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A systematic review of the mechanisms and outcomes of compassionate mind training

Eni Rindi Antika[1]* | Henny Indreswari[1] | Nur Hidayah[1] | Muslihati[1] | Adi Atmoko[1] | Yuliati Hotifah[1] | Abi Fa'izzarhaman Prabawa[2] | Shania Dea Menany Soputan[3]

[1] Department of Guidance and Counseling, Universitas Negeri Malang, Malang, Indonesia
[2] Islamic Educational Guidance and Counseling, Universitas Islam Negeri Salatiga, Salatiga, Indonesia
[3] Counselling and Guidance, National Institute of Education, Nanyang Technological University, Singapore

Correspondence Email:
eni.rindi.2401119@students.um.ac.id *

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Abstract

Mental health has become a growing global concern, reflected in the increasing prevalence of psychological disorders worldwide. Compassionate Mind Training (CMT) has gained recognition as an effective intervention to promote psychological well-being. This article investigates the efficacy of CMT, its underlying psychological paradigms, and the limitations of its implementation through a Systematic Literature Review (SLR) based on the PRISMA flow diagram. A total of 96 documents were initially retrieved from the Scopus database, with 12 articles selected following rigorous inclusion and exclusion criteria related to publication year, document type, language, access, population, and context. Findings indicate that CMT significantly enhances self-compassion, reduces stress, anxiety, and burnout, and improves emotional and social functioning. CMT is primarily grounded in a psychological within-paradigm, which emphasizes the integration of internal and external emotion regulation processes. However, several limitations persist, including the absence of a standardized curriculum and difficulties in implementation across diverse cultural and institutional settings. Challenges include fragmented program design and the lack of integration strategies within educational and professional frameworks. The study recommends further research to support cultural adaptation and the development of flexible, evidence-based training models to improve contextual applicability and long-term effectiveness.

INTRODUCTION

Mental health has gained significant global attention over the past few decades. According to the World Health Organization (WHO), more than 450 million people worldwide suffer from mental disorders, and this number continues to rise in response to complex social, economic, and environmental changes (WHO, 2021). Poor mental health impacts not only individuals but also broader society. In this context, it is crucial to understand the factors that influence mental well-being, including the role of self-compassion (Maratos et al., 2024). Self-compassion is the ability to be kind to oneself in the face of failure or difficulty (Neff, 2003). However, research indicates that many individuals exhibit low levels of self-compassion.

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Low self-compassion has been found to significantly contribute to poor mental health outcomes. Individuals with low levels of self-compassion are more likely to experience elevated levels of anxiety, depression, and stress (Beaumont & Hollins, 2013; Neff & McGehee, 2010). Self-compassion (Matos et al., 2017) involves accepting oneself with kindness, particularly during times of struggle or perceived inadequacy. Matos et al. (2017) demonstrated a positive correlation between increased self-compassion and psychological well-being, suggesting that individuals who are more self-compassionate are better equipped to manage emotional challenges. Consequently, developing interventions that foster self-compassion is essential in efforts to enhance public mental health.

One promising intervention is Compassionate-Mind Training (CMT), which is designed to help individuals cultivate compassion toward themselves and others while strengthening their ability to regulate difficult emotions (Gilbert, 2014). Studies Beaumont and Hollins (2013) have shown CMT to be an effective therapeutic resource, particularly for trauma-affected individuals. More recently, virtual reality-assisted CMT has been linked to improved mental well-being among cancer patients (O'Gara et al., 2022). CMT emphasizes the development of long-term psychological skills.

Despite the growing body of literature supporting the practical benefits of CMT, there remains a notable gap in the theoretical grounding of the intervention. Most studies have prioritized outcome-based evidence while offering limited insight into the underlying paradigms. For example, L. F. S. M. Santos et al. (2023) confirmed that CMT effectively reduces burnout and stress among caregivers, the cultural adaptation process and theoretical elaboration remain underexplored. Thus, it is imperative to identify and critically evaluate the theoretical foundations of CMT to offer more robust recommendations for future research.

This article aims to evaluate the efficacy of CMT as a mental health intervention and to explore the paradigmatic foundations that inform its design and implementation. Furthermore, the article offers a critical analysis of existing literature to uncover conceptual and methodological limitations, thereby providing a stronger basis for future inquiry. Through a more integrative and critical approach to examining CMT, the article seeks to identify new and meaningful pathways for advancing both individual and collective mental health.

METHODS

Design

This study adopts a Systematic Literature Review (SLR) design to investigate recent findings related to Compassionate Mind Training (CMT). Kitchenham (2007) defines SLR as a structured method for identifying, evaluating, and synthesizing all relevant studies associated with a specific research question and topic. The primary objective of SLR is to provide a comprehensive overview of the existing literature while simultaneously identifying research gaps that can inform future investigations. In this study, SLR is employed to gain insights into CMT, including its underlying paradigms, efficacy, and limitations. Through this approach, the study aims to map the existing psychological paradigms informing CMT and to formulate recommendations for its further development.

Research Questions

The application of the Systematic Literature Review (SLR) method requires adherence to clearly defined stages, one of which is the formulation of precise and specific research questions. A well-formulated research question is critical to ensuring the retrieval of high-quality, relevant literature and maintaining an efficient review process (Flemming et al., 2019). According to Mengist et al. (2020) research questions are typically developed based on five core elements known as PICOC: (1) Population (P): the target group under investigation; (2) Intervention (I): the specific issue or subject of focus; (3) Comparison (C): elements to be compared with the intervention; (4) Outcome (O): the intended effect or

result of the intervention; and (5) Context (C): the setting or environment of the research. Guided by these elements, the research questions formulated in this study are as follows: (1) What is the efficacy of CMT?; (2) What psychological paradigms underpin CMT?; and (3) What are the key limitations of CMT?.

Procedure

A Systematic Literature Review (SLR) comprises several critical stages that must be followed by researchers, one of which is the selection of studies aligned with the research questions. In this study, the article selection process was guided by the PRISMA flow diagram, which consists of four key phases: identification, screening, eligibility, and inclusion (Cooper et al., 2017). During the identification phase, the Scopus electronic database was accessed using the keyword “Compassionate-Mind Training.” This initial search yielded 96 relevant records.

Following identification, the screening phase involved narrowing down the literature based on predefined criteria such as year of publication, article type, publication stage, and language. This process resulted in 41 articles selected for closer examination. The screening phase was designed to ensure that only high-quality and relevant studies were considered for further review. During the eligibility phase, titles and abstracts were evaluated, which led to the selection of 24 studies deemed suitable for in-depth analysis. The final inclusion phase applied accessibility criteria, which led to the exclusion of 12 articles that did not meet the requirements. Consequently, 12 studies were ultimately included in the final synthesis. The complete article selection process, following the PRISMA flow, is illustrated in Figure 1.

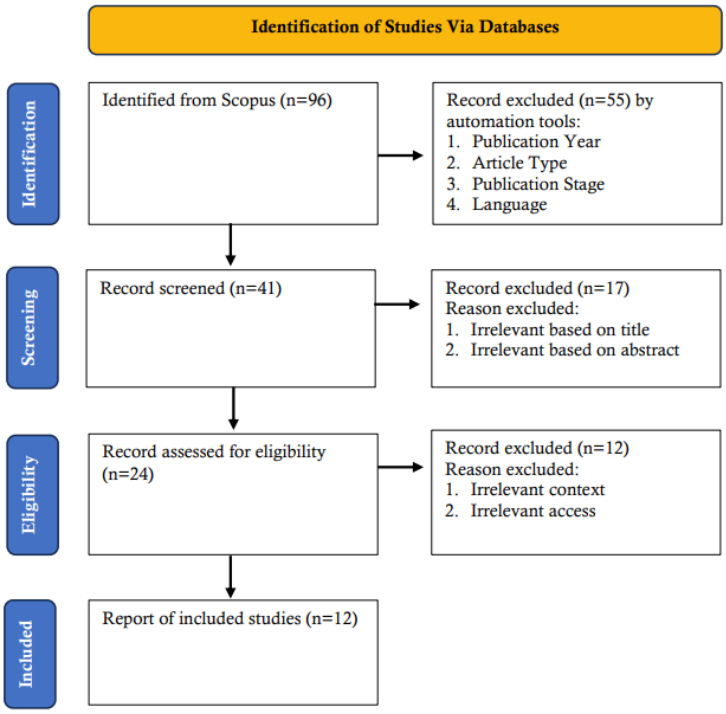

Figure 1. PRISMA Flowchart

Referring to the research procedure illustrated in Figure 1, the stages of literature search and selection are described in greater detail as part of the PRISMA flow diagram process. During the literature search phase, the researcher utilized academic databases to retrieve relevant articles, journals, and other scholarly publications. Okoli (2015) emphasizes that the use of precise and relevant keywords is essential to enhancing search effectiveness. In this study, the Scopus database was used with the following search command: TITLE-ABS-KEY ("Compassionate Mind Training") OR TITLE-ABS-KEY ("Compassionate-Mind Training").

After retrieving the literature, the next step involved selecting studies based on predefined inclusion and exclusion criteria to ensure alignment with the research questions. Inclusion criteria admitted studies relevant to the research focus, while exclusion criteria removed those with weak methodology, low thematic relevance, or those not available in a language accessible to the researcher. This process was crucial for refining the dataset and maintaining analytical consistency. Selection was guided by parameters such as publication year, population, document type, language, accessibility, and study context. Full details of the criteria are presented in Table 1.

Table 1. Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Year of Publication	2020–2025	Prior to 2020
Document Type	Peer-reviewed journal articles	Other types of literature (e.g., books, book chapter, proceedings)
Language	English	Non-English
Access	Open access	Restricted access
Context	Compassionate-Mind Training	Topics not related to Compassionate-Mind Training

Analysis

The data collected in this review were analyzed using a quality appraisal approach. According to Munn et al. (2019) quality appraisal is a method used to assess the relevance and validity of research findings by evaluating the strengths and limitations of each study. The appraisal was guided by a set of evaluative questions: (1) Is the research question clearly defined and relevant?; (2) Does the research design appropriately address the research question?; and (3) Does the article report empirical findings related to Compassionate-Mind Training?

The quality of the 12 included articles was evaluated using a Quality Assessment (QA) checklist adapted from Kitchenham (2007), covering criteria such as clarity of objectives, research significance, methodological rigor, conceptual definitions, and clarity of findings. Articles were scored as YES (1), PARTIALLY (0.5), or NO (0), with a minimum threshold of 3.0 required for inclusion. In line with Kitchenham and Brereton (2013) who suggest 10–50 articles for a systematic review, the 16 initially selected studies met all criteria and exceeded the quality threshold.

In addition to quality appraisal, a thematic analysis was conducted to synthesize the qualitative data. Xu and Zammit (2020) describe thematic analysis as a flexible and accessible method for analyzing qualitative research. This is supported by Flemming et al. (2019) who assert that thematic analysis is particularly effective for synthesizing findings from integrative or mixed-methods studies. In this review, thematic analysis was structured around the research questions, focusing on: (1) identifying the efficacy of CMT; (2) mapping the paradigms underlying CMT; and (3) exploring the limitations of CMT as reported in prior empirical studies.

RESULTS AND DISCUSSIONS

Results

This study identified 12 articles that met the predefined inclusion and exclusion criteria. The findings of the review are presented in three thematic sections, each designed to address the core research questions. The first section discusses the efficacy of Compassionate-Mind Training (CMT), while the second explores the paradigms underpinning CMT. The third section focuses on highlighting both the strengths and limitations of CMT. A summary of the literature review findings from the 12 selected articles is provided in Table 2.

As shown in Table 2, the data are organized to include the year of publication, research methods employed, and key findings. The studies were published between 2019 and 2024, with the following

distribution: 2019 (n = 1), 2021 (n = 1), 2022 (n = 5), 2023 (n = 2), and 2024 (n = 3), resulting in a total of 13 studies. The research methods used across these studies include mixed-method approaches, pilot studies, experimental designs, qualitative research with thematic analysis, and quantitative studies utilizing randomized controlled trials.

Table 2. Summary of Literature Review Findings

No	Title	Year	Method	Result
1	Evaluation of a Compassionate Mind Training Intervention with School Teachers and Support Staff (Maratos et al., 2019)	2019	Mixed-methods (AAB quantitative and qualitative design)	Improvements in self-compassion, reduced burnout, increased satisfaction with professional life
2	A Pragmatic Controlled Trial of Forest Bathing Compared with Compassionate Mind Training in the UK: Impacts on Self-Reported Wellbeing and Heart Rate Variability (McEwan et al., 2021)	2021	Pragmatic controlled trial with Forest Bathing and Compassionate Mind Training	No significant differences between conditions, both showed improvements in wellbeing
3	Building Compassionate Schools: Pilot Study of a Compassionate Mind Training Intervention to Promote Teachers' Well-being (Matos, Palmeira, et al., 2022)	2022	Pilot study with a six-module intervention	Feasible and effective in reducing stress, depression, and burnout, improving compassion
4	Reset your Immune System: Acceptability and Preliminary Effects of a CMT-Based Intervention in Patients with Hashimoto Thyroiditis (Portokalidou et al., 2022)	2022	6-week CMT-based online intervention	Participants reported improved mental health, self-regulation skills, and symptoms related to HT were reduced.
5	SafeSpace: what is the feasibility and acceptability of a codesigned virtual reality intervention incorporating compassionate mind training to support people undergoing cancer treatment in a clinical setting? (O'Gara et al., 2022)	2022	Codesigned virtual reality intervention with compassionate mind training	The intervention was found acceptable and feasible, with significant improvements in mental well-being and stress reduction.
6	Cultivating the Compassionate Self: An Exploration of the Mechanisms of Change in Compassionate Mind Training (Matos, Duarte, et al., 2022)	2022	Longitudinal, randomized controlled trial	Increases in compassion for self and others, reduced stress and anxiety, improved positive affect
7	Nurturing Compassion in Schools: A Randomized Controlled Trial of the Effectiveness of a Compassionate Mind Training Program for Teachers (Matos, Albuquerque, et al., 2022)	2022	Randomized controlled trial with stepped-wedge design	Improvements in wellbeing, reduced burnout and anxiety, increased compassion, and heart rate variability
8	Training for Caregivers in Residential Youth Care: Investigating their Experiences Through a Thematic Analysis (L. F. S. M. Santos et al., 2023)	2023	Qualitative study with thematic analysis	Promising benefits at personal, team, and organizational levels, improved care practices
9	Exploring the Cross-cultural Applicability of a Brief Compassionate Mind Training: A Study Comparing Sri Lankan and UK People (Kariyawasam et al., 2023)	2023	Randomized controlled trial with cross-cultural design	CMT effective across cultures, improved compassion and wellbeing
10	A Mixed-Methods Study of Compassionate Mind Training for Pupils (CMT-Pupils) as a School-Based Wellbeing Intervention (Maratos et al., 2024)	2024	Mixed-methods (quantitative and qualitative)	Significant reduction in anxiety and improvement in prosocial behavior and classroom environment
11	Promoting Teachers' Wellbeing Using a Compassionate Mind Training Intervention: Exploring Mechanisms of Change (Matos et al., 2024)	2024	Randomized controlled trial with a two-arm design and stepped-wedge design	Increased self-compassion, reduced burnout and psychological distress, improved wellbeing

No	Title	Year	Method	Result
12	The Effects of the Compassionate Mind Training for Caregivers on Professional Quality of Life and Mental Health: Outcomes from a Cluster Randomized Trial in Residential Youth Care Settings (Maratos et al., 2024)	2024	Cluster Randomized Trial	Caregivers showed reduced burnout, anxiety, and depression, with significant improvements in mental health and well-being.

RQ1: What Is the Efficacy of Compassionate-Mind Training?

Compassionate-Mind Training (CMT) has continued to attract growing scholarly attention in recent years. Based on the studies summarized in Table 2, CMT has demonstrated notable efficacy in addressing a range of mental health-related issues. A more detailed synthesis of the evidence regarding the efficacy of CMT is presented in Table 3.

Table 3. The Efficacy of Compassionate-Mind Training (CMT)

No	Author	The Efficacy of CMT
1	Maratos et al. (2019)	Improvements in self-compassion, reduced burnout, increased satisfaction with professional life
2	McEwan et al. (2021)	No significant differences between conditions, both showed improvements in wellbeing
3	Matos, Palmeira, et al. (2022)	Feasible and effective in reducing stress, depression, and burnout, improving compassion
4	Portokalidou et al. (2022)	Improved mental health, self-regulation skills, and symptoms were reduced
5	O'Gara et al. (2022)	Significant improvements in mental well-being and stress reduction
6	Matos, Duarte, et al. (2022)	Increases in compassion for self and others, reduced stress and anxiety, improved positive affect
7	Matos, et al. (2022)	Improvements in wellbeing, reduced burnout and anxiety, increased compassion, and heart rate variability
8	Santos et al. (2023)	Promising benefits at personal, team, and organizational levels, improved care practices
9	Kariyawasam et al. (2023)	CMT effective across cultures, improved compassion and wellbeing
10	Maratos et al. (2024)	Significant reduction in anxiety and improvement in prosocial behavior also classroom environment
11	Matos et al. (2024)	Increased self-compassion, reduced burnout and psychological distress, improved wellbeing
12	Santos, et al. (2024)	Reduced burnout, anxiety, and depression, with significant improvements in mental health and well-being

Table 4. Paradigmatic Mapping of Compassionate-Mind Training (CMT)

No	Author	CMT Paradigm
1	Maratos et al. (2019)	Within-paradigm (psikologis internal dan eksternal)
2	McEwan et al. (2021)	Trans-paradigm (organik medik dan psikologis) - Heart Rate Variability
3	Matos, Palmeira, et al. (2022)	Within-paradigm (psikologis internal dan eksternal)
4	Portokalidou et al. (2022)	Trans-paradigm (organik medik dan psikologis) - Patients with HT
5	O'Gara et al. (2022)	Trans-paradigm (organik medik dan psikologis) - Clinical setting for cancer
6	Matos, Duarte, et al. (2022)	Within-paradigm (psikologis internal dan eksternal)
7	Matos, et al. (2022)	Within-paradigm (psikologis internal dan eksternal)
8	Santos et al. (2023)	Specific-paradigm (constructivime-social)
9	Kariyawasam et al. (2023)	Specific-paradigm (constructivime-social)
10	Maratos et al. (2024)	Specific-paradigm (constructivime-social)
11	Matos et al. (2024)	Within-paradigm (psikologis internal dan eksternal)
12	Santos, et al. (2024)	Within-paradigm (psikologis internal dan eksternal)

RQ 2: What Paradigms Underpin Compassionate-Mind Training (CMT)?

Based on the findings presented in Table 2, it is possible to identify the underlying paradigms of Compassionate-Mind Training (CMT). These findings aim to map the foundational paradigms of CMT in

reference to the conceptual framework proposed by (Cottone, 2012). A more detailed mapping of the paradigmatic foundations of CMT is presented in Table 4.

RQ 3: What Are the Limitations of Compassionate-Mind Training (CMT)?

Compassionate-Mind Training (CMT) has been demonstrated to be effective in addressing a variety of mental health-related issues. Although numerous studies have confirmed its efficacy, CMT as an intervention is not without limitations. The strengths and weaknesses of CMT are further elaborated in Table 5.

Table 5. Limitations of Compassionate-Mind Training (CMT)

No	Title	Identified Limitation
1	Maratos et al. (2019)	Lack of long-term follow-up and challenges in maintaining behavioral change without sustained support
2	McEwan et al. (2021)	Limited resources and access to implement the program across all settings, such as schools or healthcare systems
3	Matos, Palmeira, et al. (2022)	Difficulties in adapting to diverse educational and cultural contexts; limited understanding of cross-cultural variations
4	Portokalidou et al. (2022)	Barriers to broad implementation, particularly in resource-constrained healthcare settings
5	O'Gara et al. (2022)	Difficulty in reaching individuals with severe health conditions, such as Hashimoto's thyroiditis, due to issues of accessibility and program engagement
6	Matos, Duarte, et al. (2022)	Challenges in sustaining long-term engagement, especially within healthcare and caregiving environments
7	Matos, et al. (2022)	Implementation challenges, including the need for adequately trained facilitators and the scalability of the program
8	Santos et al. (2023)	Difficulties in integrating CMT into existing care routines and organizational structures
9	Kariyawasam et al. (2023)	Challenges in maintaining the benefits of CMT across various cultural and social contexts
10	Maratos et al. (2024)	Limited understanding of the specific mechanisms mediating outcomes, necessitating deeper investigation
11	Matos et al. (2024)	The need for large-scale trials to fully establish its effectiveness in real-world school settings
12	Santos, et al. (2024)	Short-term program duration restricts understanding of its long-term impact, requiring more extensive follow-up

Discussion

Based on a systematic review of twelve selected scientific articles, Compassionate-Mind Training (CMT) has demonstrated significant efficacy in enhancing individual mental health outcomes. Designed to strengthen self-compassion as a foundational resource for managing emotional and psychological stress, CMT has been consistently associated with increased self-compassion, reduced stress, anxiety, and burnout, as well as enhanced emotional regulation and psychological resilience (Maratos et al., 2024; Matos, Albuquerque, et al., 2022; Zessin et al., 2015). These findings affirm that CMT functions not only as a curative intervention but also as a preventive measure for addressing contemporary psychological challenges, particularly those experienced by education and healthcare professionals (Beaumont et al., 2016).

Beyond its intrapersonal benefits, CMT also significantly contributes to improved social functioning and interpersonal relationships. It facilitates the development of empathy, social sensitivity, and more adaptive emotional responses to external pressures. Within educational and social care contexts, CMT has been shown to enhance professional interaction quality, foster stronger teacher-student relationships, and promote a more supportive and collaborative work culture (Matos, Albuquerque, et al.,

2022; Matos, Duarte, et al., 2022; L. Santos et al., 2023; L. F. S. M. Santos et al., 2023). These outcomes align with previous findings Maratos et al. (2019), which reported improved job satisfaction and decreased occupational stress among educational staff following participation in CMT programs, thereby underscoring the intervention's social value in professional settings.

The demonstrated effectiveness of CMT across various settings reinforces its standing as an adaptive and transformative compassion-based psychosocial approach. One of its core strengths lies in balancing self-acceptance with motivation for change—two critical components of psychological empowerment (Gilbert, 2014; Neff, 2023). CMT has been effectively implemented across diverse nations and cultures, from the United Kingdom to Sri Lanka, illustrating its cross-cultural adaptability and acceptance (Kariyawasam et al., 2023). Furthermore, recent studies in educational contexts confirm the contribution of self-compassion to positive psychological outcomes, including body image and emotional well-being among youth populations (Pusvitasari et al., 2024). Its applicability to both clinical and non-clinical populations renders CMT one of the most promising interventions for enhancing long-term emotional well-being and quality of life in the modern era.

Importantly, Compassionate-Mind Training is not grounded in a singular theoretical paradigm, but rather reflects a multiplicity of paradigmatic perspectives, mirroring its dynamic and context-sensitive implementation. The majority of studies suggest that CMT is underpinned by internal-external psychological paradigms or within-paradigms, emphasizing emotional regulation through the integration of intrapersonal and interpersonal factors (Maratos et al., 2019; Matos, Palmeira, et al., 2022). However, there is also a growing trend toward trans-paradigmatic integration, which combines psychological frameworks with biomedical models—especially in clinical contexts such as cancer care and thyroid disorders (Portokalidou et al., 2022). This diversity of theoretical approaches suggests that the effectiveness of CMT is highly influenced by the implementation context and the specific characteristics of the target population undergoing the intervention. A visual mapping of the CMT paradigms is presented in Figure 2.

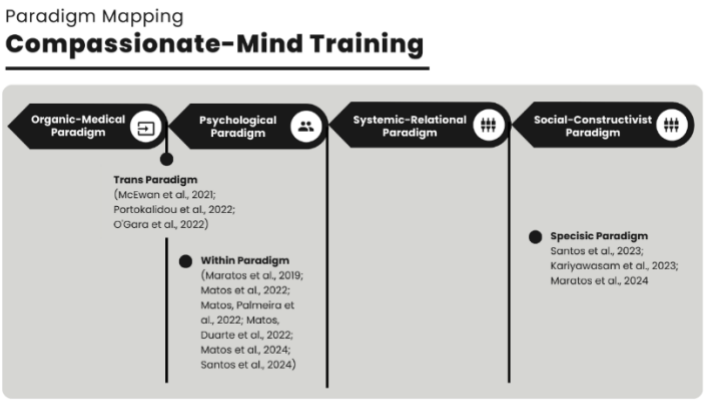

Figure 2. Paradigmatic Mapping of Compassionate-Mind Training

Recent studies further reveal the adoption of specific social-constructivist paradigms that position CMT as a mechanism for cultivating a culture of compassion within educational systems and across cultures (Kariyawasam et al., 2023; Maratos et al., 2024). This paradigm asserts that psychological experiences are shaped through social interactions and culturally embedded values. The diversity of these paradigmatic orientations underscores the scientific relevance of CMT while also highlighting the need for a comprehensive understanding of its theoretical foundations.

Compassionate-Mind Training (CMT) is fundamentally grounded in psychological paradigms, particularly within the "within-paradigm" framework (Cottone, 2007; 2012). This paradigm emphasizes the integration of internal emotion regulation—which involves self-awareness, cognitive processing, and

personal motivation—with external regulation through empathetic interpersonal relationships. One of the foundational elements of this paradigm is the "three-circle model" of the brain (threat, drive, and soothing systems) proposed by (Gilbert, 2014), which posits that emotional health is contingent upon the balance of these three systems. CMT aims to activate the soothing system to counteract the dominance of the threat system, particularly in individuals experiencing excessive self-criticism or unresolved trauma (Matos et al., 2017; Neff, 2023). This psychological framework is not merely theoretical but is also supported by a robust body of empirical findings in clinical and developmental psychology.

However, recent studies have shown a paradigm shift or expansion towards a trans-paradigm approach that integrates psychological models with biological and medical frameworks. Portokalidou et al. (2022) reported that applying CMT to patients with Hashimoto's thyroiditis resulted in improved immunological balance and physiological stress management. Similarly, O'Gara et al. (2022) designed a virtual reality-based CMT intervention for cancer patients, which significantly enhanced mental well-being and reduced emotional distress during treatment. Research by McEwan et al. (2021); (2020) further indicated that CMT's effectiveness extends beyond cognitive-emotional mechanisms, impacting biological parameters such as heart rate variability (HRV) and autonomic nervous system responses. This body of evidence reflects a paradigmatic evolution of CMT into a more holistic biopsychosocial model.

In educational and cross-cultural contexts, there is increasing application of CMT within the constructivist-social paradigm or specific-paradigm. This paradigm highlights the role of social and cultural factors in shaping individual psychological experiences (Cottone, 2007; 2012). Research by Kariyawasam et al. (2023) compared the implementation of CMT in Sri Lanka and the UK and found that cultural background influenced both reception and intervention efficacy. Matos et al. (2024) also found that a school-based CMT intervention for teachers not only improved individual well-being but also cultivated a collective culture of compassion. These findings affirm the adaptability of CMT to specific socio-cultural dynamics, making it a relevant strategy for character education, empathy development, and the creation of emotionally healthy communities (L. Santos et al., 2023; L. F. S. M. Santos et al., 2023; Zessin et al., 2015).

Despite the promising effectiveness of CMT in promoting mental health, several limitations remain. A key issue is the absence of a widely standardized and validated CMT curriculum. Many studies utilize locally adapted modules which, while flexible, result in inconsistencies in program design, duration, and evaluation metrics (Maratos et al., 2019; Matos et al., 2024). These discrepancies hinder cross-context replication and limit the potential for large-scale institutional implementation. Consequently, the development of evidence-based training manuals applicable across sectors and cultures—yet allowing for structured local adaptations—is urgently needed.

Another major limitation is the minimal cultural adaptation of CMT for non-Western contexts. Most existing programs are rooted in individualistic values typical of Western nations, which may not align with collectivist norms prevalent in Asia, Africa, or Latin America (Kariyawasam et al., 2023; L. Santos et al., 2023; L. F. S. M. Santos et al., 2023). A lack of understanding regarding local symbolic languages, values, and social norms may obstruct participants' internalization of compassion. Culturally grounded approaches are therefore critical to ensuring the relevance and meaningful uptake of CMT across diverse psychosocial communities (San Román-Niaves et al., 2024). Future research should focus on cultural integration to broaden the global applicability of CMT.

In addition to design and cultural concerns, CMT implementation faces significant challenges related to accessibility and sustainability. Educational and healthcare institutions in low-resource settings often lack trained facilitators and administrative support for consistent program delivery (Matos, Albuquerque, et al., 2022; Matos, Duarte, et al., 2022; Matos, Palmeira, et al., 2022; O'Gara et al., 2022). Most CMT studies still rely on short-term evaluations, with limited longitudinal data or post-intervention follow-up

(McEwan et al., 2021). Sustaining CMT's impact requires systemic integration into institutional policies and ongoing facilitator training programs.

This systematic review recommends the development of a structured and well-documented CMT model that clearly aligns with its psychological paradigmatic foundation. The within-paradigm framework, as proposed by Cottone (2007); (2012), underscores the integration of internal systems—such as emotional regulation and cognitive processing—with the external dynamics of social relationships. However, current CMT structures lack systematic alignment with these principles, leading to variability in effectiveness across contexts (Maratos et al., 2019).

Accordingly, the development of an evidence-based CMT curriculum that explicitly synchronizes its content and methodology with the internal-external psychological paradigm is essential. Such an approach should not only present compassion-based practices in technical terms but also reflect theoretical models such as the brain systems framework (Gilbert, 2014). Alignment with this paradigm will strengthen participants' internalization of compassion mechanisms and enhance the coherence between intervention goals and learning processes. Moreover, the curriculum should undergo multi-site and cross-context validation to ensure theoretical consistency and practical effectiveness in education, healthcare, and community settings (Matos, Albuquerque, et al., 2022; Matos, Duarte, et al., 2022; Matos, Palmeira, et al., 2022).

Flexibility and adaptability within the curriculum must still be preserved to meet the diverse needs of target populations, without compromising the paradigmatic essence of the intervention. Modular CMT designs should consistently reflect principles of emotional system balance and compassionate social relationships. Customization by age, profession, or psychosocial needs should be conducted within a theoretically coherent framework (Beaumont & Hollins, 2013; Kariyawasam et al., 2023). In short, while adaptation is essential, the underlying psychological paradigm must serve as the thread uniting all implementations. This consistency is vital to ensure that CMT is not reduced to a mere set of techniques or protocols, but rather upheld as a comprehensive paradigm-based approach rooted in scientific understanding of compassion and mental health.

Furthermore, current CMT models have not explicitly integrated adaptive thinking skills into their structure. The ability to manage reflective, flexible, and goal-directed thinking processes is fundamental to sustaining self-compassion. Jones (2003) emphasized that mind-skills are core mental competencies for building empathic and effective therapeutic relationships. The absence of this dimension creates a gap between emotional and cognitive development in self-cultivation. This gap becomes even more critical when viewed in light of brain evolution and the "tricky brain" concept. Gilbert (2014); (2020) asserted that reactive brain responses to perceived threats require cognitive awareness training to be managed constructively. Hence, the development of Compassionate-Mind Skills Training (CMST) represents an innovative modification of CMT, enriching it with structured mental skill components—making it holistic, contextual, and applicable approach. The paradigmatic structure of CMST is illustrated in Figure 3.

Figure 3 illustrates the theoretical and conceptual foundations of Compassionate-Mind Training (CMT) as an intervention rooted in the biopsychosocial paradigm. The diagram presents a logical framework tracing common psychological phenomena found in clinical settings—such as self-criticism, overidentification, and isolation—which have been consistently linked in previous research to elevated risks of depression, anxiety, and emotional dysregulation (Neff & McGehee, 2010; Werner et al., 2019). Within the biopsychosocial model, such responses are understood as outcomes of interactions between evolved brain structures ("tricky brain") designed for threat survival, emotional regulation systems (threat–drive–soothing), and sociocultural values shaped through cultural interaction (Gilbert, 2020; Leaviss & Uttley, 2015; Matos et al., 2017). Accordingly, the CMT approach aims not merely to alleviate symptoms but to address the neuropsychological and sociocultural roots of psychological suffering.

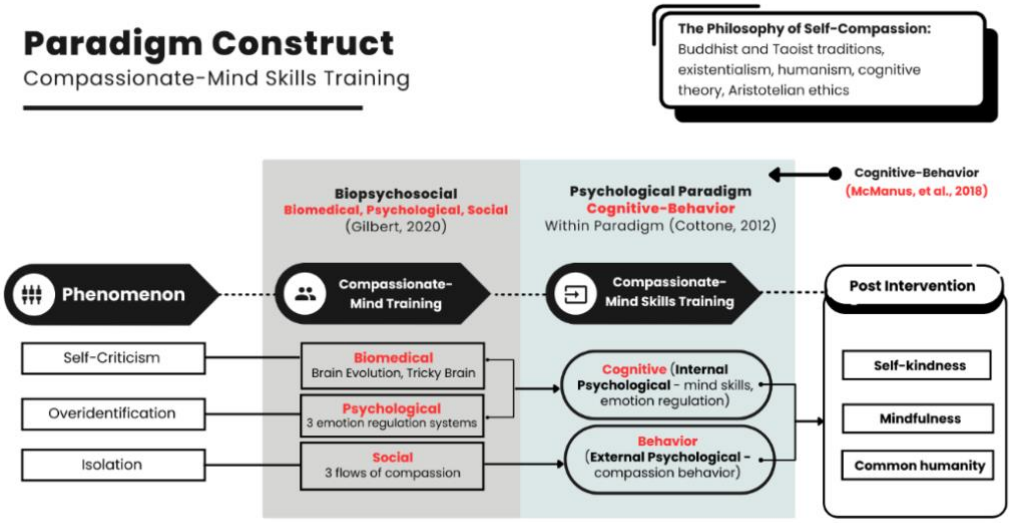

Figure 3. Paradigmatic Structure of Compassionate-Mind Skills Training

The core components of Compassionate-Mind Skills Training (CMST) are depicted in Figure 3 through two primary pathways: cognitive and behavioral. These dimensions represent the internal and external models within the psychological paradigm (Cottone, 2007; Cottone, 2012). The cognitive domain focuses on the training of mind-skills, comprising six key components (Jones, 2003). Mind-skills training include mindfulness, self-reflection, and the cognitive reprocessing of traumatic experiences, anchored in modern cognitive therapeutic frameworks (Matos et al., 2018; McManus et al., 2018). Meanwhile, the behavioral aspect underscores the expression of compassion through prosocial actions and supportive interpersonal relationships, essential for the development of affiliative emotion systems in neuropsychology (Gilbert, 2014; Kirby, 2017). The integration of these two domains reflects the within-paradigm approach outlined by Cottone (2012), in which psychological interventions are constructed through the interplay of internal and external emotional-behavioral systems.

The intended outcome of CMST is the enhancement of the three core elements of self-compassion: self-kindness, mindfulness, and common humanity (Neff, 2023). These are both clinical indicators and markers of psychological transformation, consistently identified in empirical literature as outcomes of improved self-compassion (Ferrari et al., 2019; Neff & McGehee, 2010; Neff et al., 2007; Zessin et al., 2015). Figure 3 thus serves as an integrative framework combining theoretical basis, intervention structure, and clinical outcomes of CMST. This underscores the necessity of a robust understanding of CMST's paradigmatic foundations to ensure consistent and contextually relevant implementation across cultural and professional settings. Ultimately, CMST emerges as a promising modification of CMT, grounded in the within-paradigm framework of cognitive-behavioral integration.

This study has several limitations that must be considered in interpreting the findings. Although the Systematic Literature Review (SLR) employed rigorous inclusion and exclusion criteria, the scope of literature was restricted to open-access, English-language articles sourced solely from the Scopus database. While Scopus is a highly reputable scientific index, this constraint may have excluded relevant studies from other databases that could offer additional contextual or interdisciplinary perspectives on Compassionate-Mind Training (CMT). Another limitation lies in the variability of methodological reporting across the reviewed articles, which impeded the quality appraisal process and limited the ability to evaluate methodological consistency across studies. Moreover, no study was found to explicitly map the paradigms underlying CMT according to theoretical frameworks such as the specific-paradigm, within-

paradigm, or trans-paradigm. Thus, the paradigm analysis presented here remains interpretative and lacks direct comparative validation.

Future research is encouraged to broaden the literature base by incorporating multiple academic databases such as Web of Science, PubMed, PsycINFO, or Google Scholar to obtain a more comprehensive and interdisciplinary representation of CMT studies. It is also recommended that future studies utilize more rigorous and standardized methodological appraisal tools, and prioritize studies with robust methodological reporting to enhance consistency in quality evaluations. Furthermore, it is crucial to promote investigations that explicitly map CMT paradigms based on established theoretical frameworks (specific-paradigm, within-paradigm, trans-paradigm), and assess the differential applications of these paradigms across various cultural, professional, and population contexts.

CONCLUSIONS

Compassionate-Mind Training (CMT) has been empirically validated as an effective intervention for enhancing mental health—particularly through the development of self-compassion, reduction of stress, anxiety, and burnout, as well as the improvement of emotional well-being and social functioning. However, systematic findings from twelve selected articles reveal that CMT remains insufficiently standardized, lacks adequate cultural adaptation beyond Western contexts, and faces implementation challenges related to resource limitations and the absence of long-term evaluation. Theoretically, CMT is fundamentally grounded in the biopsychosocial paradigm, which has evolved toward trans-paradigmatic and cross-paradigmatic orientations as its application expands across clinical and cross-cultural settings. Nevertheless, no study to date has explicitly and systematically mapped these paradigms.

As a response, the modification of CMT into Compassionate-Mind Skills Training (CMST) is proposed as an innovative approach that strengthens the CMT framework through the integration of core mind-skills. These mind-skills—comprising essential cognitive competencies—support reflective processing and emotional regulation, especially in addressing evolutionarily reactive brain responses, commonly referred to as the "tricky brain." CMST thus emerges as a more holistic intervention model that structurally balances affective and cognitive components within a cognitive-behavioral, within-paradigm framework. This model is considered to be more contextualized, relevant, and practically applicable—particularly in enhancing the emotional and mental capacities of professionals such as counselors, educators, and healthcare workers. Ultimately, CMST presents a promising pathway for the development of adaptive, validated, and evidence-based curricula, while also enabling broader and more inclusive cross-cultural implementation in the future.

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AUTHOR CONTRIBUTION STATEMENT

All authors have read and approved the final manuscript. Eni Rindi Antika led the research conceptualization, designed the research questions, conducted the systematic literature review, and drafted the initial manuscript. Henny Indreswari contributed to the development of the theoretical framework, reviewed the manuscript, and provided critical insights into the research design. Nur Hidayah assisted with literature selection, data extraction, and contributed to the synthesis of results and academic editing. Muslihati helped with data analysis and interpretation, and played a significant role in the methodological validation. Adi Atmoko contributed to the formulation of the theoretical framework, reviewed and edited the manuscript, and provided critical insights into the interpretation of paradigmatic

structures. Yuliati Hotifah assisted in literature selection and data extraction, and contributed to the synthesis of results and academic editing. Abi Fa'izzarhaman Prabawa contributed to the methodological validation, managed citation formatting, and participated in cross-cultural analysis. Shania Dea Menany Soputan contributed to the final proofreading and technical revision, and provided international contextual perspectives related to the implementation of CMT.

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