

EDUCATING FOR WELL-BEING THROUGH OUTDOOR EDUCATION: THE ROLE OF NON-COGNITIVE SKILLS

EDUCARE AL BENESSERE ATTRAVERSO L'OUTDOOR EDUCATION: IL RUOLO DELLE COMPETENZE NON-COGNITIVE

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ABSTRACT

The paper examines the role of Outdoor Education in fostering student well-being, understood as a core non-cognitive competence. After outlining the concept of well-being in relation to learning processes, theoretical and empirical studies are reviewed that highlight the positive impact of outdoor activities on resilience, self-esteem, and inclusion. Outdoor Education emerges as a structural practice for a more equitable, sustainable, and generative school, able to enhance the potential of every student.

Il contributo analizza il ruolo dell'Outdoor Education nella promozione del benessere scolastico, inteso come competenza non cognitiva fondamentale. Dopo aver delineato il concetto di benessere in relazione ai processi di apprendimento, vengono esaminati studi teorici ed empirici che evidenziano l'impatto positivo delle attività outdoor su resilienza, autostima e inclusione. L'OE emerge come pratica strutturale per una scuola più equa, sostenibile, generativa e capace di valorizzare ogni studente.

KEYWORDS

Student well-being; Outdoor Education; Non-cognitive skills; School inclusion. Benessere scolastico; Outdoor Education; Competenze non cognitive; Inclusione scolastica.

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Introduction

The topic of student well-being is now one of the most central and essential issues in contemporary educational debate, especially in light of the profound transformations brought about by the COVID-19 pandemic. The sudden and prolonged confinement of students within their homes has had a severe impact on their psychological and emotional well-being, generating feelings of anxiety, depression, and widespread disorientation, which have been the most evident effects of forced isolation (Marone & Spina, 2022). From this perspective, speaking of well-being does not mean reducing the concept to the mere idea of happiness or the absence of distress, but instead conceiving it as a complex construct that concerns the individual's ability to give meaning to their experiences, to develop a horizon of meaning that gives coherence to their actions, and to develop relational and planning skills that enable them to forge meaningful social bonds and proactively direct their lives (Makiguchi, 2002).

In education, therefore, well-being must be understood as a comprehensive dimension that is not limited to the immediate satisfaction of emotional needs, but extends to the overall development of the individual, their quality of life, and, specifically, the ability of students to feel part of a vital context that recognizes and values them (Conte, 2023). Although there is no universally shared definition of *well-being*, it can be said that it manifests itself when mental health, a sense of purpose and belonging, a self-perception of existential satisfaction, and the ability to face daily challenges and stress are preserved. On this point, however, a consensus emerges regarding the minimum conditions that characterize a state of well-being, which can be traced back to the presence of positive emotions, a sense of personal fulfillment, high life satisfaction, and positive individual functioning (Amadori, 2025).

The discussion of well-being, when applied to the school context, takes on a unique significance because it goes beyond simply describing an individual's general condition, but must be understood as a dimension closely connected to students' learning processes, identity construction, and social participation. From this perspective, student well-being does not coincide exclusively with the absence of negative emotional states, such as anxiety or depression, but rather is defined as the experience of personal satisfaction, academic achievement, and a prevalence of positive emotions that support motivation and engagement in learning processes (Bellantoni, 2020).

School experiences, in fact, can profoundly impact students' perceptions of well-being, on the one hand through the recognition of identity, belonging, and

connectivity with peers and the school community, and on the other through access to engaging activities and educational practices perceived as meaningful and oriented toward the overall development of the individual (Down et al., 2024). From this perspective, school education cannot be limited to disciplinary learning alone; it must also include the development of social and emotional skills and the promotion of a positive outlook on life (Rosina, Marchesiello, 2024).

The role of schools, therefore, cannot be reduced to the sole task of transmitting theoretical and disciplinary knowledge, but must instead be oriented toward the holistic development of the person, promoting the acquisition of transversal and orientational skills in students, closely linked to the dimension of knowing how to be and behavioral maturation (Lucangeli, 2025). Student well-being, understood as a balance between cognitive growth, emotional development, and relational skills, is profoundly influenced by the educational experiences and learning opportunities offered throughout the entire educational journey. This requires a pedagogical rethinking of teaching, which must be conceived no longer simply as a vehicle for knowledge, but as a practice geared toward fostering the recognition and development of individual talents, along with students' ability to cultivate their inner selves and consciously manage emotions.

In this framework, the enhancement of so-called non-cognitive skills (NCS), which extend beyond disciplinary logic and concern students' socio-emotional sphere and character traits, becomes central (Folloni, Sturaro, & Vittadini, 2021). Within this framework, student well-being can be considered a transversal construct, encompassing non-cognitive metacompetence, which represents the student's ability to integrate emotional, motivational, and relational aspects into their educational journey, significantly impacting both cognitive performance and the overall quality of the school experience. Developing these skills, including academic well-being, understood as an advanced form of socio-emotional regulation, strengthens and facilitates the acquisition of cognitive abilities, increasing the likelihood of educational success, even in terms of more theoretical knowledge.

Emotional skills, in particular, are crucial for navigating the challenges of everyday life and fostering social relationships founded on reciprocity and positivity (Dettori & Carboni, 2024). From this perspective, the European Key Competences for Lifelong Learning, a Council of the European Union recommendation dated 22 May 2018, is of great importance. They aim to support personal development, promote active citizenship, and foster social inclusion. Similarly, the life skills identified by the World Health Organization outline a set of personal, social, and relational skills that every individual should acquire and strengthen to face life's challenges positively and resiliently. These include self-awareness, critical thinking, creativity,

decision-making and problem-solving skills, empathy, managing emotions and stress, as well as effective communication and interpersonal skills (Marmocchi, Dall'Aglio & Zannini, 2024).

It follows that student well-being, also recognized as a non-cognitive skill, cannot be understood as a static goal, but rather as a dynamic process of construction that translates into the ability to maintain psychological stability, to give meaning to study and one's educational path, to experience academic and extracurricular satisfaction, and to establish meaningful relationships with peers, teachers, and the educational community.

Among the factors that significantly impact this condition, research recognizes elements such as the connection with the natural environment and the school context, resilience in facing educational and relational challenges, self-efficacy as confidence in one's own learning abilities, self-esteem also built through academic recognition and a sense of belonging to the school community (Chavaly & Naachimuthu, 2020; Pritchard et al., 2020). Within this framework, functioning based on psychological resources, understood as the set of dispositions that enable students to express their potential and face difficulties with resilience, represents a fundamental protective factor. However, from a pedagogical perspective, this cannot be guaranteed solely by strengthening individual qualities. Indeed, a school environment capable of promoting authentic educational experiences is required, paying particular attention to the organizational climate and classroom setting, which should be understood not only as a traditional classroom but also as alternative spaces that stimulate new forms of learning and relationships.

The school, understood as a physical and communal space, becomes the place where the organization of spaces, the quality of relationships, and the structuring of teaching activities contribute to creating the conditions for meaningful, peaceful, and well-being-generating learning. Therefore, one of the key elements for supporting students in their educational journey and overall development lies in the pedagogical ability to design inclusive, stimulating, and participatory environments (Amadori, 2025).

It is no longer sufficient to abstractly adhere to the idea that schools should reduce the centrality of imparting knowledge in favor of an education geared toward self-awareness and the construction of one's own horizon of meaning. The current pedagogical urgency is rather to rethink the school system as an open environment, capable of transcending the confines of four walls and the static structure imposed by the desk. Alternative approaches to traditional teaching should be an integral part of the curriculum, becoming a standard practice rather than an exception.

Indeed, new generations increasingly experience a state of media-induced self-isolation: emotions are conveyed through a screen, interpersonal relationships are reduced to text-based exchanges, and direct contact with nature and others tends to be diminished. The excessive use of technological devices, far from representing solely a communication resource, risks translating into a progressive loss of corporeality, authentic sociality, and immersion in the surrounding environment. This finding clearly highlights the need for an education that restores the centrality of direct experience and contact with nature.

Students must be oriented toward educational contexts that not only foster formal learning but also enable lively interaction with the natural and social world around them. It is significant to note that currently, less than a quarter of children participate in outdoor activities during school hours that are not strictly related to physical education (Chavaly & Naachimuthu, 2020). This data highlights a structural deficiency that can no longer be underestimated, as a connection with the external environment is a prerequisite for the harmonious development of students' cognitive, emotional, and relational dimensions. Providing dedicated spaces and times for outdoor activities should therefore not be seen as a simple recreational opportunity, but rather as a pedagogical strategy that fosters more serene and collaborative relationships among peers, alleviates the tensions accumulated in excessively frontal learning contexts, and stimulates new forms of participation.

The shift in space, understood as a symbolic and physical escape from the rigidity of desks and classrooms, allows for the activation of positive emotions, the experience of a widespread sense of well-being, and the fostering of a different perception of school as a place of life, and not merely as an institution of transmission. A school that is open to its surroundings, making contact with nature and direct experience a constitutive element of educational planning, thus becomes not only a privileged space for building skills that can be applied outside the classroom, but also a privileged laboratory for learning to live (Righettini, 2024). From this perspective, teaching "outdoors" emerges as a methodology capable of responding to the emerging needs of new generations, promoting well-being, positive relationships, and more peaceful learning environments within classrooms. Within this framework, the enhancement of so-called non-cognitive skills (NCS) becomes central, namely those that transcend disciplinary logic and encompass the socio-emotional sphere and character traits of students (Maccarini, 2021). These include skills such as perseverance, resilience, self-discipline, intrinsic motivation, the ability to cooperate and manage emotions, as well as personal dispositions such as open-mindedness, intellectual curiosity, and a sense of responsibility. Within this theoretical framework, academic well-being is a conceptual core of NCS, as it

presupposes the activation of psychological, motivational, and social resources that allow individuals to regulate their behavior, maintain a balance between emotional and cognitive dimensions, and support meaningful learning paths.

International research (Cabus, Napierala, & Carretero, 2021; Kautz et al., 2014; Farkas, 2003) has consistently demonstrated that mastering NCS, which encompasses academic well-being, not only promotes psychological and relational well-being but also leads to a significant improvement in cognitive performance and academic achievement. Therefore, developing NCS facilitates and improves the ability to learn cognitive skills, thereby increasing the likelihood of educational success, even in terms of more theoretical knowledge. In this sense, they represent a fundamental bridge between the emotional and intellectual spheres, as they enable students to approach study not merely as the acquisition of content, but as a path of personal and social growth.

For this reason, investing in the promotion of non-cognitive skills, specifically academic well-being as their fundamental component, means ensuring that students not only achieve better academic results but also develop lasting tools for facing life's challenges, fostering resilience, decision-making autonomy, and the ability to collaborate. From this perspective, outdoor education emerges as a privileged vehicle for developing NCS, as it fosters processes of emotional self-regulation, identity construction, and socio-cognitive maturation through direct experience, contact with nature, and the relational dimension found in unconventional contexts. This methodology will be explored in the next section. NCS, therefore, should not be considered an "additional" or optional element, but an integral part of curricula and daily educational practices, on a par with traditional subject-matter skills.

1. Building well-being at school: Why Outdoor Education?

Outdoor Education (OE), literally translated as "education outside the door," is a methodological and didactic paradigm whose first systematic definition can be found in the work of George and Louise Donaldson (1958). According to the authors, it can be understood as "an education in, about, and for the outdoors," a formula that, far from being a mere terminological specification, expresses a conceptual structure of significant theoretical and pedagogical significance. The three prepositions that compose it, in fact, assume a heuristic function: "in" refers to the natural environment as a privileged place of experience; "about" recalls nature in its objective and cognitive dimension; "for" underlines its teleological value, that is, the ability to promote well-being, awareness, and respect for the

ecosystem (Svobodová et al., 2021). From this perspective, Outdoor Education is not simply a transposition of school practices outside of the curriculum, but rather an epistemological approach that integrates experiential, physical, relational, and cognitive dimensions, reconnecting the educational process to the specificities of the local area and the socio-cultural fabric of the community. This results in a pedagogical approach that, while articulated in heterogeneous forms, maintains a distinctive focus on active, situated, and contextually grounded teaching. The educational offerings associated with Outdoor Education, therefore, appear diverse and multi-layered, unfolding along a continuum that ranges from perceptual-sensorial experiences to socio-motor and exploratory practices, all the way to educational projects that combine the natural and technological dimensions. Introductory terms, EO can be considered an intrinsically polysemic theoretical and practical field, capable of transcending the confines of the traditional classroom and configuring itself as an innovative educational space, in which nature, culture, and innovation intertwine to foster a comprehensive learning process deeply rooted in the dialogue between the individual and the environment (Bellomo, 2019). Indeed, education conducted in a natural environment has, in recent years, become a constantly expanding pedagogical practice, whose growing recognition is evidenced by the proliferation of schools oriented towards an avowedly outdoor approach and the increase in outdoor educational projects promoted even in contexts traditionally anchored in the classroom dimension. This is not only a response to the demands of contemporary educational debate, but also a strategy that can be applied as an alternative methodology to classroom attendance for students characterized by marked hyperactivity or difficulty in self-regulating their attention, who tend to experience significant limitations in learning that is mediated exclusively by lectures. From this perspective, Outdoor Education emerges as a highly inclusive practice, capable of expanding educational opportunities in diverse contexts and ensuring, through direct experience and physical participation, active and non-marginalizing forms of participation (Natalini & Savastano, 2024). This phenomenon, therefore, does not represent a mere adaptation to educational trends but rather an attempt to respond to a profound transformation of contemporary educational needs, in which the issue of academic well-being takes on an increasingly central role. The methodological pillars of Outdoor Education, such as prolonged outdoor time and the centrality of play as a privileged vehicle for knowledge and direct experience as a primary learning modality, refer to a pedagogical framework that is not a simple alternative to transmissive teaching, but a genuine epistemological rethinking of the educational function (Mancini, 2020). The natural environment, therefore, is not merely a

backdrop but a true mediator of the learning experience, facilitating sensorial, observational, and metacognitive processes (Crudeli, 2018). When analyzing the relationship between OE and academic well-being, it becomes clear that this methodology responds in a privileged way to the needs of harmonious development on both cognitive and psychophysical and emotional levels. The non-frontal nature of the lesson and free experimentation favor the construction of a context in which the child can exercise autonomy, experiment with cooperation, and regulate their emotions through comparison with peers. This relational dynamic not only consolidates socio-affective skills but also becomes a tool for well-being in itself: feeling recognized, welcomed, and valued produces significant effects on self-esteem and self-confidence, elements that the literature identifies as fundamental to psychosocial health (Wang, Yasim, Chang, & Wu, 2024).

Furthermore, connecting with nature allows individuals to fully utilize their senses, simultaneously training both body and mind: visual contact with greenery, breathing in open spaces, and the dynamic alternation between cognitive tasks and movement improve attentional skills, working memory, and self-regulation processes. From this perspective, EO appears not only as an alternative methodology but as a privileged context for strengthening the cognitive and emotional resources that support academic success (Mason et al., 2022).

Several empirical studies, some of which will be presented in the next section, confirm this evidence, documenting how OAE positively impacts the well-being of students at all levels of education, improving their ability to cope with difficulties, social connection, and decision-making autonomy (Ewert, 2014; Antonietti, 2018; Pirchio et al., 2021). They demonstrate that the value of OE is not limited to the individual dimension, but that the natural environment itself becomes a silent teacher, an experiential laboratory that leads students not only to understand the cyclical nature of life and biodiversity, but also to develop an ecological awareness. In a historical context marked by the progressive anticipation of Earth Overshoot Day and the urgent needs of the United Nations' 2030 Agenda, OE also assumes the role of educating new generations about a sustainable relationship with the planet, transforming teaching into a practice of active citizenship (Scarinci, 2021). Nature, therefore, is not merely a physical space but becomes an educational tool with clear implications for collective well-being. Immersion in nature allows individuals to escape the pressure of excessively fast-paced living. This, in turn, results in a more regular heartbeat, calmer breathing, and a greater predisposition to listening and sensory perception. This translates into immediate physical, emotional, and

cognitive benefits, restoring a more human and sustainable dimension to the school experience (Valentini et al., 2019).

Finally, the impact of EO is also particularly significant on the social level. Indeed, research has shown that regular exposure to nature can help mitigate problematic behaviors and enhance social and relational skills, particularly in children with complex temperaments or special educational needs. A recent meta-analysis has also confirmed the positive effects of nature-based interventions in improving sensory, social, and behavioral skills in children with autism spectrum disorder, thus underscoring the inclusive value of the outdoor approach (Fan et al., 2023).

In light of this evidence, Outdoor Education appears not only as an innovative methodology but also as an educational horizon capable of combining individual well-being, social relationships, physical health, and ecological awareness. It presents itself as a radical response to the crisis of meaning in traditional schooling, offering spaces and times in which body, mind, and nature find a unified balance — a prerequisite for an authentic experience of school well-being.

2. Data and Evidence on Outdoor Education

This section examines the findings of three systematic reviews and one empirical study, selected as particularly relevant to understanding the effects of outdoor education on student well-being. Systematic reviews, thanks to their ability to critically integrate a large number of primary studies, enable the identification of recurring patterns and established trends, thereby offering a more robust interpretative framework that is less subject to the limitations of individual investigations. This cumulative perspective not only strengthens the reliability of the available evidence but also enables its pedagogical significance to be grasped within broader theoretical frameworks. To complete this framework, a recently published empirical study (2024) was also included, chosen for its relevance to the observations and its ability to enrich the scientific debate on outdoor education with original and contextualized data.

The first contribution examined is the systematic review, "Getting Out of the Classroom and Into Nature: A Systematic Review of Nature-Specific Outdoor Learning on School Children's Learning and Development," conducted by a group of Australian scholars (Mann et al.) and published in 2022. This work is part of a growing body of scientific research that is increasingly focused on investigating the educational and socio-educational impacts of learning experiences in natural

settings, thereby responding to a growing awareness of the connection between education, health, and the environment. The review spanned the period from 2000 to 2020, examining nine international databases and compiling 147 original studies conducted in twenty different countries. The research was predominantly from the United States, the United Kingdom, and Australia, but also included contexts such as Canada, New Zealand, Denmark, Spain, and South Africa. Participants were primarily secondary school students, although studies also covered primary school and, to a lesser extent, preschool students. The outdoor education contexts examined are diverse, including adventure education programs, school gardens, curricular lessons held in natural environments, and educational visits, which paint a complex and multifaceted picture of nature-related educational practices. The results show that learning in natural spaces produces a multitude of benefits, including increased student engagement and motivation, a greater sense of responsibility for their own learning, enhanced social and collaborative skills, a positive development of self-concept, and, in some cases, measurable improvements in academic achievement. This evidence is particularly significant, considering the risk in urban and industrialized contexts of a progressive reduction in opportunities for contact with the natural environment, resulting in the loss of crucial opportunities for the growth and overall development of young people. Particularly significant is the authors' focus on the concept of well-being as a complex and multidimensional construct. The review distinguishes between a hedonistic dimension, connected to pleasure and the avoidance of pain, and a eudaimonic dimension, based on meaning and purpose, while emphasizing their inseparable interrelationship. Student well-being is thus a complex phenomenon that includes the quality of social relationships, a sense of belonging, physical and mental health, play, learning, and connection with the natural environment. Access to green spaces thus proves to be a crucial factor in fostering optimal growth conditions, with positive effects on both cognitive and socio-emotional levels. Finally, the review highlights how the impact of outdoor education varies with students' age and the type of activity offered: while secondary school programs demonstrate benefits primarily in the socio-emotional sphere (self-esteem, resilience, and collaborative skills), in primary school, the most significant effects are also found in the academic sphere, particularly through school gardens and curricular activities conducted outdoors. In terms of mental health and overall well-being, the evidence appears promising, although further systematic investigation is needed. In terms of academic performance, the results suggest that learning in nature can be equivalent to, if not superior to, that achieved in a traditional classroom. Overall, the review by Mann et al. (2022) calls for considering outdoor

education as an essential pedagogical tool for contemporary schools: systematically integrating it into curricula, training teachers to enhance its potential, and ensuring students have regular access to educational experiences in nature, not only improves the quality of learning but also substantially promotes the present and future well-being of new generations.

Continuing with the evidence emerging from the systematic review by Mann et al. (2022), which documented the breadth of benefits generated by outdoor education in natural contexts and across different stages of schooling, a further significant contribution is represented by the study "Outdoor adventure education for adolescent social and emotional well-being: a systematic review and meta-analysis," conducted by a group of Australian researchers (Down et al.) in 2023 and published the following year (2024). This investigation broadens the discussion by focusing on the specific effects of Outdoor Adventure Education (OAE), with particular reference to the adolescent population. It emphasizes not only the outcomes achieved but also the factors that can modulate the impact of adventure educational experiences. The research, based on a rigorous meta-analysis, integrated the findings of studies published up to 2021, considering different methodological designs: on the one hand, four longitudinal studies observed changes within the same group of participants (for a total of 368 contributions), on the other, six comparative studies compared distinct groups, including a total of 1,143 students. The selection criteria included both randomized and non-randomized studies, provided they were peer-reviewed and referred to adolescents between the ages of 12 and 19, defined by the authors as belonging to the general population. The results confirm the ability of outdoor adventure education to positively impact three key dimensions of psychosocial well-being: resilience, understood as the ability to face and overcome difficulties; self-esteem, or confidence in one's personal resources; and a sense of social belonging, or the perception of being an integral part of a community. These dimensions were significantly more developed in participants in OAE programs than in their peers not exposed to similar experiences, confirming the transformative potential of these practices during adolescence, a particularly delicate stage for building identity and interpersonal skills. At the same time, the analysis conducted by this group of researchers did not reveal similarly significant improvements in variables such as self-efficacy and general well-being. This suggests that, while strengthening crucial resources related to the intrapersonal and interpersonal dimensions, OAE does not directly impact more global aspects of well-being, likely due to the influence of structural, family, and social factors that extend beyond the scope of outdoor experiences. In this sense, the study by Down et al. (2024) contributes to

refining the understanding of the effects of outdoor education, highlighting its relevance in promoting resilience, self-esteem, and belonging, but at the same time prompting further reflections on the ecological and systemic conditions necessary for such practices to have a more widespread impact on the overall well-being of adolescents.

In line with previous research that has highlighted the role of outdoor education in promoting student well-being (Mann et al., 2022; Down et al., 2024), a further significant contribution is represented by the systematic review *The Impact of Schoolyard Greening on Children's Physical Activity and Socioemotional Health: A Systematic Review of Experimental Studies*, conducted by Bikomeye, Balza, and Beyer in 2020 and published the following year in the *International Journal of Environmental Research and Public Health* (2021). The investigation aimed to explore the extent to which transforming schoolyards into green spaces can impact both children's physical activity and their socioemotional well-being, thus interpreting school space as a strategic pedagogical dimension. From over 1,800 contributions, only six experimental studies met the inclusion criteria. These have analyzed various approaches to greening, ranging from the introduction of natural elements (such as trees, flowers, mounds, sand, and water) to structured therapeutic horticulture programs for children with socio-emotional difficulties, to redevelopment interventions utilizing artificial materials. Despite their heterogeneity, the research conducted in North America and Europe converges in indicating that the natural redevelopment of schoolyards has positive effects on both increasing physical activity and, above all, improving socio-emotional health.

From this perspective, significant benefits have been documented, including increased socialization, more opportunities for shared play, a perception of a more welcoming school environment, and a significant strengthening of cognitive resources, which enables students to approach learning activities with renewed energy. Finally, an exciting aspect concerns the social and equity dimension. In urban and disadvantaged contexts, characterized by concreted spaces devoid of nature, greening schoolyards is an intervention capable of reducing inequalities, offering all children opportunities for play, health, and well-being comparable to those of their peers in more privileged contexts. The creation of green courtyards thus assumes significance that extends beyond mere spatial transformation, becoming a tool for inclusion and social justice, capable of ensuring more equitable and sustainable development for future generations.

In line with the evidence previously discussed, a further contribution of particular interest is represented by the study conducted by Goldenberg, Atkinson, Dubiel,

and Wass (2024), published in the *Journal of Environmental Psychology*. While not a systematic review, the research offers crucial insights into the physiological effects of outdoor learning, demonstrating that such experiences not only construct an alternative teaching method but also directly impact children's physical, bodily, and mental health. The study was conducted in four state primary schools in the London borough of Newham, a context characterized by high urbanization and disadvantaged socioeconomic conditions. The sample included 76 children aged 4 and 5, who were observed in over 600 sessions, distributed between indoor and outdoor activities. By measuring physiological indicators and environmental parameters, the researchers were able to analyze the differences between the two educational contexts objectively. The results clearly showed that outdoor learning is associated with a significant reduction in noise and physiological stress. During outdoor learning, children showed lower heart rates and movement, reporting a reduction in stress levels after just a few minutes of exposure. Since excessive noise and physiological stress are known to compromise language development, reading, and other cognitive skills, these data highlight how outdoor spaces serve not only a recreational function but also represent true protective environments capable of supporting learning and overall well-being. Notably, these benefits were observed in urban schools situated in complex socioeconomic contexts, confirming the importance of ensuring that all children, regardless of their background, have access to outdoor educational environments. Outdoor learning thus emerges as an inclusive and sustainable tool, low-cost and easily integrated into the school routine, with positive effects not only on students but also on the well-being of teachers.

The study by Goldenberg et al. (2024) therefore represents a valuable empirical testimony: it demonstrates that outdoor education is not only an innovative methodological choice, but a fundamental factor in health and well-being, capable of impacting children's bodies and minds and providing a concrete antidote to the adverse effects of urban life in large cities.

From the joint analysis of the four contributions examined, therefore, some significant similarities emerge that allow us to outline a coherent framework on the effects of outdoor education in promoting student well-being. First, all studies agree in emphasizing the multidimensional nature of well-being, which cannot be reduced to a single indicator but is configured as a dynamic intertwining of physical, emotional, cognitive, and social aspects (Mann et al., 2022; Down et al., 2024; Bikomeye, Balza & Beyer, 2021; Goldenberg et al., 2024). Outdoor learning is an educational experience that supports individual development in an integrated

manner, simultaneously affecting both the body and mind. A second point of convergence concerns the role of outdoor spaces as privileged educational environments. Whether it involves nature-based adventure programs (Down et al., 2024), school gardens and outdoor curricular lessons (Mann et al., 2022), the redevelopment of schoolyards (Bikomeye, Balza & Beyer, 2021), or structured experiences in complex urban contexts (Goldenberg et al., 2024), the literature highlights how direct contact with the external environment fosters cognitive regeneration, supports socialization, and contributes to creating a sense of belonging and community. From this perspective, nature and open spaces are not understood as simple settings for learning, but as active factors in the educational process. A third common thread is the ability of outdoor education to impact both intrapersonal dimensions (self-esteem, resilience, reduction of physiological stress) and interpersonal ones (collaboration, prosocial behavior, sense of belonging). Students who participate in outdoor activities demonstrate a strengthening of their personal psychological resources, while also showing an improvement in social skills, thereby highlighting a synergy between individual and relational well-being. Finally, a cross-cutting theme across the various studies is the attention to the issue of inequalities. Both the review of green schoolyards (Bikomeye, Balza & Beyer, 2021) and the research conducted in urban schools in London (Goldenberg et al., 2024) highlight how access to outdoor and natural spaces can be a powerful tool for rebalancing, ensuring opportunities for well-being and learning even for students living in disadvantaged socioeconomic contexts. Outdoor education, in this sense, is not limited to promoting health and personal growth but also takes on a social and political value, helping to reduce educational disparities and foster inclusive processes.

Conclusions

In light of the emerging theoretical and empirical evidence, it now appears imperative that Outdoor Education cannot be confined to an episodic extracurricular experience; instead, it must become a structural cornerstone of teaching design and a fundamental dimension of the educational curriculum. From this perspective, it is desirable for schools to embrace Outdoor Education not as an optional event, but as an integral and routine part of the educational offering, transforming well-being from a potential consequence of virtuous practices to an explicit, intentional, and structural objective.

This implies:

1. *Systematic curricular inclusion of outdoor activities.* Each school should include, within its Three-Year Educational Offering Plan, spaces and times dedicated to outdoor educational activities, aimed not only at cognitive development but above all at strengthening the socio-relational and emotional dimensions, closely related to students' overall well-being. Such experiences enrich daily school life with moments of situated learning, allowing for the intertwining of disciplinary knowledge and personal experiences, and offering students a context in which knowledge takes on concrete meaning. The systematic presence of outdoor activities also helps reduce the stress resulting from an excessively frontal educational model, fostering motivation, curiosity, and a sense of belonging. Finally, the institutionalization of outdoor practices ensures that contact with nature and diverse educational environments is not a one-off occurrence, but rather an integral and recognized part of a person's overall development. Integrated educational planning: EO should not be conceived as an extracurricular "add-on," but rather as a transversal methodology that cuts across disciplines and renews learning contexts. Educational gardens, physical activity in nature, sensory workshops, and local explorations are concrete tools for fostering cooperation, resilience, and emotional self-regulation.
2. *Teacher training.* For outdoor activities to become widespread practice, it is necessary to invest in teachers' methodological and pedagogical training (Antonietti et al., 2018), providing them with tools to design outdoor activities, evaluate learning processes, and manage the emotional and relational dynamics that such contexts inevitably trigger. Training should not be limited to providing technical skills. However, it should promote a genuine cultural transformation, capable of guiding teachers toward a more flexible, inclusive, and hands-on approach to teaching and learning. It is also essential for teachers to become aware of the pedagogical value of the physical and relational dimension, to recognize outdoor activities not as a simple educational diversion, but as a methodology with profound implications for well-being. Finally, building professional communities of practice, based on the exchange of experiences and shared reflection, can further strengthen the quality and continuity of outdoor activities, making them an integral part of the school's educational identity.

3. *Inclusion and reduction of inequalities.* EO must be conceived as an inclusive and equitable educational system, capable of ensuring the well-being and educational opportunities of all students, with particular attention to disadvantaged contexts. From this perspective, the greening of school spaces and the redevelopment of courtyards take on the value of transformative practices, capable of restoring equity and conditions for sustainable growth. Interventions of this kind do not merely alter the aesthetics of the environment; they also have a profound impact on the quality of school life, offering every child the opportunity to experience welcoming and stimulating spaces, regardless of their socioeconomic background. The creation of green spaces accessible to all also serves as a tool for combating educational inequalities, as it helps reduce the gap between those who have opportunities for daily contact with nature and those who live in overgrown urban environments lacking environmental resources. Ultimately, outdoor learning becomes not only a vehicle for school inclusion but also a political-pedagogical tool capable of affirming students' universal right to an education that promotes well-being, equity, and sustainability.
4. *Promoting an educational alliance with the local community.* By opening up to the surrounding environment, schools can network with local authorities (Monaco, Conte, 2025), associations, and educational communities, transforming outdoor experiences into a widespread laboratory for active citizenship, environmental sustainability, and collective well-being. Such an alliance enables the valorization of local resources, transforming them into a shared educational heritage and strengthening students' sense of belonging to the community in which they reside. Furthermore, collaboration with stakeholders outside of the school fosters the creation of authentic and situated educational paths, in which disciplinary knowledge intertwines with everyday life experiences and the social and ecological concerns of the context. From this perspective, OE not only expands educational opportunities but also becomes an opportunity to rethink the school as a central hub of a community network that acts synergistically to promote individual and collective well-being.
5. *Enhancement of well-being as a metacompetence.* Curriculum planning must embrace well-being not as an accessory outcome, but as a fundamental skill on a par with disciplinary competencies. In this framework, OE represents the ideal context for integrating body, mind,

emotions, and relationships into an entirely harmonious learning experience. Considering well-being as a metacompetence means recognizing it as a transversal dimension that guides the entire educational process and constitutes a prerequisite for meaningful learning. It is therefore not a question of adding another objective to the already broad scope of education, but of reinterpreting the very mission of education as care for the whole person. From this perspective, practices such as OE are not optional, but rather constitute concrete opportunities to implement a school model that promotes inner balance, resilience, and the ability to experience authentic relationships—essential values in the education of new generations.

A school that chooses to embrace Outdoor Education as a significant methodological perspective will offer students the opportunity to experience learning not only as an accumulation of disciplinary knowledge but as an authentic experience of growth, connection, and meaning. In this direction, a school capable of transcending the rigidity of the classroom and embracing diverse educational contexts will gradually transform itself into a vibrant laboratory, a generative community, a space where well-being is not just an abstract promise but translates into a tangible, daily experience. Outdoor Education, as a methodology that integrates the body, emotions, nature, and relationships, therefore represents one way schools can respond to the complexity of the present. This creates the need for a school that, faithful to its original mission, knows how to be a place where one learns to live and not just to know, a space where well-being is embraced as the very foundation of learning and as the horizon where the inner world and the external environment can recompose themselves in an ever-dynamic and generative balance.

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