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# WAVES OF INCLUSION

## Literature Review

### Benefits of physical activity and mindfulness for mental, physical, emotional well-being and social inclusion

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## **Physical Activity And Mindfulness**

### **Benefits of Physical Activity and Mindfulness for Mental, Physical, and Emotional Well-Being and Social Inclusion**

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# Executive Summary

## Executive Summary

Refugee children face significant psychosocial challenges including trauma, disrupted education, and social exclusion. Evidence highlights that physical activity and mindfulness-based interventions provide effective, scalable solutions to support well-being and inclusion. Physical activity enhances **resilience**, **social interaction**, and **emotional well-being**, while mindfulness strengthens **emotional regulation** and **stress management**. Combined approaches produce the strongest outcomes by addressing both external (social) and internal (emotional) dimensions of development.

**Table 1. Mental Health Benefits of Physical Activity for refugee youth**

Domain	Specific Benefits	Mechanisms	Supporting Evidence
Emotional Well-Being	Reduced anxiety, lower emotional distress	Improved emotional regulation, positive affect	Jiang et al. (2025); Tachtler et al. (2020)
Resilience	Greater capacity to cope with adversity	Strengthening of self-efficacy and autonomy	Moghadam (2025); Sünbül & Güneri (2019)
Social Functioning	Enhanced peer connection, reduced isolation	Cooperative play, shared goals, social competence	Korcz et al. (2024); Nilsson et al. (2019)
Cognitive Functioning	Improved attention and problem-solving	Activation of executive functions through structured movement	Tachtler et al. (2020)
Trauma-Related Outcomes	Buffering of trauma symptoms, emotional stabilization	Somatic grounding, predictable routines, safe group settings	Poudel-Tandukar et al. (2024)

**Note.** This table summarizes key psychological and social benefits of structured physical activity for Ukrainian refugee children, synthesizing findings from recent empirical studies.

## Key Findings

- Physical activity improves resilience, peer connection, and mental health.
- Mindfulness enhances emotional regulation, coping, and trauma recovery.
- Combined interventions provide holistic benefits for well-being and inclusion.

## Application to Water-Based Activities

**Water-based** activities create inclusive environments that promote cooperation, trust, and engagement. The aquatic setting reduces barriers and supports interaction between refugee and non-refugee youth.

## Integration of Mindfulness

**Mindfulness practices** such as breathing, relaxation, and reflection can be embedded before, during, or after activities, supporting emotional regulation and self-awareness.

## Evaluation Framework

The **program impact** is assessed through Key Performance Indicators, facilitator observation checklists, and pre-post questionnaires measuring changes in participation, inclusion, and well-being.

## Impact and Erasmus+ Relevance

This integrated model supports the **Erasmus+ priorities** including social inclusion, encourage healthy lifestyles for all and active participation. It provides a scalable and transferable framework for educational and youth programs.

## Conclusion

The combination of **physical activity** and **mindfulness** offers a practical and evidence-based approach to supporting refugee youth's well-being and inclusion in educational settings.

# 1

## Introduction

# 1. Introduction

Ukrainian refugee children are currently facing significant psychosocial challenges resulting from war-related trauma, disrupted education, and the breakdown of social networks. These conditions increase their vulnerability to mental health difficulties, including anxiety, depression, and disengagement from school environments (Korcz et al., 2024; Kuru et al., 2024).

In this context, school-based interventions play a critical role in supporting the stabilization, well-being, and social integration of these children. This literature review examines the role of organized physical activity (PA) and mindfulness-based interventions (MBIs) as effective, scalable, and child-centered approaches to promoting psychosocial adjustment. The growing body of research highlights the importance of combining physical, emotional, and cognitive strategies to address the complex needs of refugee populations, particularly children who have experienced displacement and adversity. Programs targeting refugee well-being increasingly incorporate health education and psychosocial support as core components.

These interventions aim to promote health empowerment through structured and sequential activities that integrate physical engagement with cognitive and emotional development (AlSharifin et al., 2024; Bodnar & Sofinsky, 2024). Key elements include fostering self-awareness, promoting healthy behaviors, and providing essential knowledge related to public health, disease prevention, and access to healthcare services. The successful implementation of such programs depends on trained facilitators, context-sensitive design, and the adaptation of activities to the specific needs of participants. When effectively delivered, these interventions contribute not only to improved mental, physical, and emotional well-being but also to enhanced social inclusion and community integration among Ukrainian refugee children (AlSharifin et al., 2024; Kölbel, 2024).

# 2

The association of physical activity with mental health benefits for Ukrainian refugee children

## 2. The association of physical activity with mental health benefits for Ukrainian refugee children

Ukrainian refugee children, particularly unaccompanied minors, face increased risks of mental health disorders such as PTSD and anxiety due to cumulative stressors, including displacement, discrimination, and unstable living conditions (Tachtler et al., 2020; Poudel-Tandukar et al., 2024). These factors negatively affect resilience and psychosocial functioning. However, protective factors such as emotional regulation, coping skills, and self-management can be strengthened through targeted interventions (Moghadam, 2025; Sünbül & Güneri, 2019).

Physical activity plays a critical role in promoting mental well-being by enhancing self-efficacy, social competence, autonomy, and problem-solving skills. These competencies support emotional regulation and help children cope with trauma-related stress (Jiang et al., 2025; Tachtler et al., 2020). When combined with activities that encourage emotional awareness, physical activity can further support adaptive coping and reduce the risk of psychological distress.

Despite its benefits, access to physical activity programs is often limited by barriers such as language differences, cultural mismatches, mistrust, and legal concerns, particularly among unaccompanied youth (Nilsson et al., 2019; Tachtler et al., 2020). These challenges highlight the need for inclusive, accessible, and culturally sensitive program design.

### 2.1. Social and Emotional Learning and Mindfulness

**Social and Emotional Learning (SEL)** provides a foundational framework for supporting the emotional well-being of refugee children. SEL programs enhance self-awareness, interpersonal skills, and emotional regulation, contributing to both academic success and psychosocial adjustment (Kim et al., 2023; Min et al., 2024). When implemented by trained educators, SEL creates safe and supportive learning environments that foster emotional stability. Mindfulness-based practices complement SEL by strengthening emotional regulation and stress management.

**Table 2. Core Mechanisms and Psychosocial Benefits of Mindfulness for Refugee Children**

<b>Mindfulness Component</b>	<b>Mechanism of Action</b>	<b>Psychosocial Outcomes</b>	<b>Supporting Evidence</b>
<b>Attentional Regulation</b>	<b>Focused attention, reduced cognitive intrusions</b>	<b>Improved concentration, reduced mind-wandering</b>	<b>Gong et al. (2025); Khoury et al. (2013)</b>

<b>Mindfulness Component</b>	<b>Mechanism of Action</b>	<b>Psychosocial Outcomes</b>	<b>Supporting Evidence</b>
<b>Emotional Awareness</b>	<b>Recognition of internal states</b>	<b>Enhanced emotional clarity, reduced reactivity</b>	<b>Mendola et al. (2025)</b>
<b>Body Awareness</b>	<b>Somatic grounding, interoceptive sensitivity</b>	<b>Lower physiological arousal, improved stress tolerance</b>	<b>Kabat-Zinn (1994)</b>
<b>Decentering</b>	<b>Viewing thoughts as transient events</b>	<b>Reduced rumination, improved coping with trauma</b>	<b>Hofmann &amp; Gómez (2017)</b>
<b>Acceptance/ Non-Judgment</b>	<b>Reduced avoidance, openness to experience</b>	<b>Lower anxiety, improved resilience</b>	<b>Lan et al. (2024); Aldbyani et al. (2025)</b>

**Note.** This table synthesizes key mechanisms through which mindfulness supports emotional regulation, trauma recovery, and adaptive functioning among refugee and migrant children.

Evidence indicates that mindfulness interventions improve resilience, reduce psychological distress, and support trauma processing among children and adolescents (Scott et al., 2023; Gong et al., 2025; Mendola et al., 2025). Their flexibility and adaptability make them particularly suitable for refugee contexts characterized by cultural and linguistic diversity. However, implementation challenges such as irregular attendance, instability, and varying levels of exposure can affect program outcomes (Montes de Oca et al., 2022; Kuru et al., 2024). These limitations underline the importance of developing flexible, context-sensitive approaches to mindfulness interventions (Maria et al., 2023).

# 3

Physical health outcomes  
of Physical Activity as a  
direct effect of physical  
exercise

### **3. Physical health outcomes of Physical Activity as a direct effect of physical exercise**

Physical activity, particularly when combined with health education, contributes significantly to improved health behaviors and long-term well-being among refugee populations. Evidence from intervention programs demonstrates that structured, engaging activities can enhance health awareness, promote healthy lifestyles, and support self-management of health conditions (AlSharifin et al., 2024).

Despite these benefits, refugee populations often exhibit low levels of physical activity and higher prevalence of chronic health conditions, including obesity, hypertension, and cardiovascular disease (Nilsson et al., 2019). These disparities are further exacerbated by limited access to healthcare, financial constraints, and poor dietary conditions.

Health education programs function as key empowerment tools, enabling individuals to access, understand, and apply health-related knowledge in their daily lives. When combined with enjoyable and accessible physical activities, such programs support sustained engagement, behavioral change, and improved physical health outcomes (AlSharifin et al., 2024).

# 4

## Mindfulness: Theoretical Foundations and Evidence Base

## 4. Mindfulness: Theoretical Foundations and Evidence Base

### 4.1. Introduction

Over the past four decades, mindfulness has evolved from a concept rooted in contemplative traditions to a major topic of empirical investigation within psychology, psychiatry, and behavioral medicine. Mindfulness is typically defined as a form of awareness characterized by intentionally attending to present-moment experiences with an attitude of openness, curiosity, and non-judgment (Kabat-Zinn, 1994). Within clinical science, mindfulness has become central to a family of interventions known as mindfulness-based interventions (MBIs), the most widely studied of which are Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT).

Research interest in mindfulness has grown exponentially since the early 2000s, reflecting increasing recognition of the potential psychological and physiological benefits of contemplative practices. Evidence now includes randomized controlled trials (RCTs), systematic reviews, meta-analyses, and neurobiological investigations. These studies have examined the effects of mindfulness training on mental health disorders, stress-related conditions, chronic pain, cognitive functioning, and overall well-being.

Despite this growing evidence base, the field also faces conceptual and methodological challenges. These include heterogeneity among interventions, variability in research designs, and ongoing debates regarding the mechanisms underlying mindfulness effects. Consequently, a critical examination of the literature is essential to understand both the strengths and limitations of mindfulness-based approaches. The present literature review provides a comprehensive overview of mindfulness research, including its historical development, theoretical foundations, evidence for clinical effectiveness, proposed mechanisms of action, and methodological limitations.

### 4.2. Historical and Conceptual Foundations of Mindfulness

#### 4.2.1 Origins and Secularization of Mindfulness

Although mindfulness has roots in Buddhist contemplative traditions, its contemporary scientific formulation emerged largely through the work of Jon Kabat-Zinn, who introduced Mindfulness-Based Stress Reduction (MBSR) at the University of Massachusetts Medical Center in the late 1970s. Kabat-Zinn conceptualized mindfulness as the ability to pay attention “on purpose, in the present moment, and nonjudgmentally,” emphasizing its applicability within clinical settings (Kabat-Zinn, 1994).

The MBSR program was initially developed to assist patients suffering from chronic pain and stress-related disorders. Early clinical studies demonstrated that mindfulness meditation training could improve coping with chronic pain and reduce psychological distress among medical patients (Kabat-Zinn, 1982). These findings laid the groundwork for the integration of mindfulness practices into psychotherapy and behavioral medicine. Subsequent developments expanded mindfulness into structured psychotherapeutic approaches. The most influential adaptation was **Mindfulness-Based Cognitive Therapy (MBCT)**, developed by Segal,

Williams, and Teasdale to prevent relapse in individuals with recurrent depression. MBCT integrates mindfulness meditation with elements of cognitive therapy to help individuals disengage from maladaptive cognitive patterns such as rumination and negative self-referential thinking (Hoffman & Gómez, 2018).

#### **4.2.2 Conceptualization of Mindfulness**

Within psychological research, mindfulness has been conceptualized in several ways:

1. Mindfulness as a trait or disposition, reflecting an individual's tendency to be attentive and aware in daily life.
2. Mindfulness as a state, referring to a momentary state of present-centered awareness.
3. Mindfulness as a trainable skill, cultivated through meditation practice and structured interventions.

Most empirical studies focus on mindfulness as a trainable cognitive and emotional skill, developed through formal meditation practices such as body scans, mindful breathing, and open monitoring meditation. In psychological theory, mindfulness is often described as involving several interrelated components:

- attentional regulation
- body awareness
- emotional regulation
- decentering or metacognitive awareness
- acceptance or non-reactivity

These components are thought to contribute to improvements in mental health and psychological functioning.

### **4.3. Mindfulness-Based Interventions (MBIs)**

#### **4.3.1 Mindfulness-Based Stress Reduction (MBSR)**

MBSR is an eight-week group-based program that includes mindfulness meditation, body scanning, yoga, and psychoeducation. Participants typically attend weekly sessions lasting two to three hours and engage in daily home practice. Research suggests that MBSR can reduce stress, anxiety, and depressive symptoms while improving psychological well-being and quality of life.

A systematic review of randomized controlled trials found that MBSR significantly improved mental health outcomes across diverse populations (Fjorback et al., 2011). MBSR has been applied across a wide range of clinical contexts, including:

- chronic pain
- cancer-related stress
- cardiovascular disease
- anxiety disorders
- occupational stress

Meta-analytic evidence indicates that mindfulness-based stress reduction programs can produce meaningful reductions in perceived stress and improvements in emotional regulation and cognitive flexibility (Xue & Abdullah, 2025).

### **4.3.2 Mindfulness-Based Cognitive Therapy (MBCT)**

MBCT was developed specifically to prevent relapse in individuals with recurrent major depressive disorder. The intervention combines mindfulness meditation with cognitive behavioral strategies aimed at modifying maladaptive thinking patterns. Clinical trials have demonstrated that MBCT significantly reduces the risk of depressive relapse, particularly among individuals with a history of multiple depressive episodes. By teaching participants to observe negative thoughts as transient mental events rather than accurate reflections of reality, MBCT reduces cognitive reactivity and rumination. According to systematic reviews, MBCT is among the most empirically supported mindfulness-based interventions and has been incorporated into clinical guidelines for the treatment of recurrent depression.

### **4.3.3 Other Mindfulness-Based Programs**

Beyond MBSR and MBCT, several additional mindfulness-based interventions have been developed:

- **Mindfulness-Based Relapse Prevention (MBRP) for substance use disorders**
- **Mindfulness-Based Relationship Enhancement (MBRE) for couples**
- **Mindfulness-Based Eating Awareness Training (MB-EAT) for eating disorders**

Although research on these programs is less extensive, preliminary studies suggest that mindfulness training may improve emotional regulation and behavioral self-control across various domains.

## **4.4. Evidence for the Effectiveness of Mindfulness-Based Interventions**

### **4.4.1 Effects on Anxiety and Depression**

One of the most extensively studied areas of mindfulness research involves its effects on mood and anxiety disorders. A comprehensive meta-analysis found that mindfulness-based therapy is effective in reducing symptoms of anxiety, depression, and stress across clinical and nonclinical populations. (Khoury et al., 2013). Similarly, meta-analytic studies have reported reductions in depression, anxiety, and perceived stress following mindfulness interventions among both clinical patients and healthy individuals (Zuo et al., 2023). These findings suggest that mindfulness training may operate as a transdiagnostic intervention, targeting psychological processes common to multiple mental health disorders, such as rumination, experiential avoidance, and emotional reactivity.

### **4.4.2 Chronic Pain and Medical Conditions**

Mindfulness-based interventions were initially developed for chronic pain management and remain widely used in medical settings. Research suggests that mindfulness meditation can reduce pain-related distress and improve coping with chronic illness.

A review of randomized controlled trials reported significant improvements in chronic pain outcomes following mindfulness meditation training, including reductions in pain intensity and improved quality of life (Zhang et al., 2021).

Mindfulness interventions have also been studied in relation to:

- hypertension
- cancer-related distress
- insomnia
- menopause symptoms
- cardiovascular health

Evidence suggests that mindfulness programs can improve mental health and quality of life in these populations, although further research is needed to clarify the magnitude and consistency of these effects (Wang et al., 2025).

#### **4.4.3 Mindfulness in Educational and Workplace Settings**

Mindfulness has increasingly been implemented in schools and workplaces as a strategy for improving psychological well-being and performance. Research involving adolescents suggests that mindfulness-based interventions can improve attention, emotional regulation, and psychological well-being (Dunning et al., 2018). In occupational settings, mindfulness training has been associated with reduced burnout, improved resilience, and increased job satisfaction. However, outcomes vary depending on program design and participant engagement.

#### **4.5. Mechanisms of Action**

A central question in mindfulness research concerns the mechanisms through which mindfulness exerts its effects. Several theoretical models have been proposed to explain these mechanisms.

##### **4.5.1 Attentional Regulation**

Mindfulness meditation involves sustained attention to present-moment experiences. Through repeated practice, individuals develop greater attentional control and reduced susceptibility to distraction. Improved attentional regulation may help individuals disengage from maladaptive thought patterns such as rumination and worry.

##### **4.5.2 Decentering and Metacognitive Awareness**

Another proposed mechanism is decentering, the ability to observe thoughts and emotions as transient mental events rather than identifying with them. Decentering reduces emotional reactivity and may explain the effectiveness of mindfulness-based cognitive therapy in preventing depressive relapse.

##### **4.5.3 Emotion Regulation**

Mindfulness practices may enhance emotional regulation by promoting acceptance and reducing avoidance of unpleasant emotional experiences. This process allows individuals to respond more adaptively to stress and emotional challenges.

##### **4.5.4 Neurobiological Mechanisms**

Neuroimaging studies have begun to identify neural changes associated with mindfulness meditation. Brain regions implicated in mindfulness include:

- prefrontal cortex
- anterior cingulate cortex
- insula
- default mode network

These areas are associated with attention, self-awareness, and emotional regulation.

Although neurobiological research is still emerging, evidence suggests that mindfulness training may alter neural pathways related to stress regulation and cognitive control.

## 4.6. Methodological Issues in Mindfulness Research

Despite the rapid growth of mindfulness research, several methodological concerns have been raised.

### 4.6.1 Heterogeneity of Interventions

Mindfulness-based interventions vary widely in duration, structure, and delivery. Some studies use full eight-week programs, whereas others employ brief interventions lasting only a few sessions. This heterogeneity complicates comparisons across studies.

### 4.6.2 Control Conditions

Many early studies used wait-list control groups rather than active comparison conditions. This design can inflate effect sizes due to expectancy effects and participant motivation. Future research increasingly emphasizes the use of active control groups to isolate the specific effects of mindfulness training.

### 4.6.3 Measurement Challenges

Another limitation involves measurement of mindfulness itself. Self-report questionnaires such as the Mindful Attention Awareness Scale (MAAS) and the Five Facet Mindfulness Questionnaire (FFMQ) are widely used, but their validity has been debated. Furthermore, self-report measures may be influenced by social desirability or participant expectations.

### 4.6.4 Adherence and Practice

Mindfulness interventions typically require substantial home practice, often approximately 30 minutes per day. Research suggests that the amount of home practice is positively correlated with treatment outcomes (Parsons et al., 2017). However, adherence to practice varies considerably among participants.

## 4.7. Future Directions in Mindfulness Research

The next generation of mindfulness research is likely to focus on several key areas:

1. **Mechanistic research** examining causal pathways linking mindfulness practice to psychological outcomes.
2. **Personalized interventions** tailored to individual differences in personality, mental health status, and cognitive style.
3. **Digital mindfulness interventions**, including smartphone-based meditation programs.
4. **Integration with lifestyle medicine**, where mindfulness may complement physical activity, sleep interventions, and nutritional approaches.

Large-scale longitudinal studies will also be necessary to determine the long-term effectiveness of mindfulness training.

## 4.8. Conclusion

Mindfulness has emerged as one of the most influential developments in contemporary psychological and behavioral medicine. Over the past four decades, a substantial body of research has demonstrated that mindfulness-based interventions can produce improvements in mental health, emotional regulation, and stress management.

The strongest evidence supports the use of structured programs such as MBSR and MBCT for conditions including anxiety, depression, and chronic pain. At the

same time, the field continues to evolve as researchers seek to clarify mechanisms of action, refine intervention designs, and address methodological limitations. While mindfulness should not be considered a universal solution for mental health challenges, the accumulated evidence suggests that it represents a valuable and versatile approach within modern integrative healthcare.

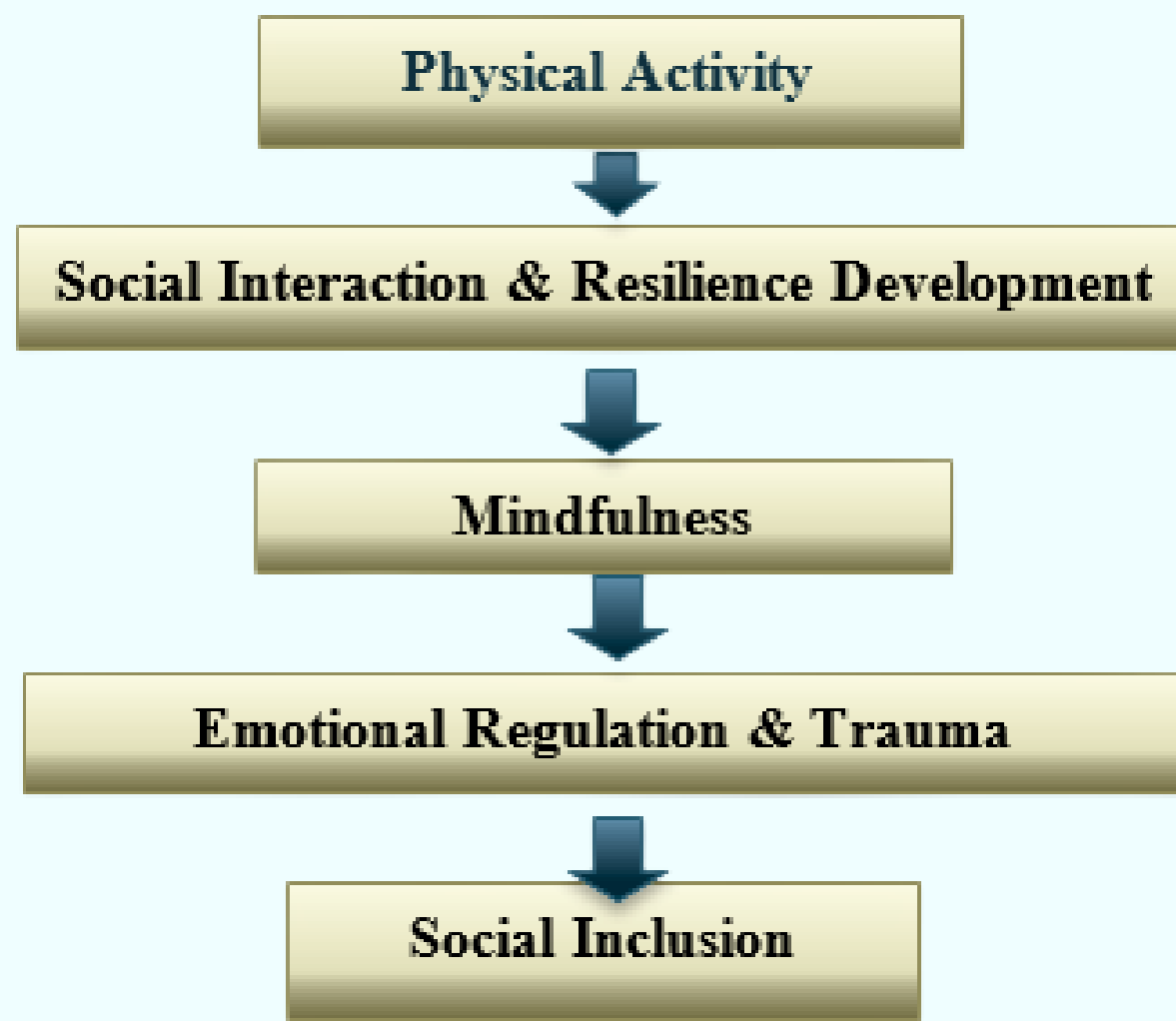
#### **4.9. Relevance of Mindfulness for Refugee Children and Educational Practice**

Mindfulness, as presented in the preceding section, offers a robust theoretical and empirical foundation for understanding its role in promoting psychological well-being. Its relevance becomes particularly pronounced when applied to vulnerable populations, such as refugee children, who are exposed to chronic stress, trauma, and social disruption (Kabat-Zinn, 1994; Khoury et al., 2013).

In the context of Ukrainian refugee children, mindfulness practices address several critical challenges identified in earlier sections of this review, including emotional dysregulation, heightened stress reactivity, difficulties in concentration, and challenges in social interaction. By fostering present-moment awareness and non-judgmental acceptance, mindfulness supports the development of adaptive coping strategies that are essential for trauma recovery and psychosocial adjustment (Hofmann & Gómez, 2017; Mendola et al., 2025).

Importantly, mindfulness-based interventions are highly adaptable to educational environments. Their flexibility allows for seamless integration into school routines without requiring extensive resources or specialized clinical settings. Simple practices, such as breathing exercises, guided attention activities, and brief reflective moments, can be incorporated into daily classroom experiences, making mindfulness both accessible and scalable within formal education systems (Kuru et al., 2024). Furthermore, mindfulness complements physical activity interventions by addressing internal psychological processes. While physical activity promotes external engagement, social interaction, and behavioral activation, mindfulness enhances emotional regulation, attentional control, and self-awareness.

This complementary relationship supports a holistic approach to well-being, aligning with contemporary models of social-emotional learning and trauma-informed pedagogy (Moghadam, 2025; Sünbül & Güneri, 2019). From an Erasmus+ perspective, the integration of mindfulness into educational and recreational programs contributes directly to key priorities, including inclusion, mental health promotion, and the development of life skills. Its low-cost, flexible, and culturally adaptable nature makes it particularly suitable for diverse and multilingual learning environments. Overall, mindfulness serves as a critical component within a broader intervention framework, effectively bridging theoretical knowledge and practical application. When combined with structured physical activity and inclusive pedagogical strategies, it contributes to the creation of supportive environments that foster resilience, well-being, and social integration among refugee children.



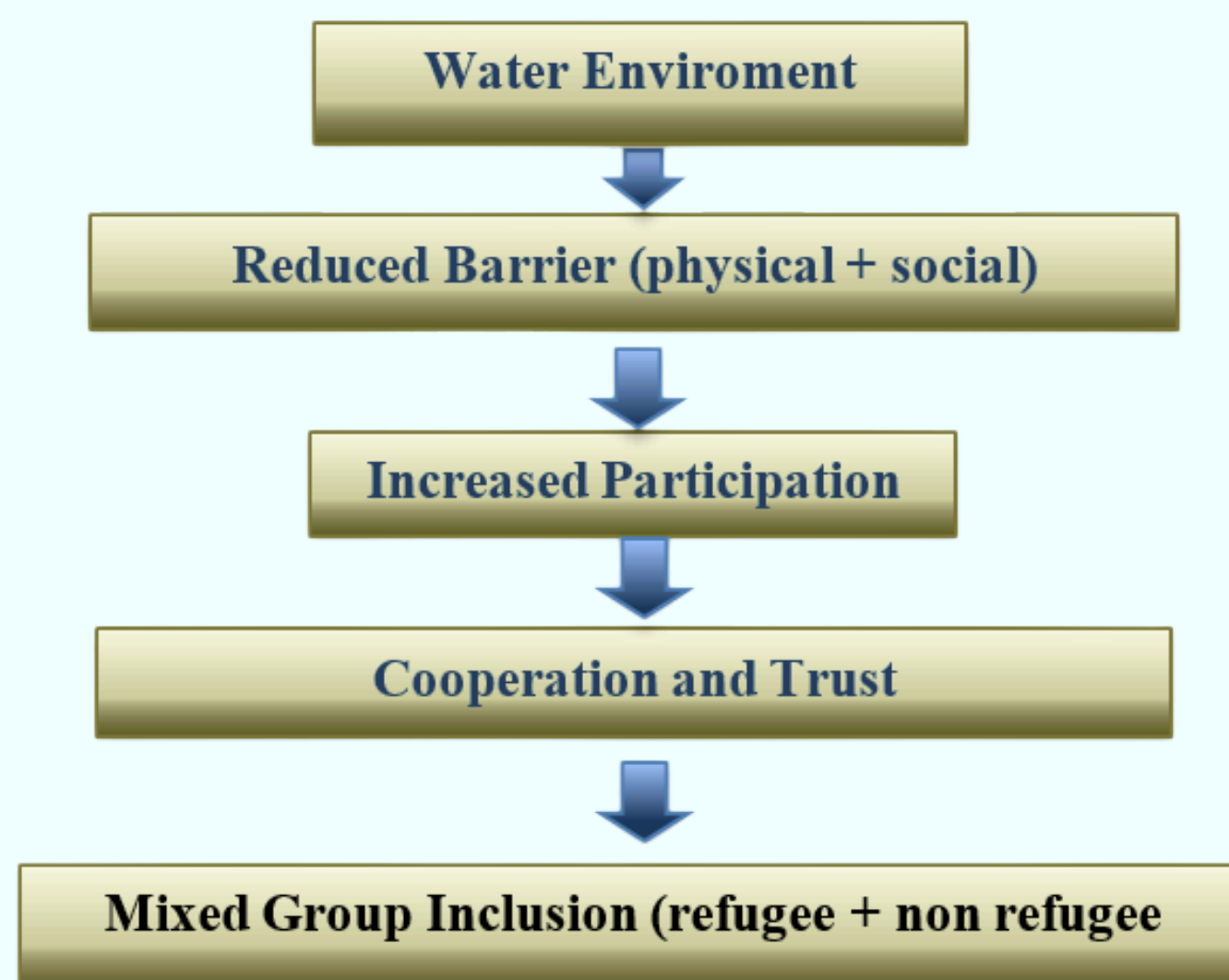
**Figure 1. Integrated model illustrating how physical activity and mindfulness interact to support resilience, emotional regulation, and social inclusion among refugee children.**

# 5

## Social Inclusion through Group Physical Activity and Mindfulness

## 5. Social Inclusion through Group Physical Activity and Mindfulness

Group-based physical activities play a significant role in promoting social inclusion, particularly among refugee children who face cultural and language barriers. Such activities encourage interaction, cooperation, and shared experiences, fostering a sense of belonging and reducing social anxiety (Davison et al., 2016). Simple coordinated movements, such as balancing or synchronized actions, can enhance group cohesion and participation. The integration of mindfulness elements within group activities further strengthens these outcomes. Practices such as guided breathing or body-awareness exercises increase emotional awareness, empathy, and mutual respect among participants. The adaptability of these activities to both verbal and non-verbal communication makes them accessible to children with diverse linguistic and cultural backgrounds, supporting inclusive participation (Davison et al., 2016).



**Figure 2. Integrated model illustrating how physical activity and mindfulness interact to support resilience, emotional regulation, and social inclusion among refugee children.**

# 6

## Comparative Effectiveness of Physical Activity Versus Mindfulness

## **6. Comparative Effectiveness of Physical Activity Versus Mindfulness**

### **6.1 Physical Activity: Health Outcomes and Measurement Considerations**

Physical activity demonstrates a strong dose-response relationship with improved cardiovascular, metabolic, and mental health outcomes, including reductions in depression and substance use (Ibrahim et al., 2023). Despite these benefits, a significant proportion of youth do not meet recommended activity levels. Measuring physical activity presents methodological challenges, particularly due to the limitations of self-reported data and the resource demands of objective measurement tools. The use of combined methods, including digital monitoring tools, can enhance accuracy and provide more reliable data (Ibrahim et al., 2023).

### **6.2. Social and Environmental Influences**

Engagement in physical activity is strongly influenced by social and environmental factors, such as peer support, family involvement, and access to resources. In contrast, mindfulness interventions tend to be less dependent on external conditions and offer greater flexibility in implementation. This makes mindfulness particularly suitable for refugee contexts, where environmental constraints may limit participation in structured physical activities (Ibrahim et al., 2023).

# 7

## Barriers and Facilitators to Implementing Interventions in Refugee Settings

## 7. Barriers and Facilitators to Implementing Interventions in Refugee Settings

The implementation of physical activity and mindfulness interventions in refugee contexts is shaped by a range of structural, cultural, and individual factors. Understanding these influences is essential for designing effective and sustainable programs.

**Table 3. Barriers and Facilitators Affecting Participation in Physical Activity and Mindfulness Interventions.**

Category	Barriers	Facilitators	Supporting Evidence
Structural/ Economic	Financial insecurity, transportation difficulties, limited access to facilities, competing survival priorities	Free or subsidized programs, local delivery, partnerships with community centers	AlSharifin et al. (2024)
Cultural	Mismatch with cultural norms, unfamiliarity with activities	Culturally adapted content, involvement of cultural mediators	Bodnar & Sofinsky (2024)
Language/ System Familiarity	Language barriers, difficulty navigating institutions, fear of discrimination	Multilingual support, trust-building practices, inclusive communication	Nilsson et al. (2019)
Social Networks	Social isolation, lack of peer support	Strong community ties, peer encouragement, family involvement	Korcz et al. (2024)
Personal/ Psychological	Low self-efficacy, trauma symptoms, emotional withdrawal	Supportive educators, trauma-informed approaches, gradual engagement	Poudel-Tandukar et al. (2024)

**Note.** This table synthesizes key structural, cultural, social, and individual factors influencing participation in physical activity and mindfulness interventions among refugee populations.

## **7.1 Structural and Economic Barriers**

Economic hardship significantly limits access to interventions, as many refugees face financial constraints that affect transportation, equipment, and basic needs. Competing priorities such as housing and employment often reduce participation in structured programs. These challenges are further compounded by limited healthcare infrastructure and service availability (AlSharifin et al., 2024). Addressing these barriers requires accessible, low-cost, or subsidized program models.

## **7.2 Cultural Relevance and Motivation**

Culturally appropriate interventions are more likely to engage participants and sustain involvement. Programs that incorporate participants' cultural values, language, and social norms enhance motivation and foster a sense of respect and belonging. Conversely, culturally misaligned interventions may lead to disengagement and reduced effectiveness (AlSharifin et al., 2024).

## **7.3 Language, System Familiarity, and Discrimination**

Language barriers and limited familiarity with institutional systems hinder access to services and participation in programs. Additionally, experiences or fears of discrimination can reduce trust in service providers and decrease engagement. Addressing these challenges requires multilingual support, culturally sensitive practices, and targeted outreach to build trust (AlSharifin et al., 2024).

## **7.4 Social Networks and Empowerment.**

Strong social networks act as key facilitators of participation and well-being. Support from family, peers, and community organizations enhances access to resources, encourages engagement, and promotes a sense of belonging. In contrast, social isolation increases vulnerability and limits access to interventions (AlSharifin et al., 2024).

## **7.5 Personal and Interpersonal Factors**

Individual characteristics such as resilience, self-efficacy, and adaptability influence engagement in interventions. Supportive interpersonal relationships, including encouragement from educators and peers, further strengthen motivation and persistence. These factors highlight the importance of integrating psychosocial support within intervention design (AlSharifin et al., 2024).

# 8

## Recommendations for Future Research and Practice

## 8. Recommendations for Future Research and Practice

Future research should expand the conceptualization of mindfulness beyond formal practices to include every day, culturally relevant applications that enhance accessibility and engagement among refugee populations (Li et al., 2024). In parallel, there is a need to better understand barriers to participation and to develop innovative, culturally sensitive solutions, including the use of digital tools to support both mindfulness and physical activity interventions.

Further investigation is also required to examine how combined, group-based approaches contribute to social connectedness and inclusion among refugee children (Kölbel, 2024; Kölbel, 2025). From a practice and policy perspective, integrated programs that combine mindfulness and physical activity should be culturally adapted, systematically evaluated, and supported by institutional frameworks to maximize their effectiveness and scalability (Li et al., 2024).

# 9

## Conclusion

## 9. Conclusion

Physical activity and mindfulness represent complementary and evidence-based approaches to promoting the mental, physical, and emotional well-being of Ukrainian refugee children. While physical activity enhances resilience, social interaction, and physical health, mindfulness, particularly when integrated with social-emotional learning—supports emotional regulation and trauma recovery. Despite their effectiveness, implementation remains influenced by cultural, structural, and logistical challenges, highlighting the need for flexible, context-sensitive, and inclusive program design. The integration of these approaches provides a holistic model that addresses both internal psychological processes and external social dynamics. This combined framework offers a transferable and scalable solution aligned with Erasmus+ priorities, supporting inclusive education and psychosocial well-being in diverse contexts.

### 9.1 Relevance to Ukrainian Refugee Children

Although the evidence base includes broader refugee and migrant populations, the findings are directly applicable to the specific context of Ukrainian refugee children. This includes factors such as exposure to war-related trauma, disrupted education, cultural transition challenges, and increased risk of social marginalization. By aligning empirical evidence with these realities, the review ensures contextual relevance and applicability.

### 9.2 Contribution to Educational and Policy Frameworks

The review aligns with contemporary educational priorities, including inclusive education, mental health promotion, social-emotional learning, and trauma-informed pedagogy. It also highlights the role of innovation, including digital tools, in supporting psychosocial interventions. As such, it provides a framework that is both academically grounded and policy-relevant for European educational contexts.

### 9.3 Overall Impact of the Literature Review

This review serves as a theoretical and practical foundation for intervention development, offering guidance for program design, evaluation, and implementation. By integrating evidence on physical activity and mindfulness, it supports the development of holistic, inclusive, and scalable interventions for refugee children. Importantly, it bridges research and practice, contributing to evidence-informed educational innovation.

# 10

## Use of findings in practice

## 10. Use of findings in practice (connecting literature to activities)

The findings of this review directly inform the design and implementation of the project's activities. Both physical activity and mindfulness can be translated into structured, inclusive interventions within educational and recreational settings. To illustrate how theoretical insights are operationalized in practice, Table 4 presents a logic-based overview of how evidence from the literature is applied to the project's activities, including expected outcomes and evaluation indicators.

**Table 4. Application of Literature Findings to Practical Intervention Design**

<b>Evidence-based Component</b>	<b>Practical Implementation</b>	<b>Expected Outcomes</b>	<b>Evaluation Indicators (KPIs)</b>
<b>Structured Physical Activity</b>	<b>Water-based cooperative games, team challenges, mixed-group activities</b>	<b>Increased participation, peer bonding, resilience</b>	<b>Attendance rates, peer interaction scores, facilitator checklists</b>
<b>Mindfulness Practices</b>	<b>Breathing exercises, guided relaxation, reflection before/after activities</b>	<b>Improved emotional regulation, reduced stress, enhanced self-awareness</b>	<b>Pre-post emotional regulation scales, self-report calmness ratings</b>
<b>Social Inclusion Principles</b>	<b>Mixed groups (refugee &amp; non-refugee youth), non-verbal activities, trust-building tasks</b>	<b>Sense of belonging, reduced social anxiety, improved group cohesion</b>	<b>Inclusion questionnaires, sociometric mapping, observation notes</b>
<b>Trauma-Informed Approach</b>	<b>Safe environments, predictable routines, supportive facilitators</b>	<b>Increased psychological safety, reduced avoidance, improved engagement</b>	<b>Behavioral engagement metrics, facilitator observations</b>

<b>Evidence-based Component</b>	<b>Practical Implementation</b>	<b>Expected Outcomes</b>	<b>Evaluation Indicators (KPIs)</b>
<b>Health Education Integration</b>	<b>Short discussions on well-being, healthy habits, stress management</b>	<b>Increased health literacy, improved self-management</b>	<b>Knowledge checks, reflective journals, short quizzes</b>
<b>Cultural Adaptation</b>	<b>Multilingual support, culturally sensitive instructions, flexible pacing</b>	<b>Higher engagement, reduced barriers, increased comfort</b>	<b>Participation consistency, qualitative feedback, dropout rates</b>

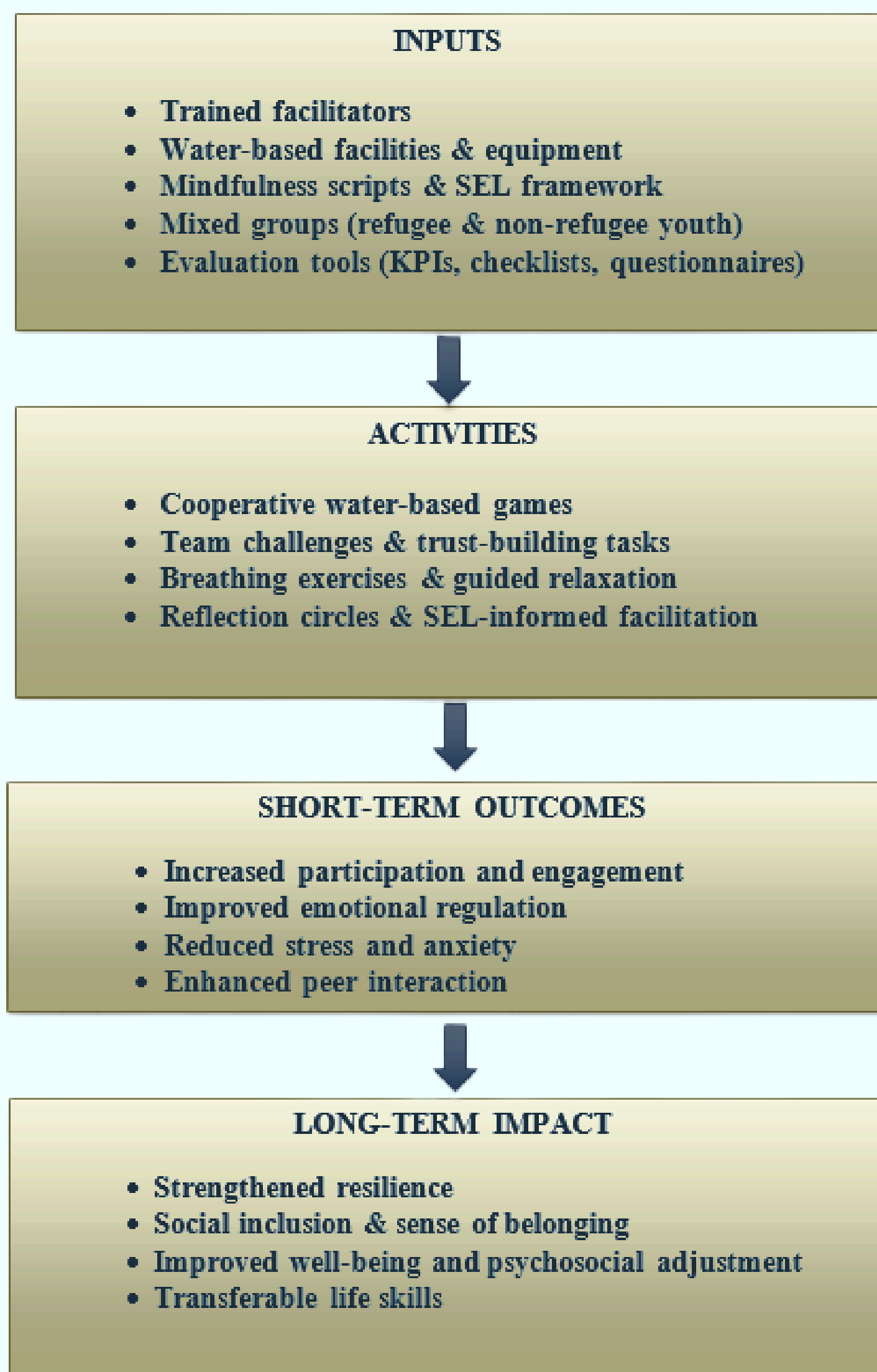
**Note.** This table summarizes how theoretical constructs from the literature review are operationalized into concrete activities, expected outcomes, and measurable indicators within the Erasmus+ intervention framework.

Water-based activities provide a particularly effective environment for fostering inclusion. The aquatic setting reduces physical and social barriers, promotes engagement, and facilitates cooperation and trust-building. Activities such as team-based games and cooperative challenges support peer interaction, resilience, and group cohesion.

These activities are especially valuable in mixed groups of refugee and non-refugee youth, as they create safe spaces for interaction regardless of language or cultural differences. Through shared experiences, participants develop a sense of belonging and group identity. Mindfulness practices complement these activities by supporting internal processes such as emotional regulation, stress management, and self-awareness. Simple techniques, including breathing exercises, guided relaxation, and reflection, can be easily integrated before, during, or after sessions.

This combined approach ensures a balanced intervention model:

- Physical activity promotes social interaction and engagement.
- Mindfulness supports emotional regulation and well-being.



**Figure 3. Logic model illustrating the flow from inputs to activities, short-term outcomes, and long-term impact within the integrated physical activity and mindfulness intervention.**

### Relevance for Erasmus+ Implementation

This integrated model aligns with key Erasmus+ priorities, including social inclusion, mental health and well-being, active participation, and life skills development. By combining water-based activities with mindfulness practices, the project offers a holistic and scalable approach that can be implemented across diverse educational contexts. Furthermore, the structured design of activities, supported by clear objectives, inclusion strategies, and evaluation tools, ensures that the intervention is not only engaging but also measurable and transferable.

**Table 5. Relevance of the Intervention with Erasmus+ Programme**

Erasmus+ Area	Relevance of the intervention in this area	Practical Examples from the Project
Inclusion & Diversity	Reduces social and linguistic barriers through mixed-group activities, non-verbal communication, and culturally sensitive design.	Water-based cooperative games; multilingual facilitation; inclusive group structures.

<b>Erasmus+ Area</b>	<b>Relevance of the intervention in this area</b>	<b>Practical Examples from the Project</b>
<b>Mental Health &amp; Well-Being</b>	<b>Integrates mindfulness and physical activity to support emotional regulation, stress reduction, and resilience-building.</b>	<b>Breathing exercises, guided relaxation, structured PA sessions promoting emotional stability.</b>
<b>Active Participation</b>	<b>Encourages engagement through experiential, hands-on activities that promote agency, teamwork, and peer interaction.</b>	<b>Team challenges, trust-building tasks, youth-led reflections.</b>
<b>Life Skills Development</b>	<b>Builds self-awareness, emotional intelligence, cooperation, problem-solving, and self-efficacy.</b>	<b>SEL-informed facilitation, reflection circles, collaborative tasks.</b>
<b>Digital Readiness &amp; Innovation</b>	<b>Uses digital tools for evaluation, monitoring, and reflective learning, supporting data-driven program improvement.</b>	<b>Pre-post questionnaires, digital KPIs, facilitator observation apps.</b>
<b>Social Inclusion Through Sport &amp; Physical Activity</b>	<b>Utilizes structured PA and water-based activities as vehicles for integration, belonging, and community cohesion.</b>	<b>Mixed refugee/non-refugee groups, cooperative aquatic activities, shared experiential learning.</b>
<b>Support for Sport staff, Educators &amp; Youth Workers</b>	<b>Provides structured frameworks, trauma-informed practices, and evidence-based methods for facilitators.</b>	<b>Training modules, observation checklists, mindfulness scripts.</b>

# 11

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