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ORIGINAL ARTICLE

Environmental Socialization: An Analysis of Meaning and Concept and an Assessment of the Contexts

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ABSTRACT
One of the functions of environmental sociology is the creation and development of socio-environmental concepts. "Environmental socialization" is one such concept, addressing which can offer valuable insights for future research, policymaking, and intervention strategies. Accordingly, this article aims first to explore the meaning and conceptual dimensions of environmental socialization as thoroughly as possible, and second to identify the contexts influencing it through a review of the theoretical literature and empirical studies in the field. This research employs a document-based method using content analysis of relevant texts. In terms of data collection, it is a library-based study, and in terms of data analysis, it falls within the category of qualitative content research. Based on the most prominent and recurrent themes found in expert definitions of the broader concept of "socialization," "environmental socialization" can be defined as the process of learning and internalizing environmental attitudes and awareness, and their behavioral manifestation in everyday life. Furthermore, drawing on themes derived from empirical research, the primary contexts in which environmental socialization occurs include residential environments, family, peer groups, educational settings, and media.

«مقاله پژوهشی»

جامعه‌پذیری زیست‌محیطی؛ واکاوی معنا و مفهوم و بررسی زمینه‌ها

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چکیده

یکی از نقش‌های جامعه‌شناسی محیط‌زیست، خلق و بسط مفاهیم اجتماعی–زیست‌محیطی است. «جامعه‌پذیری زیست‌محیطی» یکی از این مفاهیم است که پرداختن به قلمرو آن می‌تواند منجر به ارائه بینش‌هایی برای پژوهش‌ها، سیاست‌ها و مداخله‌های آینده گردد. در همین راستا هدف این مقاله آن است که نخست تا حد امکان معنا و مفهوم جامعه‌پذیری زیست‌محیطی را واکاوی کند و سپس با مطالعه ادبیات نظری و پیشینه تجربی در این حوزه، زمینه‌های مؤثر بر آن را شناسایی کند. این پژوهش به روش مطالعه اسنادی از نوع تحلیل محتوای متون انجام شده است، به لحاظ گردآوری اطلاعات از نوع پژوهش‌های اسنادی و از نظر شیوه تحلیل داده‌ها در دسته تحقیقات کیفی– محتوایی قرار دارد. بر اساس مهم‌ترین و پرتکرارترین مضامین مندرج در تعاریف صاحب‌نظران از مفهوم عام‌تر «جامعه‌پذیری»، می‌توان «جامعه‌پذیری زیست‌محیطی» را فرآیند یادگیری و درونی‌کردن نگرش‌ها و آگاهی‌های مرتبط با محیط‌زیست و نمود رفتاری آن در زندگی روزمره تعریف کرد. همچنین بر مبنای مضامین به‌دست‌آمده از پژوهش‌های تجربی، مهم‌ترین زمینه‌های جامعه‌پذیری زیست‌محیطی را می‌توان محیط‌های زندگی، خانواده، همسالان، محیط‌های آموزشی و رسانه‌ها قلمداد کرد.

واژه‌های کلیدی

نگرش زیست‌محیطی، آگاهی زیست‌محیطی، رفتار زیست‌محیطی، جامعه‌پذیری زیست‌محیطی، جامعه‌پذیری.

Introduction

Socialization is a process that begins at birth and continues until death (Bayram & Pala, 2024). The term "socialization" entered the vocabulary of sociology with the publication of Sutherland and Woodward's "Sociology Textbook" in 1973. Despite the recentness of its name, this concept has been a classical issue in sociology, especially with significant emphasis by Durkheim (Boudon & Bourricaud, 2006). Socialization refers to the comprehensive and systematic process of integrating an individual into society or a segment of it (Berger & Luckmann, 2015), with cultural patterns and social norms being learned and internalized through socialization (Rocher, 2017).

Although an extensive body of theoretical and empirical research exists on socialization, the concept of environmental socialization has received comparatively less scholarly attention. Some foreign studies have used terms such as "ecological socialization" and "environmental socialization" to address this issue. Ecological socialization refers to the process of socializing and acquiring identity within an ecosystem through interaction with the environment, while environmental socialization specifically addresses socialization concerning environmental issues through interactions with individuals and institutions within society.

Today, the social and cultural implications of environmental issues are more evident than ever. Humans have encroached upon their ecosystems to such an extent that its capacity to sustain life has been weakened. In this context, the primary role of sociology is to demonstrate how technologies, cultural patterns, and specific economic and political programs affect the natural environment (Macionis, 2018).

Social phenomena, including environmental issues, are simultaneously the product of individual actions and societal structures. Improving the environmental status is also impossible without the participation of both the people and the governments. Although governments and organizations around the world have signed numerous international agreements on environmental issues, these commitments have not been very effective, as the national interests of countries often conflict with international environmental policies.

Within the borders of countries, the interests of corporations and industries seeking to maximize profit at minimal cost can sometimes clash with environmental policies. In such cases, solutions to these issues can also be pursued at smaller levels, within smaller social units. Therefore, an effective strategy that could complement government policies and international agreements for improving the environmental situation is the responsible individual action toward the environment.

What practically impacts the state of the environment is environmental behavior, which itself stems from individuals' views and mindsets toward the environment. "Our cultural outlook, especially how we think about the good life, has important consequences for the natural environment." (Macionis, 2018). The formation of environmental attitudes and behaviors occurs through the process of *environmental socialization*. This concept has increasingly gained attention in recent years within environmental sociology research; however, studies related to environmental socialization in Iran remain limited. In most existing research (Kalantari et al., 2016; Moradi et al., 2020; Gholami et al., 2021), socialization has been considered as an independent variable that can influence individuals' sense of environmental attachment, environmental responsibility, environmental attitudes and behaviors, and ultimately, environmental conservation.

Furthermore, the existing literature (Habibi & Salehi, 2023; Abdolmaleki & Sarookhani, 2016) has proven valuable in identifying the key contexts in which environmental socialization occurs—such as the family, peer groups, neighborhood environment, schools, and media.

However, a review of existing research reveals a gap: while contextual dimensions of environmental socialization have received considerable attention, the theoretical articulation of the concept remains underdeveloped. Advancing the conceptual framework of environmental socialization is essential for understanding the conditions under which it forms and for exploring its potential to promote pro-environmental behavior.

With this in mind, the aim of the present

study is to explore the conceptual domain of environmental socialization, identify its core components, and examine the contexts that influence it. Accordingly, the study first seeks to investigate and clarify the meaning and concept of environmental socialization as thoroughly as possible. Then, through a review of relevant theoretical and empirical literature, it aims to identify the key factors that influence the process of environmental socialization.

Research Methodology

In many studies that examine the environment from a sociological perspective and explore citizens' environmental behaviors, survey methods using questionnaires have been the most widely employed approach (Flores et al., 2024). However, in contrast to this dominant trend, the present study is library-based and, in terms of data analysis, falls within the category of qualitative content analysis research. Initially, qualitative content analysis was conducted on documents related to the concept of "socialization" and its various definitions. The core themes extracted from these definitions were then used to construct a definition for "environmental socialization."

In the next stage, in order to explore the key contexts of environmental socialization, research articles whose titles or abstracts included the terms environmental socialization or closely related concepts such as environmental attitude or environmental behavior were reviewed and analyzed. Content analysis of the documents was carried out through two approaches: internal analysis and external analysis. In internal analysis, the documents were examined in terms of the concept of environmental socialization and its associated factors. In external analysis, domestic studies were compared with international studies. According to Maurice Duverger, this method constitutes a form of "sociological analysis" (Duverger, 1987).

The documents analyzed in this study were peer-reviewed research articles. It was assumed that if credible and scholarly research had been conducted in the field of environmental socialization, its findings would likely be published in academic journals. The temporal and geographical scope of the study included all accessible articles published in Iran up to Azar 1402 (December 2023) available in two reputable national databases—SID (Scientific Information Database) and Noormags—as well as international articles available on the ScienceDirect website. In total, 6 domestic and 36 international articles related to environmental socialization or similar concepts were analyzed.

The process of content analysis aimed to collect the findings of individual and scattered studies, then synthesize and integrate them. Based on classifications used in qualitative content analysis (Iman & Noshadi, 2011), the present study employed a conventional content analysis design. This approach is typically used when existing literature on the phenomenon under investigation is limited. The analysis deliberately avoided the use of predefined categories, allowing the categories to emerge directly from the data, with the goal of generating a novel understanding. Category development began concurrently with text review, progressing step by step through identifying meaningful units, condensing them, and establishing secondary codes. Where thematic overlap was found, secondary codes were merged to form final categories.

To ensure the validity of the findings, care was taken not to exclude any relevant data either accidentally or systematically, and unrelated data were not incorporated into the categorization. Additionally, to enhance the study's credibility, three independent researchers were asked to review the internal consistency and distinctions between the categories. The findings were thus confirmed by all three reviewers.

Research Findings

The Meaning and Concept of Environmental Socialization

To define and elucidate the concept of *environmental socialization*, it is first necessary to present conceptual definitions of the two core categories: *environment* and *socialization*. These foundational definitions will then serve as the basis for conceptualizing *environmental socialization*.

The Environment

The concept of the environment is highly

elastic and can encompass a wide range of definitions (Barry, 2007). In the early modern period, the term *environment* referred to the surrounding physical setting *as shaped by human activities*, in contrast to twentieth- and twenty-first-century interpretations that often depict it as expansive, natural, and untouched spaces (Alston, 2016). In contemporary usage, the environment is generally understood in two senses: as the non-human world and as nature. Despite their frequent overlap, these two interpretations can sometimes stand in opposition to each other. A less restrictive understanding of the environment appears to offer a more productive framework for linking the concept to social theory.

One persistent challenge in social theorization about the environment has been the tendency to conceptualize it as something wholly non-human and external to society and culture. Therefore, the way we think about the environment must be expanded to accommodate all of its potential meanings (Barry, 2007). In this light, the environment can also be viewed as a *social construct*—that is, our understanding of it is shaped by the inherently social processes of knowledge production and communication (White, 2019). Alongside this discursive or constructed view, the environment also has a *material dimension*—one that points to the tangible transformation and production of the environment by human beings (Barry, 2007).

Within the literature developed by environmental sociologists, a continuum of physical environments has been proposed—ranging from purely natural to entirely human-made settings. This continuum can be categorized into three broad types: *natural environments* (e.g., deserts, mineral reserves), *built environments* (e.g., houses, factories, highways), and *modified environments* (e.g., polluted lakes, landscaped vistas, degraded farmlands). These modifications may be intentional or unintentional, beneficial or harmful (Dunlap & Catton, 1979). As such, the environment can be defined in a way that captures both its natural and constructed dimensions.

Accordingly, in this article, the environment is conceptualized as a collection of physical, chemical, and biological elements—either naturally occurring or human-altered—that influence and are influenced by the lives of living organisms. This definition inevitably opens the door to normative claims. Asking *"What is the environment?"* also raises the question *"What should the environment be?"* In other words, there are significant theoretical and practical dimensions to contemplating and theorizing the relationship between the environment and society—dimensions that are well-suited for exploration within the social sciences and sociology.

Components of the Definition of "Environmental Socialization"

Environmental socialization is a relatively recent concept with limited definitions currently available. To arrive at a precise understanding of it, one must begin with the broader concept of *socialization* and derive the specific meaning of *environmental socialization* from its foundational elements. This process involves a critical examination of the intersubjective understandings within the scientific community and a focus on the core themes found in established definitions of the broader concept of socialization, as articulated by leading theorists. The outcome of this approach is a refined and contextually grounded definition of environmental socialization. Table 1 presents a selection of definitions of the term "socialization" and identifies their central themes.

Table 1. Definitions of Socialization and Their Main Themes

Definition of the concept	Main themes
Learning ways of life, acquiring personality and readiness to enter the society (Cohen, 2008)	Personality formation and learning ways of life
Learning social roles in order to grow or change (Gecas, 1979)	
The flow of social interaction to acquire personality and learn ways of life (Robertson, 2006: 112)	
Effective interactions for the ability to participate in the society (Turner, 1999: 181)	

Definition of the concept	Main themes
Internalizing social rules and traditions (Alagheband, 1991: 106)	Learning norms, values and behaviors
Learning the norms, values and customs of the society (Cohen, 2008: 101)	
Learning behaviors, values and identities and transmitting cultural models and social norms (Rocher, 2017: 57)	
Internalizing norms, values, perceptual structures and practical knowledge (Boudon & Bourricaud, 2006: 234)	
Adaptation to the society and cultural values and norms (Rafipoor, 2020: 350)	
Learning moral values and social Contracts (Grusec, 2011: 243)	
Learning the behavioral patterns, values, skills and motivations necessary for competent performance in the context culture (Maccoby, 2007: 13)	
Acquire knowledge, skills and personality traits to impact the society (Brim, 1966)	Learning knowledge, attitudes, values and skills
Instilling the skills and attitudes necessary for playing social roles (Mayer, 1970)	
Learning the knowledge, skills, values, attitudes, habits and ways of thinking of the society (Bragg, 1976)	
Acquiring the attitudes, beliefs, values and skills necessary for effective participation in the social life (Dunn, Rouse & Seff, 1994)	
Gaining knowledge, orientations and methods for effective participation in the society (Garrett & Baquedano-Lopez, 2002)	
The process of learning through the acquisition of relevant skills, knowledge and attitudes (Elodie & Muratore, 2012)	
The process of transforming a child into a knowledgeable, informed, and skilled individual in the cultural practices of the context (Anthony Giddens, 2022: 43)	Learning knowledge, awareness and skills

The most prominent of these include: acquisition of personality, learning lifestyles, norms, behaviors, knowledge, skills, attitudes, values, and awareness. These themes can be grouped into two categories: those that are primarily subjective and theoretical, and those that are objective and practical in nature. Table 2 organizes these themes according to this dual framework.

Table 2. Dual Dimensions of Socialization

Main themes	Dimensions of socialization	Main themes	Dimensions of socialization
Norm		Value	
Skill		Attitude	
Behavior	Objective and practical	Personality	Subjective and theoretical
Ways of life		Knowledge	
		Awareness	

In order to arrive at a definition of environmental socialization that is as comprehensive and exclusive as possible—and that is also amenable to operationalization—it becomes necessary to selectively choose from among these identified themes. Two key criteria guided this selection: first, the selected themes had to be applicable within the context of sociological research on the environment; second, they should exhibit minimal overlap, such that each theme highlights a distinct dimension of the concept.

It is important to acknowledge, however, that such choices are inevitably influenced by the researchers' theoretical orientation and interpretive lens. Consequently, alternative viewpoints may critique the selection or offer different emphases. Such debates are inherent to the process of defining any conceptual term, and some level of contention is to be expected

in this regard.

Values, attitudes, personality, knowledge, and awareness are among the most frequently referenced components in definitions of socialization, all of which possess a conceptual and cognitive nature. Among these, the three concepts of values, attitudes, and personality are closely interrelated. An individual's personality structure is shaped by their values and attitudes. On the one hand, attitudes reflect values, and individuals' orientations and attitudes are generally aligned with their core values (Office of National Projects of the Ministry of Culture and Islamic Guidance, 2015). A person's attitude toward a subject depends on their perception of its impact on their highest values (Woodruff & Divesta, 1948). Therefore, it can be asserted that every value corresponds with a specific orientation and attitude (Boudon & Bourricaud, 2006).

It appears that for articulating part of the cognitive dimension of environmental socialization, the concept of attitude is sufficiently comprehensive. This is because, on one hand, it expresses an individual's values and shapes their personality, and on the other hand, successful socialization entails the gradual substitution of internal and symbolic controls for external rules and directives (Bandura, 1993), ultimately influencing individual attitudes. Environmental attitudes play a significant role in shaping environmental behaviors (Meeusen, 2014) and are often critical determinants of actions that improve or degrade environmental quality (Gifford & Sussman, 2012).

The study by Eilam and Trop challenges the conventional belief that the acquisition of environmental behaviors represents a more advanced outcome in environmental education compared to the formation of environmental attitudes. They advocate for a stronger emphasis on fostering attitudes through environmental education (Eilam & Trop, 2012). Hence, attitude serves as a key component in environmental socialization. Moreover, a substantial number of empirical studies in environmental sociology, as well as the New Environmental Paradigm (NEP) and traditional paradigm scales developed by Dunlap and Van

Liere, are fundamentally based on measuring environmental attitudes (Dunlap & Van Liere, 1978). While most studies have focused on environmental attitudes as the primary variable of interest, there is growing interest in assessing pro-environmental behaviors as well (Flores et al., 2024).

Awareness and knowledge constitute two additional elements within the cognitive dimension of socialization. The definitions of these terms in dictionaries reveal considerable overlap. Knowledge typically refers to information acquired from credible external sources. While awareness has a more internalized and personalized character, many definitions emphasize terms like "knowing" and "knowledge" as central to its meaning (Trevethan, 2017). For instance, environmental awareness is often defined as possessing knowledge about environmental issues and their solutions (Bozdoğan et al., 2016). It seems that awareness of a subject reflects and is influenced by the level of knowledge about it (Alizadeh et al., 2011; Turner, 2018).

With regard to environmental behavior, possessing knowledge and awareness is indispensable. However, in assessing environmental knowledge, individuals are often evaluated based on their cognitive abilities—what is commonly referred to as awareness (Geiger et al., 2019). Socialization that occurs through enhancing individuals' awareness is likely to be more sustainable and enduring (Monadi, 2008). Empirical evidence has also demonstrated that awareness facilitates behavior change (Bandura, 1993). Furthermore, in the field of environmental sociology, empirical studies have shown a significant relationship between awareness and environmental behavior.[1] Thus, since environmental knowledge is embodied in environmental awareness, and for the same reasons that justified selecting attitude as a core component, awareness may be deemed sufficient to represent the second essential element in defining environmental socialization.

Several other components identified in these definitions—norms, skills, behaviors, and lifestyles—possess a more objective and

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1. See: Farahmand et al., 2013; Sabzeh'i et al., 2016; Hajizadeh Meymandi & Falakoddin, 2017.

practical nature. Norms are patterns of behavior that are followed by all or most members of a society (Seddigh Oraei et al., 2019). The concept of environmental behavior can incorporate the idea of norms, as this variable has been extensively examined in numerous empirical studies[1]. Successful socialization is achieved when it culminates in individual social behavior, meaning actions that are accepted, internalized, and carried out without the need for external control (Monadi, 2008). Environmental behavior refers to patterns of action that have environmental consequences. Hence, the practical dimensions of environmental socialization are embodied in the concept of environmental behavior.

In their theory of social constructionism, Berger and Luckmann argue that human subjective meanings can be objectified, and that successful socialization involves establishing a high degree of alignment between subjective and objective realities (Berger & Luckmann, 2015). Therefore, the cognitive dimensions of socialization—while themselves shaped by social conditions—play a determinant role in shaping its practical dimensions (Salehi et al., 2013). Environmental crises arise as a consequence of societal influences and the behavior of its members. Such behavior is, in turn, rooted in the level of awareness and type of attitudes individuals hold toward the environment. Accordingly, for the purposes of this article, an adequate definition of environmental socialization should be one that encompasses three core components: awareness, attitude, and behavior.

Mechanisms of Environmental Socialization
Through the process of socialization, individuals become members of society by both learning and internalizing shared norms and values (Gould & Howson, 2011). **Learning** refers to a relatively stable change in behavior or behavioral capacity (Hergenhahn & Olson, 2006)—that is, the acquisition of responses, behavioral patterns, and the like, which become embedded in the individual's psyche and guide their conduct (Rocher, 2017). **Internalization**, which complements the mechanism of learning,

is the process through which beliefs, values, and norms are transmitted to the individual, affirmed, and accepted as one's own (Seddigh Oraei et al., 2019). **Durkheim** posits that when individuals internalize norms, they no longer feel coerced by them (Durkheim, 2006). In other words, people behave in accordance with norms not out of fear of external consequences or in anticipation of rewards, but out of intrinsic motivation (Grusec & Davidov, 2010). Accordingly, **environmental socialization** is also realized through the dual mechanisms of learning and internalization. This form of socialization is deemed successful when it results in **environmental behaviors**—that is, behaviors toward the environment that are both accepted and internalized.

Characteristics of Environmental Socialization
Deep and lasting socialization primarily occurs during childhood, but it is a continuous and lifelong process (Maccoby, 2007: 14; Berger & Luckmann, 2015). Change and adaptation are constant features of human development (Gould & Howson, 2011). Accordingly, socialization is an ongoing, lifelong process (Grusec & Hastings, 2007; Giddens, 2022). Environmental socialization should not be perceived as a process exclusive to children and adolescents, nor should the transmission of environmental awareness and attitudes be viewed as a one-way transfer from parents to children. Interactions with children can lead to the re-socialization or renewed socialization of parents regarding environmental issues. In such cases, children are considered influential actors due to their emotional ties with their parents and their potentially greater exposure to environmental education. This phenomenon can be referred to as *reverse socialization*. One significant aspect that this study considers essential in defining environmental socialization is the recognition of the reverse flow of socialization. In other words, environmental socialization is understood as a two-way, dialectical process that occurs in interpersonal interactions.

Environmental socialization also possesses

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1. See: Calhoun & Gerald (1972); Markle (2013); Zhau et al. (2024); Salehi & Karimzadeh (2011); Haghighatiyan (2014); Abbaszadeh et al. (2016); Nosratinejad et al. (2020); Rezaei Moghaddam & Shahraki (2022).

a distinctive feature that sets it apart from other types of socialization. Unlike political, gender, or economic socialization—which may pursue different ends depending on the culture or subculture, making it difficult to evaluate them based on normative criteria—environmental socialization can, to some extent, be assessed in normative terms. This is because the environment is inherently valuable and there is broad global and logical consensus on the necessity of its preservation. On this basis, desirable environmental socialization refers to the transmission of knowledge and the development of environmentally responsible attitudes and behaviors that contribute to the protection of the environment and the advancement of sustainable development. In other words, while the concept of environmental socialization should be defined without normative assumptions, the trans-temporal and trans-spatial importance of environmental conservation, along with the relatively uncontroversial nature of pro-environmental values, allows for environmental socialization processes to be evaluated as more or less desirable.

Definition of Environmental Socialization

Based on the foregoing discussions, *environmental socialization* can be defined as the process through which individuals learn and internalize environmental attitudes and awareness, which are subsequently manifested in their everyday behaviors. A crucial consideration in defining any concept is its value neutrality. The definition of environmental socialization should not be limited solely to the acquisition of environmentally supportive or responsible attitudes, awareness, and behavioral habits; rather, it must encompass both the positive and negative dimensions of the phenomenon. Therefore, environmental socialization does not necessarily imply the development of pro-environmental orientations aimed at conservation and sustainability. It also includes the internalization of exploitative and ecologically destructive tendencies. In fact, individuals may at times learn—through socialization—how to subordinate environmental concerns to their own goals, desires, and interests.

This process of transmission occurs through the influence of social interactions, institutions, and media on individuals' perceptions of and responses to the environment and its challenges. Moreover, environmental socialization is a continuous, lifelong process, and it is reciprocal and reversible in nature, occurring among individuals in interactive relationships.

Contexts of Environmental Socialization

The most prominent and frequently mentioned contexts of environmental socialization, as identified in scientific articles, along with their corresponding primary and secondary themes derived from these findings, are presented in Table 3.

Table 3. The Fields of Environmental Socialization

Research findings	Secondary themes	Main themes
Correlation between childhood playing in wildlife environments and positive environmental perceptions in adulthood (Bixler et al., 2002)		
The importance of childhood playing in nature in shaping later interests in the environment (Vadala et al., 2007)	Childhood places	
The relationship between childhood experiences in nature and later attitudes and actions towards the environment (Broom, 2017)		Living environments
The role of childhood places in developing sensitivity to the natural world (Herbst, 2018)		
The impact of the semi-arid regions of Brazil on the creation of changes in the region by a group of women farmers (Teixeira, 2019)	Interaction with the ecosystem	
The formation of ecological socialization through human interactions with other organisms and with the ecosystem (Keto		

Research findings	Secondary themes	Main themes
& Foster, 2020)		
The impact of human relationships with other living beings on the process of ecological socialization (Foster et al., 2022)		
Experiences in natural areas as a sou-rce of environmental commitment (Chawla, 1999)	Relationship with the nature	
The impact of experiences in nature and observing erosion in shaping standard environmental behavior in adulthood (Dewey, 2020)		
The impact of experiencing connection with nature on citizens' sense of belonging to the environment (Kalantari et al., 2016)		
Strong correlation between children's environmental attitudes and behaviors with their parents (Grønhøj & Thøgersen, 2009, 2017)	The influence of parents on children	
Intergenerational transmission of environmental behaviors from parents to children (Grusec & Davidov, 2010)		
The significant influence of mothers and fathers on children's environmental concerns (Meeusen, 2014)		
The effect of parents' descriptive and prescriptive norms on adolescents' pro-environmental behaviors (Collado et al., 2017)		
Positive and significant correlation between the environmental behavior of children and their parents (Katz-Gerro et al., 2020)		
The effect of modeling after parents on children's participation in behavior consistent with the environmental movement in adulthood (Dewey, 2020)		
The impact of parents' environmentally-friendly behaviors on their children's behaviors through discussing environmental issues, exhibiting these behaviors or participating together in the environmentally-friendly activities (Jia & Yu, 2021)		Family
The positive impact of children's environmentally-friendly knowledge, attitude and behavior on the adults through interaction with them (Liu & Chen, 2022)	The influence of children on parents	
Adolescents as catalysts for positive change in their families' environmental behavior (Elodie & Singh, 2015)		
The impact of adolescents' environmental concerns on their parents' environmental attitudes and behaviors (Singh et al., 2020)		
The process of environmental resocialization of parents by children (Elodie & Muratore, 2012)		
The family institution as a mediator, generator, and promoter of environmentally-friendly behavior (Reid et al., 2009)	Family atmosphere	
Values learned by a family member as a source of environmental commitment (Chawla, 1999)		
The impact of family conversations on creating concern about climate change among future generations (Stevenson et al. 2016)		
Family influences on effective learning of "Environmental Education for Sustainability" (Eames et al., 2018)		
The mutual influence of parents and children in the transmission of environmentalism (Aghayee abyaneh & Talebi, 2020)	The interaction between parents and children	
The mutual influence of adolescents and their parents on each other's environmental intentions and behaviors (Žukauskienė et al., 2020)		
Strengthening students' environmental attitudes through peer attitudes in the classroom (Duarte et al., 2015)	Modeling after peers	Peers

Research findings	Secondary themes	Main themes
The effect of descriptive and prescriptive peer norms on adolescents' pro-environmental behaviors (Collado et al., 2017)		
The impact of peer discussion on creating concern about climate change among future generations (Stevenson et al., 2016)		
The positive and significant influence of peer behavior on individual pro-environmental behavior (Wang et al., 2021)		
Positive correlation between the sustainable behaviors of girls and their peers (Essiz & Mandrik, 2021)		
School Effects on Effective Learning of "Environmental Education for Sustainability" (Eames et al., 2018)	School	
The impact of school experiences on participation in behavior consistent with the environmental movement in adulthood (Dewey, 2020)		Educational environments
Education as a source of environmental commitment (Chawla, 1999)		
The need to design a systematic environmental studies program in the social studies curriculum (Hepburn, 1973)		
The impact of the environmental education program in public schools and its objectives such as environmental attitude, knowledge and awareness on improving citizens' environmental behavior (Vega & Melchor, 2004)	Educational programs	
The positive impact of environmental education programs on learners' environmental attitudes and motivations and creating behavioral changes in them (Johnson & Činčera, 2015)		
Mass media such as radio and television as the main sources of environmental information among students (Chan, 1996)		
Direct and mediated effects of watching television and self-reported environmental behaviors (Holbert et al., 2003)		
Significant correlation between television exposure and concern about environmental hazards consistent with television worldview (Dahlstrom & Scheufele, 2010)		
Significant positive correlation of receiving television messages with green purchase intentions and environmental civic participation (Ho et al., 2014)		
The direct and positive impact of television on people's environmental behavior (Huang, 2016)		
The effective role of radio stations in disseminating environmental concerns such as environmental pollution, forest and wildlife destruction, and climate change (Paudel et al., 2020)	Radio and television	Media
Significant correlation between watching television and the level of environmental attitudes, behavior, and literacy (Shobeiri et al., 2013)		
The important role of television in institutionalizing environmental values in children and adolescents (Abdolmaleki & Sarookhani, 2016)		
The positive effect of radio and television on education, awareness, socialization and changing environmental attitudes and behaviors (Habibi, 2017)		
The effect of radio and television media consumption on environmental attitudes, values, and behavior (Salehi & Emamgholi, 2019)		
The impact of the extent to which the New York Times newspaper covers environmental pollution on the prominence and importance of this issue among the general public (Ader, 1995)	The Press	

Research findings	Secondary themes	Main themes
Significant positive correlation of newspaper reading with green purchase intentions and environmental civic participation (Ho et al., 2014)		
The direct and positive impact of newspapers on people's environmental behavior (Huang, 2016)		
The impact of transferring environmental knowledge and information in written form through the publication of books, magazines and newspapers (Habibi, 2017)		
Social media as a tool to raise public awareness about environmental issues (Mallick & Bajpai, 2019)		
Social networks, including Facebook, as spaces for learning and demonstrating environmental actions (Buzov, 2014)		
Social networks as a catalyst and an essential tool for advancing environmental goals, including creating effective social movements and campaigns (Habibi, 2017)	Social networks	
The impact of using social networks on responsible environmental behaviors (Falakoddin & Hajizadeh, 2017)		

Contexts of Environmental Socialization

Based on the themes derived from Table 3, the most significant contexts of environmental socialization include living environments, family, peers, educational settings, and the media. The mechanisms through which each of these contexts contribute to environmental socialization are discussed below.

Living Environments

The perspective that views socialization solely as a process occurring within human contexts is incomplete. Humans also directly interact with non-human entities. This type of secondary interaction, referred to as *ecological socialization*, is a parallel process to human interactions—both of which contribute to shaping who we are (Keto & Foster, 2020). Empirical evidence (see Table 3) suggests that individuals' living environments significantly influence their later understanding of environmental issues. Researchers have found that memorable childhood experiences in pristine natural settings contribute to a lifelong interest in environmental activities (Bixler et al., 2002).

Accordingly, ecocentric theorists argue that the most effective way to promote environmental protection is to encourage individuals to experience ecological connectedness and perceive themselves as part of nature. Drawing from Marx's concept of alienation, these theorists believe that the idea of human exceptionalism—which results in separation from the natural environment and immersion in technology and industry—constitutes a form of *ecological alienation* that leads to environmental degradation (Sutton, 2018).

The terms "nature" and "ecosystem" are sub-themes under the "living environments" category. "Nature" or the natural environment refers to the non-human world within which human societies exist. On a local level, nature might denote specific areas like a park or a beach; at a broader level, it can refer to the planet as a whole. This does not imply that humans or human societies are unnatural (Sutton, 2018). In contrast, an "ecosystem" refers to an ecological system composed of all living and non-living components (or the physical environment) interacting with one another (Odum, 1971). Thus, in the context of the reviewed literature, "nature" refers to a non-human environment, whereas "ecosystem" includes all living beings—both human and non-human—and their habitats.

Family

Parents are generally considered the primary agents of socialization for children (Maccoby, 2007; Grusec & Davidov, 2010; Grønhøj & Thøgersen, 2009; Boudon & Bourricaud, 2006). According to Giddens, families are among the key agents of socialization from childhood through adolescence and beyond (Giddens, 1994). Bourdieu also maintains that the process of socialization, which begins

within the family, profoundly shapes individuals' actions (Grenfell, 2019). In the process of socialization, children do not choose their parents as influential figures or mentors; rather, they internalize the world presented by their caregivers as the only conceivable reality—not merely one possible world. As a result, the worldview internalized during primary socialization is far more deeply rooted in a person's consciousness than that acquired during secondary socialization (Berger & Luckmann, 2015).

Although within the family structure, parents typically hold more power and resources than their children, the relationship is not necessarily one-directional. In some cases, children influence their parents (Seddigh Oraei et al., 2019). Children often attempt to shape their parents' attitudes in pursuit of meaningful goals, which may lead to *reverse socialization* (Grønhøj & Thøgersen, 2009). Some studies have addressed the outcomes of reverse environmental socialization and found that children can enhance their parents' environmental awareness and concern (see Table 3).

Peers

The peer group, often referred to as a primary group, is characterized by mutual identification, cooperation, and shared culture among its members. Notably, in such primary groups, the influence individuals exert on one another does not necessarily diminish with age (Gould & Howson, 2011). Studies show that a child's peer group and friends constitute fundamental domains of their social experience (Fishbein & Ajzen, 2010; Bukowski et al., 2007). To be accepted by the group, individuals often adjust their personal norms and behaviors to align with those of their close social circle (Rubin et al., 2015).

Consequently, few psychologists or sociologists today would overlook the importance of peer groups. Within peer groups, relationships are generally egalitarian, members share similar age-related needs, and they communicate using a common language. Moreover, to gain acceptance within their age cohort, individuals often feel compelled to adopt the group's culture. Hence, the significance of this source of socialization should neither be ignored nor underestimated

(Monadi, 2008).

Peers play a key role in shaping attitudinal and behavioral norms, including those related to sustainable environmental behavior (Stevenson et al., 2016). They may influence one another's environmental attitudes and actions (Stevenson et al., 2016; Collado et al., 2017) and even foster a shared environmental identity (Chawla, 1999). On the other hand, peer pressure can have adverse effects by discouraging or even ridiculing responsible environmental values and behaviors. Nevertheless, peer groups and friendships remain an underexplored yet important source of environmental socialization.

Educational Settings

One of the primary aims and functions of schooling is to educate children to become healthy, ethical citizens who comply with social norms and laws (Wentzel & Looney, 2007). During the process of secondary socialization, school is regarded as an institutional agent with the formal task of transmitting specific forms of knowledge (Berger & Luckmann, 2015). Environmental socialization efforts in educational settings include incorporating environmental topics into textbooks, organizing educational field trips to natural environments, and engaging in public clean-up initiatives such as forest, mountain, or beach cleanups—all of which can raise awareness and sensitivity regarding the future of the planet (Monadi, 2008).

Research has shown that schools and educational systems play an effective role in shaping environmental values and concerns among children and adolescents (see: Table 3). UNESCO's *Global Action Programme on Education for Sustainable Development* (2017) recognizes youth as key agents of change and emphasizes the importance of addressing environmental issues within educational systems and providing adolescents with opportunities to engage directly with environmental protection and sustainability challenges.

Environmental education can be embedded both in the explicit and the hidden curricula. In the hidden curriculum, environmental learning may be treated as an ongoing and holistic aim integrated across primary and secondary education. Alternatively, it may be included as

a distinct component of the formal curriculum, with instruction focusing on selected aspects of environmental topics (Palmer & Neal, 1994).

Media

Media are crucial tools for environmental education and can even be regarded as an extension of the school system (Ors, 2012). Given their cultural and value-laden content and their deep penetration into private households, media have the power to influence the structure and substance of family life (Monadi, 2008). Unlike the past, when individuals relied primarily on familial and subcultural sources for role modeling, today they are exposed to a multitude of behavioral patterns through symbolic role models produced extensively by mass media (Bandura, 1993).

Media serve as powerful instruments for education, awareness-raising, socialization, and changing environmental attitudes and behaviors. They are capable of elevating public cultural awareness, reshaping attitudes, and becoming integral to the processes of learning and teaching (Habibi, 2017, p. 98). Media can help citizens internalize a level of environmental consciousness that motivates change and proactive behavior toward the environment (Taghavi et al., 2016).

Although official media channels may sometimes be unwilling or unable to address certain environmental challenges, new social media networks can rapidly disseminate information globally, fostering collective awareness of environmental risks or crises. These platforms, now inseparable from modern life, are considered "learning spaces and spaces for the demonstration of environmental action" (Buzov, 2014). However, media may also depict the environment with an anthropocentric bias and promote anti-environmental values such as excessive consumption and exploitation of nature for economic gain. These adverse effects are evident in studies that examine the influence of various media types on consumerism—a lifestyle closely linked to environmentally destructive consequences.

Conclusion

Socialization is one of the most fundamental mechanisms for cultural formation, progress, and development. The accumulation of knowledge and attitudes across generations occurs through socialization processes. The concept of *environmental socialization* has garnered attention from some environmental sociologists over the past decade. Different orientations toward the environment require lifelong learning, a process that occurs through environmental socialization. Given the limited scope of theoretical and empirical work on this concept, it seems that any scientific engagement with the subject requires, first and foremost, a precise and measurable definition.

Entering the field of environmental socialization represents a novel approach, and the broader perspective of sociology toward environmental issues is relatively new. Research on citizens' environmental behaviors has undergone significant qualitative and quantitative changes since 2016–2017, changes that have generally been positive (Flores et al., 2024). The theoretical expansion of the concept of environmental socialization and the development of existing knowledge in this area can not only contribute to future research, policymaking, and interventions aimed at fostering a more environmentally conscious and responsible society, but also yield scholarly benefits by enhancing the conceptual precision of this term in empirical research.

For instance, earlier studies have typically treated environmental socialization as an independent variable that influences dependent variables such as environmental attachment, environmental responsibility, environmental attitudes and behaviors, and ultimately, environmental preservation. However, the findings of the present study diverge from such a perspective, instead regarding this view as a form of semantic tautology. In other words, this research does not treat environmental socialization as a separate and influencing factor on variables such as environmental attachment or responsibility. Rather, it defines environmental socialization as a concept that inherently includes these elements, since acquiring environmental attitudes, attachments, and behavioral learning is itself a core part of the concept.

More precisely, drawing from the most relevant elements of general socialization

theories as applied to environmental studies, *environmental socialization* can be defined as a continuous and ongoing process of learning and internalizing environmental attitudes and awareness, with corresponding behavioral manifestations in everyday life.

A crucial emphasis in this definition is its acknowledgment of the dissonant dimensions of environmental socialization. That is, environmental socialization involves not only the adoption of values and behaviors aimed at environmental protection and sustainability but also the internalization of exploitative and self-serving attitudes that may contribute to environmental degradation. Nevertheless, given the intrinsic value of the environment and its trans-temporal and trans-spatial significance, environmental socialization processes can be broadly evaluated as either constructive or detrimental.

The findings of this research align with prior studies and synthesize their conclusions

regarding the key contexts of environmental socialization. These contexts include living environments, family, peer groups, educational settings, and media. With the exception of the physical environment, the other domains primarily function through interpersonal interaction. However, even experiences in natural settings are not entirely free from social structuring.

Each context operates through distinct mechanisms and, depending on the content it conveys, can have varying consequences. On the one hand, transmitted content may promote biocentric values, enhance knowledge and awareness for environmental preservation, and foster pro-environmental attitudes and behaviors. On the other hand, it may reinforce anthropocentric values, where human well-being is seen as the ultimate goal, leading to the dissemination of knowledge that encourages exploitative and irresponsible interactions with the environment.

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