

# Study on Adolescent Pro-Environmental Behaviors from the Perspective of Intergenerational Transmission

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**Abstract.** Pro-environmental behaviors (PEBs) are that a people make efforts to minimize his negative impacts due to damage to nature by protecting and improving the environment. Pro-environmental behaviors become more and more important, especially for adolescents. Since adolescents are the future of our country, and they will make the environmental policy that will lead to human sustainable development. Adolescence is an important period for behavioral changes, especially pro-environmental behaviors changes. Families, especially parental expectations and behaviors, play a central role in educating and passing on pro-environmental behaviors from one generation to another generation. In this article, we first defined pro-environmental behaviors. Second, we explored psychosocial determinants of adolescent pro-environmental behaviors. We then elaborated on the psychological mechanisms underlying adolescent pro-environmental behaviors. Finally, we proposed intervention strategies for adolescent pro-environmental behaviors.

**Keyword.** Pro-environmental behaviors, sustainable development, value, attitude

## 1. Introduction

Diverse environmental problems threaten human sustainable development, such as global warming, resource shortage, the ozone layer loss, environmental pollution, acid rain spread, biodiversity loss. Many of these problems stem from behaviors and can therefore be managed by changing the associated behaviors to minimize their impacts on the environment. Under this background, “pro-environmental behaviors” have gradually become a research hotspot in social psychology and environmental psychology in the past 20 years. The way how human treats the environment will affect our life quality. Many scholars begin to pay attention to the interaction between human behaviors and the environment. Adolescents are a potential force for environmental protection in the future, and their knowledges, values, emotions, attitudes, identity, locus of control and personal responsibility towards the environment will influence future decisions about natural resources and how to use them sustainably by direct or indirect means. Families, especially parental expectations and behaviors, play a central role in educating and passing on pro-environmental behaviors from one generation to another generation. Through the process of intergenerational transmission, parents teach adolescents environment-related values, attitudes, and behaviors [1].

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## 2. Definition of Pro-environmental Behaviors

Pro-environmental behaviors are a very complicated concept, and scholars have defined pro-environmental behaviors from different perspectives. Stern et al. (2000) constructed a definition of pro-environmental behaviors which positively affects the utilization of materials or energy sources” and “which positively changes the structure and dynamics of a biosphere or ecosystem” [2]. Khashe et al. (2015) defined pro-environmental behaviors as an individual’s participation in green activities to promote sustainable development and reduce or eliminate negative impacts on the environment [3]. Kurisu (2015) defined pro-environmental behaviors as the actual contribution to environmental protection or actions considered to be able to contribute to environmental protection [4]. Researchers have employed multiple ways to describe behaviors that protect environment, for example eco-friendly behaviors, environmentally concerns behaviors, environmentally responsible behaviors, and pro-environmental behaviors. In short, pro-environmental behaviors is that one person minimizes harm to the environment without damaging it. Pro-environmental behaviors involve green commuting, recycling, resources conservation, purchasing green products, waste management, etc. which can be divided into three categories: waste reduction, reuse and recycling.

## 3. Psychosocial Determinants of Adolescent Pro-environmental Behaviors

### 3.1. Values

Values reflect the deep structure of an individual’s ideas, and dominate an individual’s attitudes and actions in people’s lives. By activating norms, values indirectly influence adolescents’ behaviors. Adolescents feel a responsibility and obligation to protect the environment. Values are not only the foundation of environmentalism, but also a steady source of continued pro-environmental behavior [5]. Pro-environmental behaviors are related to anthropocentric and ecocentric values, which enhance people’s awareness of environmental protection [6]. Environmental behaviours, such as reduction and reuse, are determined by values. Values affect environmental behavior through three ways: through awareness of the importance and probability of behavioral outcomes, through normative activation, and through environmental self-identification. deGroot et al (2008) found empirical evidence that related distinctions between egoism, altruism, and biosphere values facilitate understanding of environmental beliefs, intentions, and environmental behaviors, with biosphere values best explaining environmental cognitions and behavioral causes [7]. Nguyen et al. (2016) proposed that biosphere values positively influenced purchasing behavior of energy-efficient appliances [8]. Oh et al. (2021) revealed that altruistic family values and biosphere values had a positive correlation to the experience of nature, while egoistic family values were negatively associated but directly [9]. Social norms of family and friends, as well as the individual’s experience of nature, mediated the relations between biosphere values and connections with nature.

### 3.2. Environmental Concerns

Environmental concerns mean the degree to which persons are aware of problems related

to the environment and support solving them, or demonstrate willing to make a personal contributions to solve them. Environmental concerns reflect young people's attitudes towards destructing environmental facts and debunking environmental behaviors. Disasters in the world can lead to concerns about nature, which lead to more environmental concerns. Environmental concerns can positively influence environmental behavior and increase one's tendency to be a volunteer, especially if a person is very concerned to current environmental conditions [10]. They also affect people's purchasing behaviors, energy consumption, and sustainable food consumption [11]. The influences of environmental concerns on environmentally friendly behaviors (plastic, and organic materials; use of water-saving facilities) decreases as behavior increases. In several studies, environmental concerns have emerged as an important concept for predicting environmental behaviors. However, the association between environmental concerns and pro-environmental behaviors is weak due to moderating or mediating effects of other variables.

### 3.3. *Emotions*

Emotion is an evaluative response (a positive or negative feeling) that typically includes some combination of physiological arousal, subjective experience, and behavioral or emotional expression. Emotion involvements plays an important role in shaping attitudes and awareness, and emotional involvement increases the likelihood of related actions. Steg et al. (2009) explored the role of emotion in the car usage, founding a stronger importance of affective and symbolic vs. instrumental motivation for the car usage among commuters [12]. Nilsson et al. (2000) found a negative correlation between car liking and acceptance of policy measures to cut down car usage [13]. Carruse et al. (2008) found that expected negative emotions (e.g., anger, dissatisfied, sad, frustrated, guilt) cut down personal car usage [14]. Emotions may support environmental behaviors promotion and education programs, particularly in the area of consumer behaviors. Anticipated emotions can influence consumer decisions more than experiential emotions, and they influence intentions of environmental action.

### 3.4. *Attitudes*

Attitude is a steady mental tendency that a people holds towards a specific objective (such as person, idea, or event). There is a relationship between pro-environmental behaviors and attitudes towards a specific pro-environmental behavior (energy saving; recycling), but the degree to which environmental attitudes and behaviors are correlative depends on the scale used. Attitudes influence behavior and willingness to pay for the environment. Energy-saving attitudes combined with perceived behavioral control increased person's willingness to cut down household energy usage. Organic food consumption intensity was also significantly correlated with respondents' attitudes towards consumption and the environment, but implicit attitudes towards environmentally friendly foods were irrelevant to sustainable consumption [15].

### 3.5. *Identity*

Recent literature revealed that environmental identity is another important factor influencing pro-environmental behaviors. Whitmarsh et al. (2010) revealed that pro-environmental identity has widely effects on everyday pro-environmental behaviors, for

instance, waste utilization, purchasing green product, and Water and electricity saving [16]. Gatersleben et al. (2014) found that pro-environmental identity had an important effect on waste recycling, fair dealings, and reducing flying on vacation. Further discussion the mental mechanisms behind pro-environmental behaviors, researchers lately addressed a mediation role of pro-environmental self-identity in the association between pro-environmental behaviors and biospheric values [17]. Pro-environmental self-identity plays an important role in pro-environmental behaviors and specific environmental behaviors, including food packaging recycling, food saving, food waste recycling, and so on.

### *3.6. Locus of Control and Personal Responsibility*

Locus of control refers to when a person has different interpretations of the source of control over what happens in his or her life and its consequences. Internal controllers believe that the results of most things in everyday life depends on the individual's efforts in doing these things, therefore they believe that they can handle the development and results of things, and the control point is within the individual. The external controller believes that the results of most things in everyday life are brought about various external forces that the people cannot control, that is, the control point of things is external, and the individual is powerless. Internal controllers and external controllers have distinct attitudes and Behaviors toward things. Internal controllers think that they can play an important role, facing possible failures without doubting that there may be improvements in the future, and can make more efforts and enhance work commitment in the face of difficulties. Their attitudes and behaviors consistent with social expectations. But external controllers have seen negative correlation between personal efforts and behaviors' outcomes. Facing failures and difficulties, they often give up their responsibilities to external reasons, instead of searching for solutions to problems, they make efforts to seek rescue or gamble-style luck. External controllers prefer facing life in a helpless, negative way. If people have an external locus of control, they tend to shirk responsibility and demand collective action. Britons, for example, hold that climate change is a collective responsibility, and government should take actions—making regulations or laws that promoted people to take actions—before individual action, not individual action. Energy savings and emissions reductions are largely dependent on individuals. Denial of personal responsibility is a major barrier to pro-environmental behaviors [18].

## **4. Mechanisms of Intergenerational Transmission Influencing Adolescent Pro-environmental Behaviors**

Intergenerational transmission is the transfer of knowledges, values, and attitudes from parents to their children within the family [19]. The family is an important educational place. Some researchers have applied parent-child value congruence to assess the intergenerational transmission effects of values. Parent-child value congruence refer to the correlation between parents' socialization values and children's personal values Families influence environmental adolescent's Values through four ways: First, the socialization process within the family can explain the continuity and coherence between generations. parents are the primary socializing agents which impact's attitude development. Socialization usually means that adolescents learn "good habits and

behaviors”, which were set by socialization agents. Adolescents need to internalize their content (values, attitudes, norms, behaviors). Studies have shown that attitudes, values and behavioral communication are important factors in children’s environmental protection behaviors [20]. This is especially vital for specific environmental behaviors and attitudes, for example, waste recycling and paper reuse [21], children’s environmental concerns, and adolescents’ consumers’ environmental orientation [22-23]. Second, adolescents learn socially desirable values primarily by observing the behavior of their family members. Adolescence learns a single behavior, primarily by observing and imitating the behavior of them. By observing the behavior of others, adolescents see what behaviors are typical or normal in certain situations, and those particular behaviors can serve as descriptive norms. Grønhøj et al. (2012) found that family members’ environmental activities influence adolescents’ environmental protection behaviors, for instance, proper waste disposal, purchase of environment-friendly products and power saving [24]. In addition, parental behavior directly influences the child’s environmental behavior through subjective norms, the parent’s expectations to their children [19]. Parents can teach/advise their children to take some certain environmentally friendly behaviors at home, such as not taking a shower for long time. These instructions may be seen as a norm of injunction, for instance, beliefs or rules that indicate which behavior is morally approved and opposed by family members. Direct instruction may be one way to influence adolescents’ behaviors [25]. Therefore, previous studies provide evidence of parental role in communicating environmentally friendly attitudes, values, and behaviors to children.

## **5. Intervention Strategies for Adolescent Pro-environmental Behaviors**

When we come to understand the mechanism behind pro-environmental behaviors, we can take some corresponding intervention strategies for adolescents’ pro-environmental behaviors. When certain factors inhibit pro-environmental behaviors in adolescents, we can try to remove these barriers [26].

### *5.1. Information Strategies*

Information strategies are primarily about changing adolescents’ perceptions, knowledges, motivations, values and norms without actually changing the external environment in which choices are made. First, parents can use information strategies to increase adolescents’ knowledge and awareness of environmental concerns, the influences of their actions on the environment, and the pros and cons of alternative behaviors [27]. The pro-environmental behaviors that families can come into contact with are garbage classification, low-carbon travel and ecological protection. Parents should not only teach adolescents how to classify garbage, but also let them understand why they should be classified in this way, and understand what kind of damage each garbage will cause to the ecological environment. Only with a clear understanding of pollution can adolescents understand the importance of environmental protection. In daily life, parents can try their best to instill the concept of low-carbon travel in adolescents, and achieve the purpose of protecting the environment by reducing energy consumption. Second, parents can influence adolescents’ attitudes through persuasion, reinforcing adolescents’ ecological and altruistic values and reinforcing their commitment to the environment [28-31]. Commitment strategies appear to be succeeded

in arousing adolescents' green behaviors. Third, parents can provide adolescents with social support and models to reinforce social norms and teach them how to understand others' perceptions, influences and behaviors. Mimicking and providing information about the behavior of others appears to successfully support environmental behavior [32]. Fourth, Parents should bring children into contact with nature more, and establish a psychological connection between children and nature, i.e., to have positive emotional bonds with nature or these potential benefits to accrue.

### *5.2. Structural Strategy*

When the costs of pro-environmental behaviors are higher or due to external barriers to pro-environmental behaviors, parents may need to change the background in which behavioral choices are made to increase the probability of adolescents adopting pro-environmental behaviors and to make pro-environmental behaviors options becoming more attractive. Structural strategies aim to change environmental factors, for example, the availability of behavioral options and actual costs and benefits. They may also indirectly influence cognitive and motivational factors. They may also indirectly influence cognitive and motivational factors (e.g., attitudes toward green foods may become more favorable when their prices fall).

## **6. Conclusion**

Pro-environmental behaviors are an individual to reduce the damage to nature caused by human behavior through improving and protecting the environment. Pro-environmental behaviors become more and more important, particularly among adolescents. Adolescents are an important group of future environmental protection, and they will become environmental policy makers in the future, so as to achieve human sustainable development. Adolescence is an important period for behavior change, particularly environmental behaviors change. The aim of this study was to use psychological techniques to promote pro-environmental behaviors in adolescents. Adolescents' pro-environmental behaviors are highly influenced by the families' dominant norms and how they are manifested in parental behaviors. Numerous studies have proved the role of parents in passing on their environmental values, attitudes and behaviors to adolescence, we can cultivate young people in the family. Participation in environmental actions will produce positive feelings which will lead to positive emotions in adolescents, i.e., realize the sustainable development of human beings and contribute to the future environmental protection.

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