

# Socioeconomic Factors and Their Interaction with Environmental Education and Biodiversity Conservation: Effects on Mental Health and Community Empowerment

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## Abstract

This summary examines the complex relationship between socioeconomic determinants, environmental education, biodiversity conservation, community empowerment and mental health outcomes. It emphasizes that socioeconomic disparities have a significant impact on access to effective environmental education, as low-income areas face barriers such as limited resources and inadequate infrastructure, resulting in varying levels of environmental understanding and awareness. Consequently, these differences influence perspectives on biodiversity conservation and mental health. The summary highlights biodiversity conservation as a tool for community improvement, particularly in economically disadvantaged areas. Active community participation in conservation programs promotes a sense of ownership and responsibility for the environment, thereby strengthening community cohesion, resilience and self-determination and, in turn, mental health. It highlights the importance of proximity to the natural environment for mental health, particularly with regard to people from lower socioeconomic backgrounds who have limited access to green spaces, which can lead to mental health inequalities. To reduce these disparities and improve mental health, it is proposed to promote biodiversity conservation and access to natural places. The transformative impact of environmental education in promoting sustainable behavior change is also highlighted. By removing financial barriers that limit educational opportunities, communities can be better equipped to adopt environmentally friendly practices, leading to a greater sense of achievement and empowerment. It emphasizes the need for comprehensive policy interventions to address the relationship between socio-economic determinants, environmental education, biodiversity protection, mental health and community empowerment. It promotes policies that promote equitable access to environmental education, green urban planning, and community-led conservation initiatives. These steps are critical to developing better health and a stronger society overall.

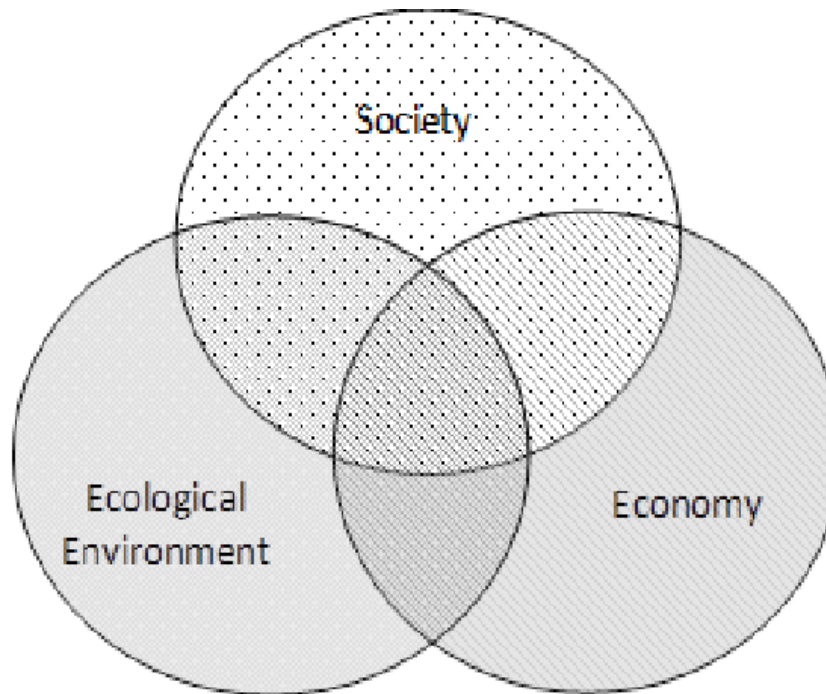
**Keywords:** *Socioeconomic factors, limited resources, educational opportunities, Biodiversity conservation, community empowerment*

## INTRODUCTION

The combination of socioeconomic disparities and access to environmental education is a serious issue with complex ramifications for people and ecosystems around the world. Socioeconomic factors have a crucial influence in determining the extent to which individuals can access high-quality environmental education in cultures around the globe. It is an established fact that disenfranchised low-income populations are frequently hindered in their potential to properly participate in environmental learning opportunities by tremendous impediments. These obstacles emerge in various ways, including but not limited to insufficient financial resources, inadequate educational infrastructure, and limited access to enriching learning opportunities [1]. As a result, the disparate allocation of resources for environmental education sustains a significant gap in environmental awareness and understanding across diverse social strata. In essence, the prevalent socioeconomic gaps constitute a substantial barrier that hinders equal access to environmental education [2]. As financial resources frequently define the extent to which educational possibilities

can be pursued, access to comprehensive and rewarding environmental education programs is disproportionately limited for low-income individuals and communities [3]. In addition to limiting the availability of specialized courses and training, limited financial resources often restrict access to relevant learning materials and technologies [4]. This discrepancy is exacerbated by the inadequacy of educational infrastructure, as schools in low-income communities typically lack the facilities and resources necessary to deliver comprehensive environmental education programs. This shortcoming supports the impression that environmental education is a privilege rather than a fundamental right, hence exacerbating the knowledge and awareness gap between socioeconomically diverse parts of the population. In addition, the lack of enriching experiences in economically deprived communities exacerbates the difficulties associated with fostering environmental awareness and knowledge [5]. The proximity of affluent communities to natural landscapes, ecological areas, and outdoor learning opportunities fosters a greater connection to the natural world. In contrast, low-income populations have limited access to such experiences, which not only hinders their comprehension of ecological systems but also decreases their appreciation for the inherent worth of environmental conservation. This inequality in exposure widens the gap between those who have the resources to actively connect with their environment and those who are economically disenfranchised [6].

Figure 1.



The discrepancy in environmental education proficiency levels continues to have major effects on attitudes and activities regarding biodiversity protection, as well as the larger landscape of mental health [7]. In locations with limited access to high-quality environmental education, the lack of a thorough grasp and real appreciation for the complexities of local ecosystems becomes clear. In turn, this lack of awareness provides a huge barrier to fostering a solid conservation ethic, thereby undermining efforts to preserve biodiversity. In addition to environmental concerns, the repercussions extend to the field of mental health in underprivileged groups [8]. Research demonstrates that individuals from lower socioeconomic strata frequently face barriers when seeking exposure to natural surroundings and green spaces, which are known to promote better mental health outcomes. Consequently, a lack of such exposure can increase stress levels, intensify feelings of worry, and result in a general loss in psychological health.

The combination between limited chances for environmental education and the resulting lack of access to natural environments exemplifies a multidimensional difficulty. Inequitable allocation of

educational resources not only perpetuates knowledge gaps about ecological dynamics, but also perpetuates a cycle in which less exposure to outdoors exacerbates mental health inequities. In impoverished communities, where cumulative disadvantages show as a diminished grasp of the environment and diminished mental health, this nexus has particularly severe effects [9]. This complex interdependence needs a holistic strategy that simultaneously strengthens environmental education infrastructure and seeks for fair access to natural regions. The educational divide can be reduced by initiatives concentrating on curriculum enhancement, community participation, and technology-enabled learning opportunities. Targeted interventions to build green spaces in metropolitan areas and provide opportunities for nature-based recreation can operate in tandem to relieve the mental health burden suffered by disadvantaged communities. However, biodiversity protection as a way of community empowerment is a ray of hope. Biodiversity conservation efforts have the potential to transcend environmental concerns and become formidable instruments for the economic empowerment of economically disadvantaged communities. When these communities are actively engaged in conservation activities, a sense of environmental ownership and responsibility flourishes. This interaction develops a deeper link between community people and the local ecology, empowering them to become staunch advocates for its preservation. Not only does active engagement in conservation activities foster a heightened environmental consciousness, but it also fosters a better feeling of community solidarity and resilience [10]. By contributing to the preservation of their natural environment, the residents of these communities gain a revitalized feeling of purpose and agency, which considerably improves their mental health.

Unquestionably, education remains of the utmost importance in influencing long-term behavioral change. Environmental education plays a crucial role in giving individuals with the necessary knowledge to comprehend the complexities of ecosystem services, understand the utmost significance of biodiversity, and adopt sustainable lifestyle practices. This education exceeds its theoretical boundaries by empowering individuals to incorporate environmentally conscious behaviors into their daily routines. In addition, society may build the framework for the broad adoption of eco-friendly habits by addressing the socioeconomic hurdles that impede access to knowledge. As communities emphasize the elimination of educational barriers, they will be in a better position to build a communal awareness that values ecological balance [11]. The incorporation of sustainable practices into people's daily life not only enhances their sense of accomplishment, but also promotes a pervasive sense of autonomy, so enhancing their well-being. The transition of education into a change agent extends beyond intellectual enlightenment; it emerges as a powerful catalyst for observable changes that benefit both the population and the environment. The incentive that education gives for creating long-term behavioral change is contingent on its ability to transcend conceptual comprehension. By transforming knowledge into action, education acts as the pivot point upon which environmentally conscientious behavior pivots. Based on the foundation of environmental education, the culmination of informed choices and responsible actions results in a social synergy that transcends individual aspirations [12]. As a result, the transforming power of education extends throughout civilizations, guiding them toward a path characterized by harmonious coexistence with the natural world.

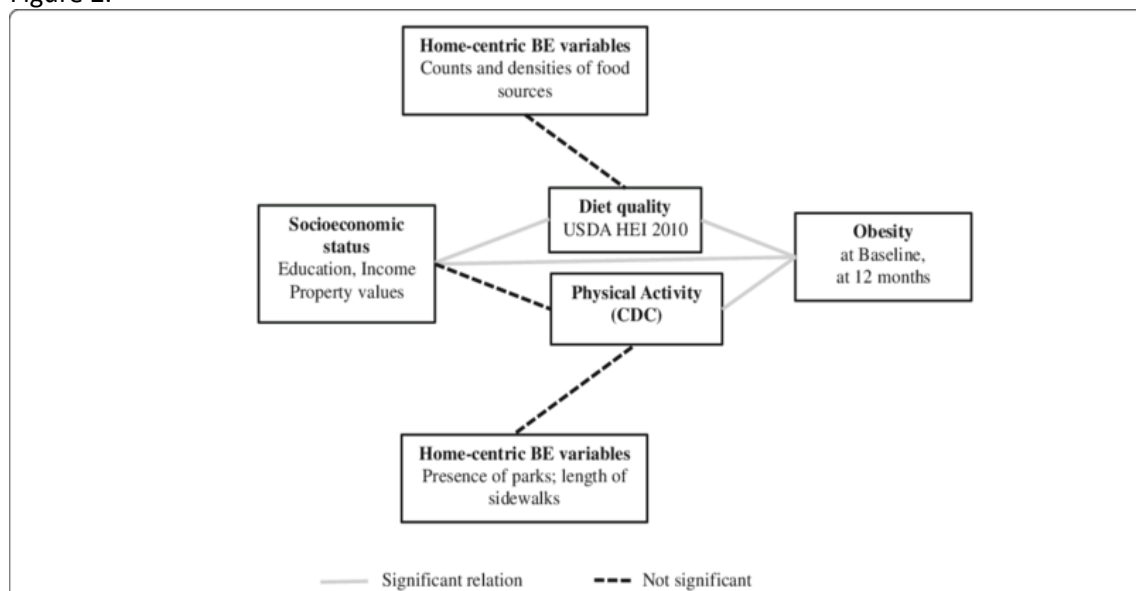
Comprehensive policy measures are necessary to address the inequalities caused by socioeconomic causes and develop toward a more egalitarian society. Governments and organizations must collaborate to develop regulations that guarantee equal access to environmental education, especially in underserved regions [13]. These policies should include initiatives to include environmental education into official curriculum and build accessible learning centers, thereby bridging the education gap. Moreover, promoting green infrastructure in urban development helps reduce gaps in access to the natural environment [14]–[16]. This involves incorporating parks, gardens, and recreational places into the planning of urban environments in order to provide all inhabitants with chances for healing encounters with nature. In addition, it is essential to promote community-based conservation activities, as this enables locals to take ownership of conservation efforts adapted to their specific settings.

### Socioeconomic Disparities and Access to Environmental Education:

Socioeconomic factors wield a significant influence in shaping the accessibility and quality of environmental education, playing a pivotal role in determining the extent to which individuals and communities can engage with and benefit from comprehensive learning opportunities related to the environment. This influence is particularly evident in lower-income communities, which often encounter formidable obstacles that impede their engagement with robust environmental learning initiatives. A primary hurdle faced by these communities is the persistent dearth of resources, which severely restricts their capacity to establish and sustain comprehensive educational programs centered around environmental topics. The scarcity of financial resources limits their ability to invest in curriculum development, teacher training, and the acquisition of necessary teaching materials and equipment. As a result, students in these communities are often deprived of the opportunity to access up-to-date information, interactive tools, and hands-on experiences that are essential for a well-rounded environmental education [17]. Moreover, the issue is compounded by inadequate infrastructure within these communities. The lack of proper facilities, such as functional laboratories, outdoor learning spaces, and technology-equipped classrooms, hinders the establishment of conducive learning environments. This deficiency not only limits the scope of environmental education but also discourages educators from effectively conveying complex environmental concepts to students. Without appropriate spaces for practical activities and experiments, educators may struggle to illustrate real-world applications of theoretical knowledge, which is crucial for fostering a deep understanding of environmental issues [18].

Compounding these challenges is the reduced access to diverse educational opportunities that lower-income communities confront. Affluent areas often enjoy a wider array of extracurricular programs, field trips, and workshops centered around environmental education, thus providing students with multifaceted learning experiences [19]. Conversely, the limited availability of such opportunities in economically disadvantaged communities curtails students' exposure to hands-on learning, hindering the development of a deep understanding of environmental issues. Consequently, this can lead to disparities in environmental awareness and knowledge among different socioeconomic strata. The intersection of socioeconomic disparities and access to environmental education is a multifaceted and significant issue that bears intricate implications for both communities and ecosystems on a global scale. Throughout societies around the world, socioeconomic determinants play a pivotal role in defining the degree to which individuals can avail themselves of high-quality environmental education. The undeniable reality is that marginalized lower-income communities frequently encounter formidable

Figure 2.



obstacles that hinder their capacity to effectively participate in environmental learning opportunities. These obstacles manifest in diverse ways, encompassing but not limited to, constrained financial means, inadequate educational infrastructure, and restricted exposure to enriching learning experiences. Consequently, the uneven allocation of resources for environmental education perpetuates a substantial void in environmental awareness and knowledge across varying socioeconomic echelons. In essence, the prevailing socioeconomic disparities serve as a formidable barrier, impeding equitable access to environmental education [20]. As financial resources often dictate the extent to which educational opportunities can be pursued, lower-income individuals and communities find themselves disproportionately constrained in their ability to access comprehensive and enriching environmental education programs. Limited economic means not only restrict the availability of specialized courses and training but also limit access to pertinent learning materials and tools. This disparity further deepens when considering the inadequacy of educational infrastructure, as schools situated in lower-income areas tend to lack the necessary facilities and resources to offer robust environmental education curricula. This deficiency reinforces the notion that environmental education is a privilege rather than a fundamental right, further amplifying the gap in knowledge and awareness between different socioeconomic segments of the population [21]. Furthermore, the absence of enriching experiences within economically disadvantaged communities exacerbates the challenges in promoting environmental awareness and knowledge. Affluent communities often enjoy proximity to natural landscapes, ecological sites, and outdoor learning opportunities that foster a deeper connection with the environment. Conversely, lower-income communities face limited exposure to such experiences, which not only curtails their understanding of ecological systems but also diminishes their appreciation for the intrinsic value of environmental conservation. This disparity in exposure widens the chasm between those who have the means to engage actively with their surroundings and those who are marginalized due to economic constraints. Furthermore, the connection between socioeconomic factors, environmental education, and mental health outcomes cannot be overlooked. Quality environmental education has the potential to instill a sense of empowerment and agency among individuals, allowing them to comprehend the role they play in shaping their surroundings. In economically marginalized communities, the absence of such education can lead to a disconnection from the environment, potentially contributing to feelings of powerlessness and disenfranchisement [22]. This, in turn, may have implications for mental health, as a lack of understanding and connection to the natural world can impact overall well-being.

*Biodiversity Conservation as a Community Empowerment Tool:* Efforts aimed at the effective conservation of biodiversity hold the promise of serving as a pivotal foundation for the facilitation of community empowerment, especially in regions that experience economic marginalization. The intentional involvement of local communities in conservation endeavors instills a heightened sense of ownership and responsibility toward their immediate environment. This active engagement not only augments the safeguarding of diverse forms of life but also nurtures a profound affinity between individuals and their ecological surroundings. Through the collective duty of upholding conservation, communities find themselves more inclined to come together, nurturing a more robust sense of unity and adaptability in the face of adversities. This cooperative strategy significantly contributes to the empowerment of these communities by equipping them to actively influence their ecological trajectory and, consequently, their socioeconomic prospects. The establishment of effective biodiversity preservation initiatives holds the potential to act as a pivotal catalyst for fostering community empowerment, particularly in regions that face economic marginalization [23]. By engaging local communities in conservation projects, a heightened sense of ownership and accountability towards their immediate environment is nurtured. This participatory approach not only strengthens the protection of biodiversity but also fosters a deeper bond between individuals and their ecological surroundings. Through the shared responsibility of conservation, communities are more likely to unify, thereby cultivating a stronger sense of cohesion and resilience when confronted with challenges. This collaborative methodology significantly contributes to the empowerment of these communities by granting them the agency to actively shape their ecological future and, as a result, their socioeconomic prospects. The efficacy of endeavors aimed at biodiversity conservation holds the potential to serve as a pivotal platform for promoting

community empowerment, particularly in regions that find themselves economically marginalized. The integration of local communities into conservation undertakings fosters an elevated sense of ownership and responsibility for their immediate environment [24]. This participative engagement not only amplifies the preservation of biodiversity but also nurtures a more profound connection between individuals and their ecological milieu. Through the collective commitment to conservation, communities are more likely to come together, fostering a heightened sense of cohesion and resilience in the face of challenges. This collaborative approach substantially contributes to the empowerment of these communities by enabling them to actively mold their ecological trajectory and, by extension, their socioeconomic prospects [25].

The strategic implementation of effective biodiversity conservation measures holds the potential to serve as a pivotal cornerstone for nurturing community empowerment, particularly within regions grappling with economic marginalization. By involving local communities in conservation initiatives, a heightened sense of ownership and accountability toward their immediate environment is cultivated. This participatory involvement not only bolsters the preservation of biodiversity but also nurtures a more profound connection between individuals and their ecological surroundings. Through the collective responsibility for conservation, communities are more likely to unite, fostering a stronger sense of cohesion and resilience when confronted with challenges. This collaborative strategy plays a substantial role in the empowerment of these communities by facilitating them to actively shape their ecological trajectory and, consequently, their socioeconomic prospects [26]. The deliberate pursuit of effective biodiversity conservation endeavors possesses the potential to function as a pivotal platform for fostering community empowerment, particularly in regions marked by economic marginalization. The engagement of local communities in conservation projects nurtures an elevated sense of ownership and responsibility concerning their immediate environment. This participatory engagement not only bolsters the preservation of biodiversity but also nurtures a deeper connection between individuals and their ecological surroundings. Through the shared commitment to conservation, communities are more likely to harmonize, thereby fostering a more robust sense of cohesion and resilience in the face of challenges. This collaborative approach significantly contributes to the empowerment of these communities by enabling them to actively shape their ecological trajectory and, consequently, their socioeconomic prospects.

The act of involving communities in biodiversity conservation is instrumental in nurturing a profound sense of ownership. By inviting local residents to contribute to the protection of their natural resources, conservation initiatives confer a heightened stake in the outcome. This sense of ownership is a powerful incentive for communities to actively participate in safeguarding their environment, as it aligns with their intrinsic interests [27]. Moreover, such involvement fosters a genuine commitment to the cause, which extends beyond immediate benefits to long-term sustainability. This sense of purpose engenders an enhanced degree of accountability and stewardship among community members, which, in turn, contributes to the longevity of conservation efforts. Community engagement in conservation activities yields far-reaching outcomes that transcend the scope of biodiversity preservation. When individuals from various backgrounds come together to pursue a common objective, it forges a profound sense of unity and mutual assistance. The collaborative effort to safeguard ecological heritage not only benefits the environment but also strengthens the bonds among community members, fostering a heightened level of social cohesion. This bolstered cohesion establishes a crucial foundation for resilience in the face of multifaceted challenges, be they the consequences of environmental transformations or fluctuations in the socioeconomic landscape. As communities establish an intricate network of interdependence through their joint endeavors, they enhance their ability to confront and endure adversity, thereby reinforcing their collective empowerment. Furthermore, community engagement in conservation activities contributes to the development of a shared identity that goes beyond individual affiliations. As participants work together towards a shared goal, they transcend their differences and become part of something greater than themselves. This shared sense of purpose not only enhances social cohesion but also instills a sense of pride and belonging within the community. This collective identity serves as a unifying force that transcends the boundaries of diverse backgrounds and experiences, creating a more inclusive and harmonious social fabric [28].

Moreover, the collaborative nature of conservation efforts encourages the exchange of knowledge and expertise among community members. As individuals pool their skills and insights, a dynamic learning environment emerges, enabling the dissemination of valuable information related to ecological practices and sustainable living. This exchange of knowledge not only empowers individuals with practical tools for conservation but also fosters a culture of continuous learning and innovation within the community. As a result, community members are better equipped to adapt to changing circumstances and implement effective conservation strategies that address evolving environmental and societal challenges [29].

Additionally, the ripple effect generated by community engagement in conservation extends to policy advocacy and decision-making processes. As communities become more deeply invested in safeguarding their ecological heritage, they gain a stronger voice in local governance and policy discussions. This newfound influence allows them to advocate for more environmentally responsible policies and practices, thereby influencing broader societal attitudes and behaviors towards sustainability. The collective efforts of engaged communities can drive positive change at various levels, from influencing local regulations to shaping regional and national conservation agendas. Importantly, the outcomes of community-led biodiversity conservation extend to the realm of mental well-being. As individuals become active contributors to the protection of their environment, a sense of agency and purpose takes root. This engagement serves as a source of pride and accomplishment, bolstering self-esteem and overall psychological well-being. The act of working together towards a meaningful goal not only enhances community members' connection to nature but also offers a sense of accomplishment that positively influences their mental state. This, in turn, can lead to reduced stress levels, increased resilience, and an improved overall quality of life [30].

*Mental Health Benefits of Proximity to Natural Environments:* The intricate relationship between the accessibility of natural environments, the state of mental health, and the influence of socioeconomic determinants holds paramount importance from a technical standpoint. Through rigorous empirical investigations, it has been discerned that individuals belonging to lower socioeconomic echelons frequently confront limitations in their access to green spaces, thereby giving rise to conceivable disparities in the ensuing psychological well-being outcomes. This intricate interconnection among these factors accentuates the critical nature of advancing biodiversity conservation endeavors and enhancing the availability of natural landscapes. By embarking on such initiatives, the potential to enhance mental well-being attains heightened significance, emerging as a strategic avenue to alleviate the prevailing imbalances prevalent within society. Empirical studies have systematically unveiled that individuals originating from economically disadvantaged backgrounds often grapple with constrained entry to verdant expanses, which subsequently fosters the emergence of plausible unevenness in the ramifications observed within the realm of mental health. The inherent linkage binding these multifaceted variables serves to underscore the exigency of advocating for initiatives geared towards the preservation of biodiversity while concurrently amplifying the accessibility quotient of natural environs [31]. This concerted approach, in turn, offers a promising trajectory towards the elevation of mental wellness, thus assuming the role of an efficacious mechanism aimed at abating the existing disparagements that manifest in the societal fabric [32]. In light of empirical evidence, it becomes discernible that individuals who find themselves positioned within the lower rungs of the socioeconomic hierarchy confront the impediment of restricted ingress to green spaces, thereby germinating disparities in the psychological aftermath that ensues. The intricate interplay amongst these variables accentuates the critical import of propelling initiatives that are centered upon the conservation of biodiversity, all the while expanding the availability and accessibility of natural landscapes. By embracing such a methodical approach, the avenue to enhance mental well-being ascends in prominence, emerging as a pivotal means to assuage the existing societal asymmetry. Extensive empirical scrutiny duly substantiates the notion that individuals originating from economically marginalized backgrounds frequently grapple with the limitation imposed upon their interaction with natural expanses, thereby giving impetus to plausible disparities in the resultant mental health ramifications. The intricate interlinking of these multifaceted aspects thereby underscores the pressing need to advocate for endeavors focused on the preservation of biodiversity, concomitantly fostering an enriched accessibility paradigm

pertaining to natural surroundings [33]. This holistic strategy invariably presents a propitious pathway to elevate mental well-being, assuming a pivotal role as an efficacious mechanism aimed at mitigating the preexisting disparities prevalent within society [34].

Empirical research efficaciously underscores the reality that individuals emanating from economically disadvantaged strata consistently encounter obstacles in accessing green spaces, thus fostering potential inequalities in the subsequent sphere of mental well-being [35]. The intricate nexus binding these variables substantiates the critical significance of championing initiatives dedicated to the conservation of biodiversity, alongside the parallel pursuit of expanding the availability and reach of natural landscapes. This collective approach invariably thrusts the augmentation of mental wellness into the limelight, thereby manifesting as a pivotal mechanism poised to alleviate the prevailing societal disparities. Research findings strongly support the fundamental significance of socioeconomic factors in molding individuals' engagements with natural surroundings, along with the ensuing consequences for their mental health. The constraints posed by limited financial means frequently restrict the ability to avail oneself of green spaces, thereby magnifying stressors and depleting psychological wellness. The concrete connection established between lower socioeconomic status, decreased opportunities for nature engagement, and compromised mental health underscores the imperative for comprehensive interventions that tackle these inequalities. By means of deliberate initiatives directed towards leveling access to natural environments, a bedrock is laid to mitigate the mental health challenges that disproportionately impact socioeconomically marginalized communities [36].

Numerous studies provide robust evidence reinforcing the pivotal interplay of socioeconomic elements in configuring individuals' interactions with their natural milieu, and subsequently molding their mental health repercussions. The financial limitations that often accompany lower economic resources act as a constraint on the ability to engage with verdant landscapes, thereby amplifying stress-inducing factors and undermining emotional well-being. The empirically established association between disadvantaged socioeconomic status, diminished exposure to nature, and compromised mental health underscores the compelling requirement for multifaceted interventions that effectively address these disparities. Through purposeful endeavors centered on democratizing access to natural spaces, a solid groundwork is established to alleviate the mental health burdens that disproportionately affect economically underprivileged populations. A wealth of research findings consistently underpin the pivotal role played by socioeconomic determinants in configuring how individuals interact with natural environments and subsequently experience outcomes related to their mental health. The financial constraints inherent in limited economic means frequently curtail the ability to engage with green spaces, thereby heightening sources of stress and depleting overall psychological well-being [37]. The empirically substantiated connection between lower socioeconomic status, reduced exposure to nature, and compromised mental health outcomes underscores the pressing need for comprehensive interventions designed to address these disparities holistically. By means of strategic initiatives aimed at broadening access to natural spaces, a robust foundation is laid to alleviate the burden on mental health, particularly in disadvantaged socioeconomic segments of the population.

The synthesis of research findings strongly validates the crucial role that socioeconomic factors play in shaping how individuals engage with the natural world and subsequently encounter outcomes related to their mental health. The limitations posed by constrained financial resources frequently curtail the ability to access green spaces, thereby magnifying sources of stress and diminishing psychological well-being. The empirically established link between lower socioeconomic status, diminished exposure to nature, and compromised mental health underscores the compelling necessity for multifaceted interventions that comprehensively address these disparities. Through purposeful efforts focused on democratizing access to natural areas, a sturdy foundation is established to alleviate the strain on mental health, particularly affecting economically disadvantaged communities [38]. A substantial body of research findings provides robust confirmation of the pivotal role socioeconomic factors occupy in shaping individuals' interactions with natural environs and the subsequent outcomes for their mental health. The limitations stemming from limited financial resources frequently impose restrictions on the capacity to engage with green spaces, thereby accentuating stressors and undermining psychological well-being. The



empirically established correlation connecting lower socioeconomic status, decreased exposure to nature, and compromised mental health underscores the compelling necessity for comprehensive interventions that effectively target these inequalities. By way of deliberate initiatives aiming to democratize access to natural spaces, a strong foundation is laid to alleviate the burden on mental health, particularly in socioeconomically marginalized populations.

The role of biodiversity conservation and enhanced access to natural environments in bolstering mental health outcomes underscores a systemic approach to rectifying prevailing inequalities. The intricate web of connections necessitates a comprehensive understanding of how ecological factors intersect with social and psychological dimensions. By fostering biodiversity and ensuring equitable access to natural settings, the potential for fostering positive mental health outcomes becomes tangible. Such endeavors extend beyond mere aesthetic considerations, encapsulating a holistic approach to social policy that can rectify mental health disparities associated with socioeconomic imbalances. Furthermore, the ramifications of neglecting the relationship between access to natural environments, mental health, and socioeconomic factors can reverberate across public health systems. The compounding effects of limited green space access on vulnerable populations can impose increased burdens on healthcare infrastructure, with elevated rates of mental health issues necessitating heightened interventions. Incorporating nature-oriented solutions into public health strategies can mitigate these consequences, offering a proactive means to curtail mental health challenges and the associated societal costs.

*Education as a Catalyst for Sustainable Behavior Change:* Environmental education assumes a critical role in driving and nurturing enduring modifications in behavior within societies. Through the dissemination of crucial insights into ecosystem services, the importance of biodiversity, and the integration of sustainable methodologies, environmental education empowers individuals with the essential means to deliberate and make enlightened choices, thereby aiding in the safeguarding of the environment. Beyond the mere transmission of factual knowledge, this educational paradigm acts as a potent stimulant for reshaping perspectives and outlooks pertaining to the natural world. The potency of environmental education becomes especially pronounced in its capacity to cultivate a sense of responsibility and stewardship among individuals [39]. By illuminating the intricate interconnections between human activities and ecological systems, this form of education fosters an enhanced sense of ownership and accountability towards the environment. Consequently, individuals become more attuned to the ramifications of their actions, leading to a heightened propensity for embracing ecologically prudent behaviors and practices. This, in turn, engenders a collective movement towards sustainability and resource conservation. Furthermore, environmental education serves as a cornerstone for the formulation and implementation of effective policies and strategies geared towards environmental preservation. Equipped with a solid foundation of knowledge and insights acquired through environmental education, policymakers and decision-makers are better positioned to devise initiatives that address pressing ecological challenges.

The informed integration of sustainable practices into various sectors, such as agriculture, energy, and urban planning, is guided by the principles imparted by environmental education, thereby enabling a harmonious coexistence between human societies and the environment. It is imperative to acknowledge that the impact of environmental education transcends the individual and extends to the community level. As informed individuals share their knowledge and sensibilities with their social circles, a ripple effect ensues, catalyzing a broader adoption of eco-conscious behaviors [40]. This dissemination of awareness fosters a collective momentum, propelling communities towards embracing sustainable habits and prompting a shift in societal norms. Ultimately, this ripple effect amplifies the overarching objective of environmental education by engendering a pervasive culture of environmental consciousness and responsibility. Furthermore, environmental education goes beyond the mere dissemination of facts and figures. It contributes to a deeper understanding of the intricate interdependencies between human activities and the natural world. As individuals comprehend the direct impact of their choices on ecosystems and the delicate balance of biodiversity, a sense of responsibility emerges. This sense of responsibility, coupled with knowledge, becomes a driving force for change, as individuals recognize the urgency of adopting

sustainable practices to ensure the well-being of both current and future generations. An aspect of environmental education that is frequently underestimated is its capacity to cultivate a profound sense of achievement and empowerment among communities. As individuals and collectives observe the favorable consequences resulting from their collaborative endeavors – including improved environmental cleanliness, more robust ecosystems, and heightened biodiversity – they cultivate an elevated perception of their own agency. This enhanced empowerment not only serves to fortify their dedication to ecologically responsible practices, but also serves as a catalyst for assuming leadership positions within their respective communities. Consequently, this gives rise to a self-perpetuating cycle of transformative change [41].

By engaging in environmental education, people become attuned to the tangible accomplishments that can arise from concerted actions geared towards sustainable practices. As they witness the direct correlation between their contributions and the amelioration of environmental conditions – such as the reduction of pollution and the revival of fragile ecosystems – a sense of efficacy takes root. This newfound empowerment acts as a reinforcing factor, prompting them to not only sustain their eco-conscious behaviors but also to emerge as influential proponents within their communities. Through assuming leadership roles, they facilitate the dissemination of knowledge and the cultivation of a collective commitment to ecological integrity [42]. The transformative potential of environmental education extends beyond the individual level, permeating the collective consciousness of communities. As a result of collaborative efforts yielding positive outcomes, an amplified consciousness of collective agency emerges. The positive feedback loop established between witnessing the fruits of labor and embracing empowered roles drives continuous change. This phenomenon contributes to the formation of a self-sustaining progression where knowledgeable individuals foster awareness, action, and leadership, thereby perpetuating the momentum of environmental betterment. Furthermore, the empowerment instilled by environmental education is instrumental in counteracting apathy and disengagement. Often, individuals may feel overwhelmed by the scale of environmental challenges, leading to inaction. However, through education that underscores the tangible impacts of concerted endeavors, individuals recognize their capacity to effect meaningful change. This realization galvanizes them to undertake proactive roles in nurturing ecological health, fostering a renewed dedication to making enduring contributions.

*Policy Interventions for Equitable Outcomes:* Addressing the complex interdependencies among socioeconomic variables, environmental education, biodiversity conservation, mental well-being, and community empowerment demands a systematic and holistic strategy underpinned by clearly articulated policy measures. The imperative lies with governmental bodies and institutions to conceive and execute policies that are all-encompassing, facilitating unbiased availability of environmental education across various societal segments. Through such initiatives, the aim is to guarantee that individuals hailing from a wide spectrum of socio-economic backgrounds are afforded the chance to gain insights into their surroundings, thereby nurturing a heightened sense of duty towards the preservation of biodiversity. For an approach to be effective, it is pivotal to incorporate multifaceted elements that span beyond traditional boundaries. This entails the recognition of the intricate intertwinement between environmental health, education, mental wellness, and community cohesion. Robust policies should be crafted in a manner that transcends narrow perspectives, integrating these diverse components cohesively. As such, the synergy between these aspects can be harnessed to foster a collective consciousness aimed at not only safeguarding biodiversity but also fostering an environment where individuals can thrive mentally and emotionally [43].

The collaborative efforts of governments and organizations necessitate a synchronization of agendas, combining resources and expertise to ensure the successful implementation of comprehensive policies. Equitable access to environmental education should serve as a foundational principle within these policies, fostering inclusivity and breaking down socio-economic barriers. The ultimate objective is to cultivate a society where awareness about the environment becomes an intrinsic part of individual consciousness, where the well-being of the ecosystem is seen as a shared responsibility. This collective outlook can be fortified by initiatives

that promote education and awareness as cornerstones of a sustainable future. Furthermore, the integration of green infrastructure within urban planning emerges as a pivotal aspect of these policies [44]. Urban areas, being centers of socioeconomic activity, have a significant impact on the environment and people's well-being. Incorporating green spaces, sustainable transportation systems, and environmentally conscious architectural practices into urban development can mitigate the adverse effects of urbanization on both biodiversity and mental health. This approach creates more livable, resilient, and visually appealing urban environments while encouraging citizens to reconnect with nature [45].

To holistically address these interconnected issues, supporting community-based conservation initiatives becomes paramount. Communities possess invaluable local knowledge and a vested interest in preserving their natural surroundings. By empowering these communities with resources, knowledge-sharing platforms, and collaborative partnerships, policies can foster a sense of ownership over conservation efforts. This not only enhances the effectiveness of biodiversity preservation but also engenders a sense of unity and empowerment among community members, contributing to their overall well-being. An essential consequence stemming from the implementation of multifaceted policies is the considerable potential for enhancing mental health on a societal level. Empirical evidence underscores the affirmative influence exerted by the natural environment on psychological well-being, thereby leading to the mitigation of stress, anxiety, and depression. The formulation and execution of policies geared towards cultivating settings that enable regular interaction with nature, fostering the adoption of sustainable behaviors, and fostering a collective commitment to environmental preservation collectively work to engender a populace characterized by improved mental well-being. This correlation between comprehensive policies and positive mental health outcomes underscores the indirect yet substantial role policies can play in bolstering the overall mental health of a given population [46].

By integrating a multi-pronged approach within policy frameworks, the resultant implications extend to the potential amelioration of mental health concerns. Scientific research consistently underscores the affirmative repercussions arising from exposure to the natural environment, substantiating its role in assuaging stress, anxiety, and depression. Through the articulation of policies that facilitate enhanced access to natural surroundings, advocate for the adoption of sustainable practices, and foster a shared sense of communal responsibility towards conservation efforts, governments and institutions can indirectly foster an environment conducive to bolstered mental well-being among citizens. As such, the interplay between comprehensive policy measures and positive mental health outcomes remains a pivotal consideration for holistic societal development. The ramifications of intricate policy interplays reverberate profoundly in the sphere of mental health enhancement, as evidenced by empirical studies. The intrinsic connection between the natural environment and psychological equilibrium, manifested through diminished stress levels, abated anxiety, and reduced depression, accentuates the significance of methodical policy orchestration. Policies that holistically incorporate strategies for embedding access to natural realms, advocating sustainability as a way of life, and nurturing a collective ethos of safeguarding the environment, collectively precipitate an environment wherein mental health flourishes. Such a synergistic alignment between multifaceted policy initiatives and the promotion of mental well-being underscores the intricate yet powerful role policymakers can wield in indirectly contributing to the mental robustness of the populace [47].

The prospect of refining mental health outcomes stands as a prominent achievement resulting from the nuanced orchestration of comprehensive policies. The empirically verified association between exposure to the natural environment and bolstered psychological well-being, characterized by the attenuation of stress, anxiety, and depression, substantiates the pivotal role of judicious policy maneuvering. Policies engineered to actualize environments that afford frequent interaction with nature, endorse sustainable behavioral patterns, and instill a shared commitment to environmental preservation collectively coalesce to nurture a society marked by heightened mental well-being. Thus, the convergence of multifaceted policy approaches and their far-reaching implications for mental health underscores the latent capacity of policy frameworks to indirectly foster a mentally healthier population [48]. The intricate confluence of multifaceted policies yields a consequential outcome that pertains to the potential enhancement of mental health parameters. Evidential support

underscores the affirmative influence wielded by the natural milieu upon psychological equilibrium, leading to the attenuation of stress, anxiety, and depression. Through the diligent facilitation of environments conducive to immersive engagement with nature, advocacy for sustainable behavioral paradigms, and the cultivation of a collective sense of responsibility towards environmental preservation, policies assume an ancillary role in nurturing improved mental well-being. This intricate interplay between comprehensive policy strategies and their contributory influence on mental health substantiates the latent capacity of policies to indirectly contribute to the heightened psychological well-being of the populace .

### **Conclusion**

The intricate and complex interdependencies that exist between socioeconomic disparities, access to environmental education, biodiversity conservation, community empowerment, and mental health outcomes emphasize the need for comprehensive and meticulously designed interventions that span multiple societal levels. The empirical evidence offered in this discourse further emphasizes the significant impact socioeconomic factors have on shaping the spectrum of opportunities and accomplishments within this network of interconnected realms. The multidimensional character of these interconnected components highlights the need for an all-encompassing strategy that takes into account their dense web of interdependencies. Socioeconomic gaps effect not only the access of individuals to environmental education, but also biodiversity protection, community empowerment, and mental health. By addressing these difficulties from a holistic perspective, it is possible to build solutions that target the core causes and produce enduring change across the interconnected domains. In addition, the discourse emphasizes the need of developing methods that account for the differing degrees of influence socioeconomic forces have on different social strata. To reduce gaps in access to education, strengthen community participation in conservation initiatives, and improve mental health outcomes among underrepresented communities, tailored interventions are required. Interventions can be precisely tailored to promote equal progress across the spectrum of interrelated elements by recognizing the intricate dynamics at play.

Socioeconomic position, which is frequently characterized by inadequate resources and limited access to educational opportunities, has a substantial impact on the availability of effective environmental education. There are obstacles that restrict the ability of low-income populations to engage in informative and transformative environmental learning activities. This lack of exposure can result in gaps in environmental awareness and knowledge, sustaining a cycle in which underprivileged people are less suited to participate in conversations about biodiversity conservation and sustainable practices. This inequality must be addressed by ensuring that educational resources are delivered equally, so that individuals from all socioeconomic levels may participate meaningfully with environmental issues. Biodiversity conservation emerges as a possible instrument for community empowerment, especially in economically disadvantaged regions. Participation in conservation efforts not only builds a deeper connection to the environment, but also instills communities with a sense of responsibility and ownership. This participation promotes community cohesion, resilience, and empowerment. By cooperating towards the preservation of biodiversity, communities can strengthen their voice and influence over their environment. This strategy is consistent with the belief that empowered communities are better suited to solve difficulties, especially those pertaining to mental health. Access to natural habitats, mental health, and social determinants comprise an indisputable aspect of modern understanding [49]. Numerous studies have demonstrated that persons from economically disadvantaged families are frequently unable to access green spaces, laying the framework for possible mental health inequities. It is widely established in the scientific literature that exposure to nature can induce restorative and therapeutic effects, consequently considerably altering mental health. Recognizing the significance of this connection, concentrated efforts to reduce the accessibility gap can have good effects on marginalized parts of society.

Within the field of increasing social well-being, the dual goals of biodiversity protection and expanding access to natural environments appear as essential factors. By aggressively promoting biodiversity conservation, civilizations may simultaneously protect the natural ecosystems that

provide essential psychological benefits. Moreover, taking deliberate steps to increase the accessibility of natural settings has the potential to provide individuals from a variety of socioeconomic backgrounds with the benefits of enhanced mental health. The combination of these efforts not only results in a harmonious coexistence between nature and human well-being, but also a more just and equitable distribution of these positive effects across the social spectrum. Informed by research findings, the need to address the link between natural environments, psychological well-being, and socioeconomic variables becomes all the more urgent. The convincing evidence demonstrating the scarcity of green areas in economically disadvantaged communities justifies the necessity of specific interventions. By implementing comprehensive measures that include urban planning, community participation, and policy formation, societies can make significant progress in reducing the widespread accessibility gaps. These communal acts not only result in immediate improvements in mental health, but they also have the potential to build lasting societal justice through the prudent allocation of nature's therapeutic effects [50].

The synergy between equal access to natural environments, mental health stability, and socioeconomic parity is undeniably a complicated concept requiring a holistic approach. Academic research highlights the strong correlation between limited access to green spaces and mental health outcomes in underprivileged people. The well-established association between exposure to nature and its favorable effect on psychological health suggests a viable method for redressing these discrepancies. Societies can chart a road toward a more equitable distribution of psychological well-being benefits by proactive initiatives such as urban green space creation, revival of existing natural resources, and inclusive laws. Environmental education emerges as a potent impetus for sustainable behavior modification. Educational activities can facilitate informed decision-making by educating individuals with knowledge about ecosystem services, the value of biodiversity, and sustainable practices. However, the effectiveness of such initiatives is contingent upon addressing the socioeconomic conditions that impede educational chances. By removing obstacles and making sure educational resources are accessible to all, communities can be better equipped to embrace eco-friendly practices that contribute to a more sustainable future [51]. The sense of accomplishment and empowerment obtained from making environmentally responsible decisions bolsters the significance of providing equal access to environmental education.

For equal outcomes across these interdependent domains, policy actions must take precedence. Essential are comprehensive policies that prioritize equal access to environmental education, encourage the incorporation of green infrastructure into urban development, and support community-based conservation efforts. Governments and organizations have a crucial role in fostering an environment in which every person, regardless of socioeconomic status, may engage with nature, gain access to quality education, and participate in conservation efforts. Such initiatives not only help to improved mental health, but also promote a society with greater autonomy and cohesion [52].

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