to 2025.
4. **Research Evidence**: The evidence presented was empirical or reported a well-described scholarly investigation that employed quantitative, qualitative, mixed-methods, experimental, quasi-experimental, or similar research designs.
5. **Outcome Relevance:** The study investigated outcomes of stress, anxiety, emotional regulation, coping, resilience, self-efficacy, psychological well-being, psychological immunity, or the related adaptive psychological outcomes.
6. **Accessibility and Identification**: Appropriate bibliographic and methodological information were made available to enable evaluation and synthesis.

Studies outside the agreed-upon publication period, or studies that were not addressing the research questions, studies not related to art therapy or to psychological resources, insufficient methodological information, and studies not reporting outcome data relevant to the objective of the review were excluded.

The original search strategy also paid special attention to the presence of the following words in the title, abstract, and keywords of various studies: psychological immunity, professional resilience of pre-service teachers, art therapy in education.

Procedure

Databases and Information Sources

Three academic information sources were used in the literature search: Web of Science, ScienceDirect, and Google Scholar (Nasution & Setyaningrum, 2024). The sources were carefully chosen to encompass journals and book chapters in research and interdisciplinary areas such as education and teacher education. Additionally, the references that were included in the original submitted manuscript and were relevant to the review objectives and the specified eligibility criteria were incorporated into the review. These included additional sources to support the evidence base on pre-service teachers, resilience, psychological well-being, and related outcomes.

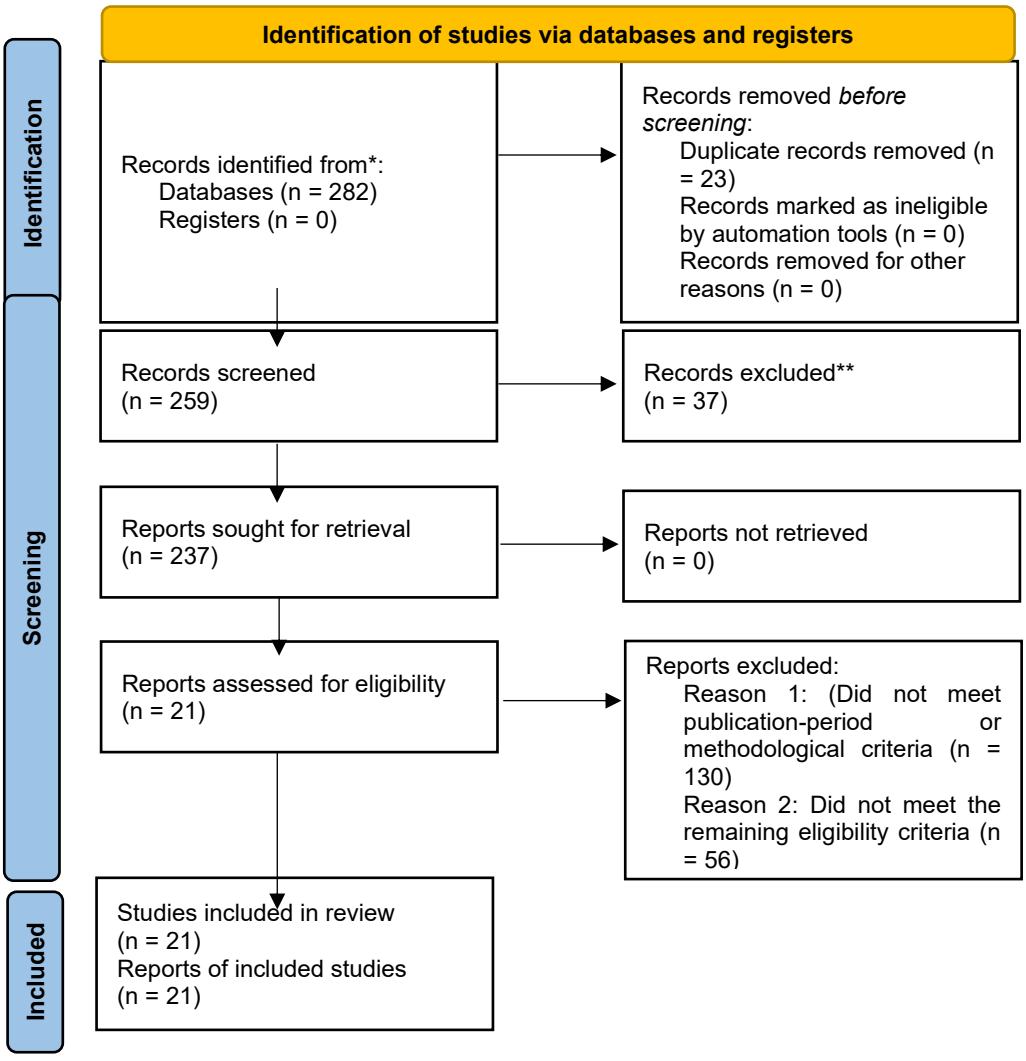
Search Strategy

A systematic literature search was carried out to find articles related to art therapy, psychological immunity, resilience, stress management and other psychological resources concerning pre-service teachers and related students. The literature was searched in Web of Science, ScienceDirect and Google Scholar databases for

papers published between 2010 and 2025. Combining these terms, the search strategy employed was 'psychological immunity', 'professional resilience of pre-service teachers', 'pre-service teachers', 'art therapy', 'art therapy in education', 'stress management', 'psychological resilience' and 'teacher well-being'. As required, these terms were queried in combination using Boolean operators to widen the scope of relevant literature identified. The reference lists of relevant publications were also scanned for potentially eligible studies that were not found in the database search. The search initially identified 282 records.

Data/Study Collection Process

The study-selection process was organized according to the PRISMA stages of identification, screening, eligibility, and inclusion (Zeng et al., 2025).



The analysis of publication activity dynamics over the specified period (Figure 1) indicates a steady increase in the number of studies on this topic, with the most significant growth in publications occurring between 2021 and 2025. This trend reflects a growing scientific interest in the issue of psychological immunity formation and supports the relevance of further research in this area.

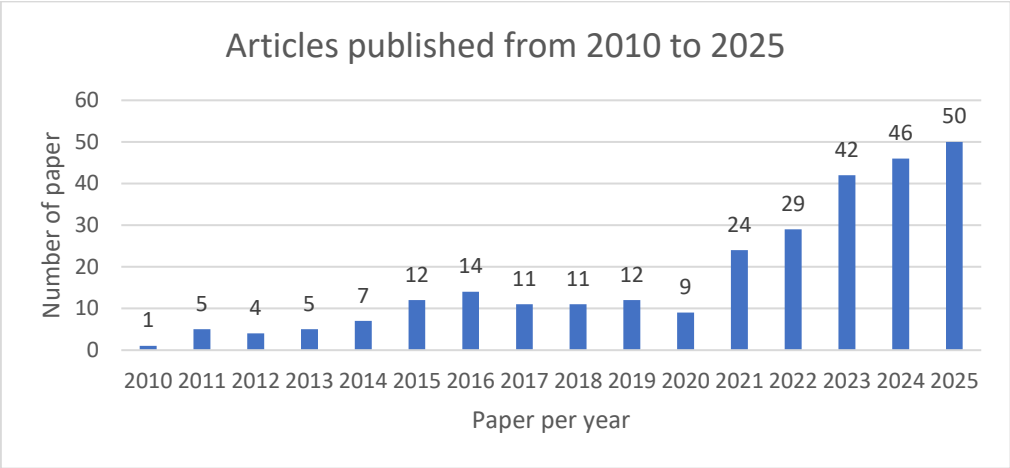


Figure 1: Articles published from 2010 to 2025

At the preliminary screening stage, 37 articles were excluded for not meeting criteria 1 and 2. A total of 130 articles did not meet criteria 3 and 4, and an additional 79 publications failed to meet inclusion criteria 5 and 6. At the final stage, taking into account additional relevant research materials, 21 scientific publications were selected for inclusion in the systematic literature review.

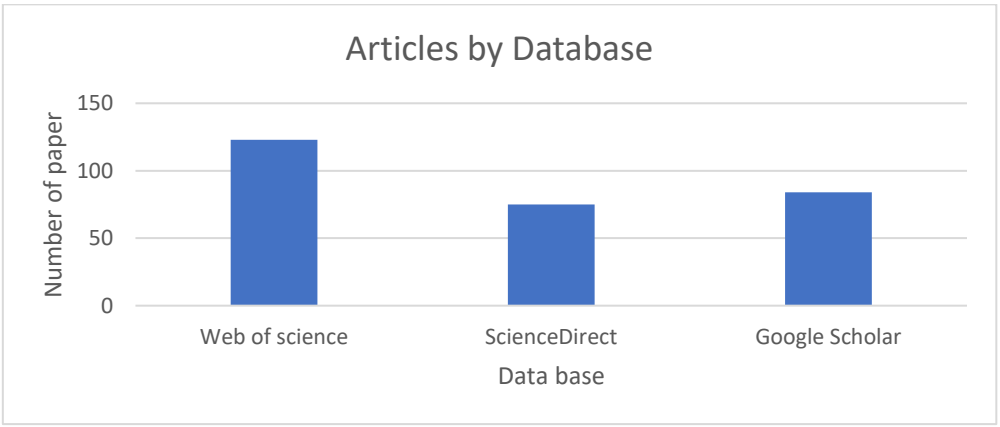


Figure 2: Articles by Database

Instruments

Risk of Bias Assessment

Joanna Briggs Institute (JBI) Critical Appraisal Tools were used to evaluate methodological quality and risk of bias of the studies included. The relevant JBI checklist was employed from the methodological design of each study and the quality of quantitative, qualitative, quasi-experimental and other types of eligible research designs was evaluated through the appropriate methodological checklist. The following appraisal elements were examined: study design, sample and subject selection, study outcome measurement, potential sources of bias, completeness of reporting, and consistency of the study questions, methods and results. All appraisal results were taken into account when synthesizing the data, which was done to take methodological limitations of the studies into account when concluding.

Quality and Relevance Assessment

Each study included was evaluated in terms of relevance and quality to the research questions and the inclusion criteria. The studies deemed more directly related to the topic focused on pre-service teachers and studied the issue of art therapy related to coping with stress, resilience, psychological well-being, psychological immunity, or psychological state. Where published evidence addressed logically and conclusively the psychological impact of art-based interventions by university students,

teachers, or related populations, this evidence was also included. The findings were interpreted with due consideration given to differences in study population, methodology and outcome measures.

Data Analysis

Data Synthesis

Given that the studies were methodologically and substantively heterogeneous, a narrative synthesis was employed for the integration of findings as opposed to statistical meta-analysis. The extracted evidence was arranged according to the three research questions as follows: (1) the relationship between art therapy and stress coping; (2) forms and methods of art therapy, psychological resistance, and related adaptive outcomes; and (3) psychological and social mechanisms in art therapy as contributing to psychological immunity among pre-service teachers. The findings of these studies were contrasted to examine similarities, differences, and implications for teacher preparation. Evidence from pre-service teachers was separated from evidence from a larger student or educator population.

Ethical Considerations

The current study was conducted as a systematic literature review, using only previously published research available; this study did not involve direct interaction with human subjects. As a result, informed consent or institutional ethics clearance was not needed. In-text citations and references were used and cited properly for all sources. The review process was done responsibly and with transparency, and inclusion/exclusion criteria were applied in a consistent way to reduce selection bias and to guarantee that the available evidence was synthesized responsibly.

3. Results

3.1 Overview of the Evidence Base

Twenty-one studies were included in the narrative synthesis review. There were variations in studies in terms of the population, type of intervention, length of intervention, comparison condition, and outcome measure. Research done directly on pre-service teachers in the area of art therapy was rare, most of the intervention studies were conducted on other groups of educational participants such as university students, trainee teachers, and others. Immunity of the mind was not often specifically assessed as a psychological concept. Instead, the studies were the ones that were included reported related outcomes, including stress, anxiety, emotional regulation, resilience, coping, self-efficacy, self-awareness, problem-solving, well-being, and social support. These results, then, are broken down by the three research questions and by the presence of direct evidence (from pre-service teachers) versus indirect evidence (from a larger sample of students or teachers).

3.2 RQ1: Relationship between Art-Therapy Participation and Coping with Stress

The results from studies focusing on RQ1 showed that the ART interventions were connected with a reduction of stress, anxiety, emotion processing, and improved short-term well-being. Beerse et al. (2020) used art therapy as a mindfulness-based intervention with college students that was delivered over a period of five weeks and found that perceived stress and anxiety decreased. Featuring qualitative data from college students, Cheshure and Van Lith (2024) noted feelings among participants of relaxation, reflection, emotional processing, and increased personal insight. Art therapy that was delivered using the mindfulness approach was associated with reporting these outcomes more frequently than the neutral clay activity.

Stress-related results were comparable for repeated group interventions. After eight sessions of group art therapy with the Chinese graduate students in South Korea, Yin and Ko (2023) found that participants experienced a decrease in levels of acculturative stress and academic stress. Better perceived stress was observed after following the four-week programme of Liu et al. (2024) with college students involving drawing, clay modelling and craft activities. For both studies, the interventions were multiple-session

and structured creative activities that were implemented across multiple weeks.

The shorter interventions led to immediate measurable outcomes as well. After attending the three-hour creative arts therapies group workshop with college students, Arriaga et al. (2024) found a positive impact on participants' subjective well-being, self-awareness, as well as a decrease in state anxiety and loneliness. Some of the outcomes were less robust at follow-up in comparison to immediately at the end of the workshop. In a R.T, Finnerty et al. (2023), reported a decrease in reported stress and anxiety immediately following group music therapy delivered online. There was a lack of significant longer-term change in perceived stress, and there was no discernible advantage in one group (music-therapy) over a second (online verbal group-therapy).

Kakabayeva et al. (2025) have conducted a study to compare person-centred expressive arts therapy with cognitive behavioural therapy among the students of Psychology. Larger decreases in anxiety/stress scores occurred in the expressive-arts condition than in the cognitive-behavioural condition, and less change in depression scores occurred in both conditions. Lavric and Soponaru (2023) presented data based on a special-education cohort that suggested an art-therapy programme led to decreased anxiety and greater empathy and prosocial behaviour. In this study, the subject is the students, and the object is pupils, not pre-service students. Overall, studies relating to RQ1 reported decreased levels of stress or anxiety for various forms of art interventions, with widely different durations of intervention, participants, and both measures and follow-up periods.

Table 1 Studies Addressing Art-Therapy Participation and Coping With Stress (RQ1)

No.	**Authors and year**	**Main findings**
1	Beerse et al. (2020)	A five-week mindfulness-based art therapy programme was associated with lower perceived stress and anxiety among college students.
2	Yin and Ko (2023)	Eight group art-therapy sessions were followed by reductions in acculturative and academic stress among Chinese graduate students in South Korea.
3	Liu et al. (2024)	A four-week intervention that included drawing, clay modelling, and craft activities resulted in reduced perceived stress for college students.
4	Arriaga et al. (2024)	At follow-up, there was improved subjective well-being and self-awareness, and reduced state anxiety and state loneliness; some of these outcomes were less strong after the 3 h creative arts therapies workshop.

No.	Authors and year	Main findings
5	Finnerty et al. (2023)	There is no evidence that online group music therapy had any significant impact on immediate levels of stress or anxiety although a similar effect was noted regarding more restorative perceived stress levels, which just fell short of the intervention with verbal group support.
6	Kakabayeva et al. (2025)	Depression generally decreased to a lesser extent in person centred expressive arts therapy than in cognitive behavioural therapy for the psychology students, but anxiety and stress were reduced more.
7	Lavric and Soponaru (2023)	The students who participated in the art-therapy programme had lower anxiety levels and greater empathy and prosocial behaviour.

Note. The main results of the studies cited under RQ1 are summarized in this table. Students rather than pre-service teachers were the majority of the participants.

3.3 RQ2: Forms and Methods of Art Therapy Linked With Psychological Resilience.

The studies on RQ2's research areas consisted of expressive art therapy, mindfulness-based art therapy, group art therapy, visual art activities, music therapy, and multimodal creative approaches. Leslie Li and Peng (2022) studied expressive arts therapy among university students, which showed increases in SE, self-acceptance, and problem-solving. They also found that the network analysis indicated that peer support gained in significance in the post-intervention resilience network. Beerse et al. (2020) and Cheshure and Van Lith (2024) found that there was a reduction in perceived stress and anxiety after the mindfulness-based art therapy and themes of self-insight, emotional processing, and reflection in participants' experience of the same approach.

Several studies have conducted group deliveries. For a creative arts therapies workshop involving art, writing, and dance, there was a relationship between increases in group cohesion and perceived therapeutic value leading to positive short-term changes, according to Arriaga et al. (2024). After multiple group art-therapy sessions, there was a reduction in academic/school and acculturative stress observed by Yin and Ko (2023. In another curriculum of educational experiences, Jue and Kim (2023) observed that graduate art-therapy students' practicum stress positively correlated with their burnout levels, whereas teacher support positively correlated with their prospection of the educational experience and negatively correlated with their burnout levels, particularly their stratum of academic support. This study was not theoretical in respect of an art-therapy intervention but in respect of art-therapy trainees.

Digital delivery was reported in music-therapy and mindfulness-based art-therapy literature. Online group Music Therapy was provided by Finnerty et al. (2023), and immediate reductions in stress and anxiety levels were seen. An online experience is also the focus of Cheshure and Van Lith's (2024) study, which also focuses on the experience of participants in this context of reflection and emotional processing. Joschko et al. (2024) conducted a review of the literature on active visual art-therapy studies, and reported positive results for some health outcomes, a high level of heterogeneity, and low general quality of the studies. No one art-therapy technique was

assessed frequently nor compared directly in enough of the studies to enable a ranking of the techniques used in RQ2.

Table 2 Forms and Methods of Art Therapy Linked With Resilience-Related Outcomes (RQ2)

No.	**Authors and year**	**Main findings**
1	Li and Peng (2022).	Expressive arts therapy was associated with improvements in self-efficacy, self-acceptance, and problem-solving; peer support became more central in the post-intervention resilience network.
2	Beerse et al. (2020).	Awareness-oriented art therapy correlated with decreased perceived stress and anxiety.
3	Cheshure and Van Lith (2024).	After the mindfulness based art therapy, participants talked about reflection, emotional processing, relaxation and personal insight.
4	Arriaga et al. (2024).	Group cohesion and perceived therapeutic value were associated with short-term changes following a creative arts therapies workshop.
5	Yin and Ko (2023).	Repeated group art-therapy sessions were followed by lower academic and acculturative stress.
6	Finnerty et al. (2023).	The results showed that stress and anxiety among undergraduates were reduced immediately upon completion of the online group music therapy.
7	Joschko et al. (2024).	The systematic review and metanalysis showed positive effect for some outcomes with significant heterogeneity and low quality of studies in general.

Note. The table summarises reported outcomes by intervention format. There were few direct comparisons of modalities.

3.4 RQ3: Art Therapy and Psychological Resources Related to Psychological Immunity

Responses to RQ3 were focused on four groups of outcomes: stress management, emotional awareness, emotional regulation, social support, competence resources. Stress-related outcomes were expressed for the following arts therapies: mindfulness-based art therapy (Beerse et al., 2020); expressive arts therapy (Finnerty et al., 2023); group art therapy (Kakabayeva et al., 2025); music therapy (Liu et al., 2024); and structured visual-art programme (Yin & Ko, 2023). Some researchers, such as Arriaga et al. (2024) and Cheshure and Van Lith (2024), reported emotional awareness and self-reflection.

Based on the outcomes of the research conducted by Li and Peng (2022), which explored the effects of expressive arts therapy (EAT) programming on participants' competence, Li & Peng (2022) concluded that the interventions of EAT positively increased the competence of participants in terms of their self-efficacy, self-acceptance, and problem-solving. Another study with pre-service teachers revealed that there were significant positive correlations between self-efficacy for inclusive practice and resilience (Yada et al., 2021). The results also revealed the relationships between teaching experience, teacher self-efficacy, resilience, and inclusive teaching among pre-service teachers, which were similar to those found by Shuakbayeva et al. (2025). These teacher studies were not actual tests of art therapy, but rather were tests of items found in the art-therapy literature.

Social and relational resources were shared in both evidence bases. Invariably, group cohesion was reported to be associated with positive outcomes by Arriaga et al. (2024), and peer support was found to be a component of the resilience network by Li and Peng (2022); On the other hand, lower burnout was found when the art-therapy trainees reported higher levels of teacher support by Jue and Kim (2023). According to Squires et al. (2022), pre-service teachers prioritized the family, peers, and social relationships in their workload and well-being approaches. A connection was also made with resilience and well-being in both responses, as McKay (2021) further found that arts-based reflection supported pre-service teachers' identity formation. This was an education-based reflection (not clinical art therapy) through the arts. No study was found to exist that used direct test measures of psychological immunity for the pre-service teachers.

Table 3 Psychological Outcomes Related to Psychological Immunity (RQ3)

Outcome domain	**Supporting studies**	**Reported findings**
Stress regulation	Beerse et al. (2020); Finnerty et al. (2023); Kakabayeva et al. (2025); Liu et al. (2024); Yin & Ko (2023).	Student samples revealed reductions in stress or anxiety with several art-based formats.
Emotional awareness and regulation	Arriaga et al. (2024); Cheshure & Van Lith (2024).	Creative and mindfulness-based art activities had significant positive links to awareness, reflection, and emotional processing.
Self-efficacy and problem-solving	Li & Peng (2022); Yada et al. (2021); Shuakbayeva et al. (2025).	Competence outcomes and expressive arts therapy is linked, and pre-service teacher studies found links with self-efficacy and resilience in university students.

Outcome domain	Supporting studies	Reported findings
Social and relational support	Arriaga et al. (2024); Jue & Kim (2023); Li & Peng (2022); Squires et al. (2022).	Psychological or educational resources mentioned were group cohesion, peer support, teacher support, and social relationship.
Arts-based reflection in teacher education	McKay (2021).	Arts based reflection was associated with pre-service teacher identity construction, resilience, and wellbeing; it was an educational activity that was not a clinical art therapy.

Note. Psychological immunity was not directly measured in the cited art-therapy studies; the table presents related psychological outcomes reported across the evidence base.

4. Discussion

4.1 Main Interpretation of the Findings

The review suggests that the psychological resources related to the use of art therapy that are applicable and relevant to pre-service teachers are: stress regulation, emotional awareness, self-efficacy, problem solving and social connection. Evidence is strongest around these outcomes of the component construct of psychological immunity and not for the construct of psychological immunity as one entity. Psychological immunity should be looked at as a guiding framework which consolidates protective cognitive, emotional, behavioural and relational resources. While they are conceptually related, the key outcomes of resilience, coping, self-efficacy, emotional regulation and well-being are conceptually different, and should not be confused as being interchangeable.

The second finding is related to the design of interventions. Findings emerged from five areas of results: visual arts, expressive arts, music, mindfulness-based art therapy and multimodal group methods, but no one method was consistently found to be best. The pattern most likely to be useful was structured programmes, which entailed either creative activity with reflection or mindfulness, therapeutic guidance, or social interaction. This interpretation is in keeping with the results that the benefits of immediate treatment were sometimes more apparent than the benefits of follow-up. For instance, an immediate reduction in stress and anxiety was noted by Arriaga et al. (2024) after one workshop, and a similar momentary effect after a single workshop was seen by Finnerty et al. (2023). At a 12-month follow-up, there was no significant difference from verbal support, suggesting no long-term benefits. These findings suggest that sequential sessions, reflection, and connection with broader support might be a better approach than stand-alone creative exercises for the goal of psychological resources sustainability.

Joschko et al. (2024) confirm the care taken in the Results. They reviewed and combined their results, alluding to benefits specific to some outcomes and large variability and generally low methodological quality of active visual art-therapy studies. Whilst the current review does not support claims that art therapy is equivalent across populations and the most effective form of therapy, it does include that art may have a different impact on different people. It provides an opportunity for additional testing of the various components, time length, facilitator's expertise, comparison conditions, and follow-up time.

4.2 Relationship with Pre-service Teacher Resilience Research

The findings of art therapy from the perspective of the general literature in initial teacher

education about resilience become meaningful. Consistent with this view, Mu (2024) found that, in a review of 57 studies, resilience of pre-service teachers should not be defined as the ability to withstand stress. Personal resources work with placement conditions and expectations, relationships, and institutional support. This is key as the purpose of art therapy is not to replace manageable workloads, effective mentoring, safe placements, or access to professional support. It can more properly be viewed as just one aspect of a comprehensive remedy to tackle a combination of personal and situational factors.

Pre-service mathematics teachers viewed social support and contextual support as crucial supports to resilience, as mentioned in Heshmati and Lin (2025). During the COVID-19 period, interactions in individuals' personal and contextual resources, as well as interactions between these resources and coping, were found by Fokkens-Bruinsma et al. (2024). Squires et al. (2022) found that workload, work-life balance, and social relationships were shown as factors affecting pre-service teachers' perceptions of well-being and resilience. Similarly, Mairitsch et al. (2021) showed that pre-service language teachers' well-being was influenced by relationships, the structure of the programmes, workload, purpose, and work-life balance. Such studies, when taken together, suggest that psychological protection is more relational and context-dependent, recognizing that it involves intrapersonal protection as well.

The connection between art-therapy and teacher-resilience literatures is clearly conceptualized in the framework of self-efficacy. University students were used in the study of Li and Peng (2022), who found that expressive arts therapy improved self-efficacy. A meta-analysis carried out by Mu et al. (2024) suggested there was a moderate correlation between TSE and resilience, but the correlation was found to vary depending on the educational context. The results in this study were also like those of Sánchez-Jiménez et al. (2025), who reported improvements in selected dimensions of resilience following a structured Service-Learning programme with pre-service teachers. Jannat et al. (2024) observed increases in resilience and overall self-efficacy after a short schoolteacher (elementary level) resilience-based intervention in Karachi, Pakistan. The results of these non-art-therapy studies encourage testing of the potential of art-therapy programmes to achieve similar changes in adaptive psychological resources among pre-service teachers.

4.3 Relevance to Special and Inclusive Teacher Education

These implications are particularly relevant to special and inclusive teacher education where the emotional demands can also occur in combination with differentiated teaching, working with families and professionals, and uncertainty of meeting students' diverse needs. Cavioni et al. (2023) defined four types of well-being, perceived stress, and resilience among pre-service special education teachers and determined that there were associations between self-efficacy and work engagement for them. In the previous study, self-efficacy for inclusive practice was shown to be highly related to pre-service teachers in Finland Resilience by Yada et al., 2021). This body of evidence was further built by Shuakbayeva et al. (2025), who found relationships between teaching experience, self-efficacy, resilience, and inclusive teaching.

These results contribute to the literature suggesting why knowledge and competence-related outcomes should be explored further in teacher preparation, as highlighted in the art-therapy literature. But a transfer without consideration of evidence should not be made from general university students to pre-service special educators. The populations have diverse professional needs, and the vast majority of art-therapy research studies were not developed to focus on the nature of the teacher, teaching pedagogy, or inclusiveness. However, direct trials are required before a particular type of art therapy can be recommended specifically for improving the psychological immunity of this group.

Further research with practicing special educators emphasizes the importance of anticipatory assistance as illustrated above. According to

Mulyani et al. (2021), the factors that contributed to understanding the causes of burnout of teachers working in special schools were emotional regulation. Alahmed (2024) found moderate rates of burnout of special education teachers in schools incorporating special and regular education, and proposed seven possible interventions, such as workload reduction and psychosocial support, among others. Lavric and Soponaru (2023) demonstrated that art therapy can be used with SEND learners, that it could tackle anxiety, control, and empathy, and improve prosocial behaviour. It may not be assumed that the outcomes of learning transfer to the teachers. Other activities, like those focused on teacher well-being, should also be separated from professional art-therapy practice that involves specific qualifications, ethics and competence.

4.4 Recent Evidence and Implications for Delivery

In addition to providing the rationale for the use of a resilience lens in teacher preparation, recent research offers further support for this. Song et al. (2026) determined psychological resilience and future time perspective to explain the linkage between job stress and personal growth initiative of 953 pre-service teachers in China. Though the study didn't look at art therapy, it reiterates the need for developing the resource of resilience before embarking on the profession. As part of a systematic review and meta-analysis, Yema et al. (2026) determined that technology-based mental health interventions for teachers decreased teacher anxiety, teacher depression symptoms, and teacher stress, and that mean-group analyses for burnout and well-being were not significant. These findings indicate that it's possible to deliver flexibly, but it doesn't prove online art therapy to have efficacy. It is therefore important to test hybrid/digital creative programmes, specifically, rather than assume that they achieve outcomes that are identical to their face-to-face counterparts.

4.5 Limitations of the Evidence and the Review

Several limitations make the conclusions less reliable. First, there is a limited number of studies directly involving pre-service teachers and even fewer directly involving pre-service special education teachers. Most of the findings of evidence for art therapy were taken from the general population of university students to be transferred slowly and carefully. Second, psychological immunity was poorly operationalised, which required combining constructs into a synthesis rather than there being a common measure of psychological immunity. Third, interventions varied in terms of modality, length, facilitator involvement in intervention, intervention format, comparison conditions and follow-up, which precludes direct comparison. Fourth, some studies employed short-term or pre-post designs, which means changes could be attributed to attention, social contact, and/or involvement rather than to art-specific processes.

The methodological limitations of the review do apply as well. A search of the database was conducted on the Web of Science, Science Direct, and Google Scholar. More coverage and reproducibility should be achieved in the future by incorporating databases that include the field of arts therapy, such as PsycINFO, ERIC, Scopus, MEDLINE, and specialist arts-therapy databases. Terminology is also diverse in the literature; for example, art therapy, expressive arts therapy, and creative arts intervention are not synonymous or equivalent. To improve the general quality of future reviews, a better definition of what may count as successful interventions would be helpful, as would reporting if interventions were carried out by a qualified art therapist or if the educators used these creative activities.

4.6 Implications for Research, Practice, and Policy

To prepare teachers who can take part in school inclusion, further studies need to specifically target special and inclusive education students from the outset. Randomised (or strong) quasi-experimental designs should be used to compare well-defined art-therapy programs to active controls and report facilitators' competency, fidelity of the intervention, admission of subjects, drop-offs, adverse effects, and follow-up.

Validated instruments should be used to assess outcomes, ensuring they strike the right balance between concepts of resilience, coping, self-efficacy, emotional regulation, well-being, and psychological immunity. For longer-term outcomes of psychological immunity and/or resilience, mediation analysis can be used to determine whether changes in emotional regulation, self-efficacy, and/or social support mediate.

The evidence presented here may be used for practice purposes but should not be used to advocate for universal adoption. Optional group programmes combining creative expression with guided reflection, mindfulness, and peer support may be appropriate where trained staff, safeguarding procedures, and referral pathways are available. These programmes should be in addition to, not in place of, mentoring, counselling, placement, reasonable workload, or organisational change programmes. At policy level, teacher-education institutions are obligated to acknowledge that psychological well-being is part of professional education, and to assess support programmes based on transparent outcomes, not assuming that interventions in resilience are necessarily good. This approach of balancing resilience with sustainable professional functioning is especially pertinent in special and inclusive education, where sustainability is the counterforce to the inevitable and predictable stress of the structure, and resilience is not meant to be used to cover for the lack of a structure.

5. Conclusion

This systematic literature review revealed that art therapy can be used to augment psychological resources that would be related to the psychological immunity of pre-service teachers. Overall, artistic initiatives were correlated with decreases in stress or anxiety as well as with increases in emotional awareness, self-efficacy, problem-solving, interpersonal integration, and certain aspects of resilience. Structured (and regular), multimodal, mindfulness-based, repeated, and group formats were the most promising formats, but these have not yet been proven superior in terms of psychological immunity as an umbrella entity.

The impacts for special and inclusive teacher education training are still forthcoming but limited. The findings of the research conducted with pre-service special education teachers reveal that, besides resilience, stress, self-efficacy, well-being, and work engagement are also significant areas to focus on during the process of teacher preparation, whereas the findings from the research conducted with the practising special education teachers reveal that areas such as emotional regulation and burnout are still areas of concern. The results support promoting art-therapy programmes specifically and on an individualized basis, but not the universal implementation just yet.

Qualitative studies should gather more pre-service teachers directly and adopt comparison designs based on the comparison, involve a mixed group of special and inclusive education, and use pre-established tests to assess the psychological impact of that study. Further follow-up is necessary to assess outcomes in placement and early practices. Therefore, as part of any psychological and professional support programme, Art therapy should be seen as one of several effective components, with mentoring, counselling, a manageable workload, and the institutional measures which are relevant to the wider environment affecting the well-being of teachers. This would give teacher education providers a chance to test the viability, receptivity, safety, and long-term impact of measures before the increased incorporation of art therapy into teacher education programs aimed at the development of psychologically resilient, reflective, and inclusive future teachers.

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- Confirm originality of work
- State no conflicts of interest