Environmental psychology

Chapter 7

Learning Objectives

Understand the evolution of the concepts of environmental psychology
Identify the components and factors in environmental sociology
Evaluate environmental risks and their management
Assess social norms, emotions, dilemmas in environmental behaviour
Explore the factors influencing environmental behavior

Introduction

Green

GREY

MEMORIES

Introduction

Introduction

Introduction

Introduction

Environmental psychology as the discipline that studies the interplay between individuals and the built and natural environment.

Environmental psychology examines the influence of the **environment on human experiences**, behaviour, and wellbeing, as well as the influence of **individuals on the environment**, that is, factors influencing environmental behaviour, and ways to encourage pro-environmental behaviour.

Introduction

Environmental conditions can shape behaviour

- Example: Childhood exposure to **nature** can increase
    - connectedness to nature
    - willingness to support **nature conservation**

    Many Scandinavian adults who attended forest schools participate in conservation groups or vote for green policies. →

Human behaviour can shape environmental conditions

- Example: Strong public support for conservation can improve
    - biodiversity
    - ecosystem health

    Local communities, NGOs, and government campaigns to protect mangroves in the Sundarbans. →

Introduction

Built environment influences behaviour

- Example: Availability of **public transport infrastructure** affects
    - level of **car use**
    - choice of sustainable mobility

  The modal share of cycling has been more or less stable, around 27% of all trips in the Netherlands.

Human behaviour influences environmental problems

- Example: High levels of car use contribute to
    - **air pollution**
    - **global warming**

Top 10 most polluted cities in the world 2025:

Rank	City	Country/Region	AQI+ US
1	Baghdad	Iraq	183
2	Kolkata	India	170
3	Dhaka	Bangladesh	162
4	Lahore	Pakistan	160
5	Manama	Bahrain	158

History

Environmental psychology has been recognized as a field of psychology since the late 1960s.
Hellpach was one of the first scholars who introduced the term 'environmental psychology' in the first half of the twentieth century. Hellpach (1911) **studied the impact of different environmental stimuli, such as colour and form, the sun and the moon, and extreme environments, on human activities.**

Egon Brunswik (1903–1955)

- Regarded as one of the founding fathers of environmental psychology.
- Believed that the **physical environment influences psychological processes**, often **outside people's conscious awareness**.
- Emphasized probabilistic functioning in perception and how humans interpret cues from the environment.

Kurt Lewin (1890–1947)

- Also considered a founding father of the field.
- Proposed that **behaviour (B) is a function of the person (P) and the environment (E): B = f(P, E)**.
- Highlighted the dynamic interaction between individuals and their surroundings.
- Introduced field theory, stressing that the environment plays a **central role in shaping behaviour**.

History

Environmental Psychology in the 1940s–1950s

- Focus shifted strongly toward the **built physical environment**.
- Researchers examined how **architecture, engineering, and technological design** influenced:
    - Human behaviour
    - Psychological well being
    - Comfort and productivity
- This interest was shaped by the **political and social context** of the post-war era:
    - Urban rebuilding after World War II
    - Growth of modern infrastructure
    - Expansion of public housing and city planning
- Emphasis was on using environmental design to solve **social problems** and enhance **quality of life**.

History: Towards 'Architectural' Psychology

Questions like how homes, offices, or hospitals could best be built for their potential users and how environmental stressors (e.g. extreme temperatures, humidity, crowding) would affect human performance and wellbeing were the focus of many environmental psychological studies.

Environmental psychology as a study to design buildings that would facilitate behavioural functions was officially born.

View through a window may

influence recovery from surgery

R S Ulrich (1984)

History: Towards a Green Psychology

Late 1960s: Growing Awareness of Environmental Problems

- Public concern about pollution, population growth, and ecological degradation increased.
- Led to the rise of **environmental psychology studies on sustainability**.
- Focus shifted to **explaining and changing environmental behaviour** to promote a healthy, sustainable environment.

Early Research Focus Areas (Late 1960s–Early 1970s)

- **Air Pollution:** De Groot (1967), Lindvall (1970)
- **Urban Noise:** Griffiths & Langdon (1968)
- **Environmental Quality Appraisal:** Appleyard & Craik (1974), Craik & McKechnie (1974)

1970s: Expansion of Research Topics

- Broader focus reflecting the global energy crisis and environmental risks.
- Research examined:
  - **Energy supply and demand** (Zube et al., 1975)
  - **Risk perceptions and risk assessment** related to energy technologies (Fischhoff et al., 1978)

History: Towards a Green Psychology

1980s: Emergence of Conservation Behaviour Research

- First studies targeting **pro-environmental and conservation behaviours**.
- Explored links between:
  - **Consumer attitudes**
  - **Actual environmental behaviour**
- Marked an important shift toward **behaviour change and sustainability interventions**.

Current scope

Ongoing Focus of Environmental Psychology

- The field continues to prioritize **changing human behaviour** to address and reverse environmental problems.
- Emphasis on promoting behaviour change **without compromising human wellbeing or quality of life**.

Adoption of a Broad Concept of Sustainability

- Environmental psychology widely embraces a holistic view of sustainability, as defined by the World Commission on Environment and Development (1987).
- This broad concept includes: **Environmental sustainability, Social sustainability, Economic sustainability**
- Recognizes that environmental solutions must support both people and the planet.

Shift Toward a Psychology of Sustainability (Gifford, 2007)

- Focus on Human Behaviour Behind Environmental Problems
- Linking Environmental Protection With Human Wellbeing
- Understanding Why People Do NOT Act Sustainably
- Designing Interventions to Promote Sustainable Behaviour
- Integrating Environmental, Social, and Economic Dimensions

Environmental sociology

Definition of Environmental Sociology

- Studies the **relationship between human societies and their physical environments**.
- Often summarized as the study of **"societal–environmental interactions."**
- Focuses on:
    - How humans influence the environment
    - How environmental conditions (often human-modified) influence human life and social processes

Key Conceptual Question

- Defining the field raises a major question: **What counts as "the environment" in environmental sociology?**
- This includes natural, built, and socially constructed environments.
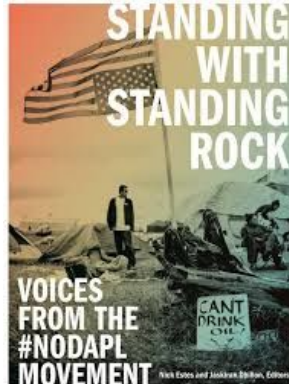
Historical Emergence of the Field

- In the late 1960s and early 1970s, environmental issues gained strong attention in the U.S.
- This rise in public concern pushed sociologists to examine *why* environmental quality was becoming recognized as a social problem.

Environmental sociology

Role of the Environmental Movement

- The **environmental movement** played a crucial role in placing environmental issues on national and global agendas.
- Early sociological research focused heavily on:
  - **Environmentalism as a social movement**
  - Its origins, supporters, and impacts
- These studies expanded from North America to **Europe, South America, and Asia**, shaping the global development of environmental sociology.

CHIPKO MOVEMENT
A MAJOR ENVIRONMENTAL MOVEMENT IN INDIA

STANDING WITH STANDING ROCK
VOICES FROM THE #NODAPL MOVEMENT
Nick Estes and Jaskiran Dhillon, Editors
CANT DRINK OIL

Environmental risks

Definition of Risk:

- Risk involves a causal chain between a risk source (activity, event, situation) and an uncertain adverse outcome.
- Perception of risk influences whether people take action to address it.

Characteristics of Environmental Risks:

- High complexity and uncertainty.
- Intricate causal relationships with multiple consequences.
- Can involve risks for the environment (e.g., ocean acidification from CO_2 emissions).
- Can involve risks from the environment (e.g., floods destroying human habitats).

Collective Origin:

- Often arise from aggregated behaviours of many individuals (e.g., fossil fuel consumption).
- Mitigation requires coordinated action by large groups, not single actors.

Environmental risks

Temporal and Spatial Delay:

- Consequences are often delayed in time.
- Effects may occur far from the source of risk (e.g., industrial emissions affecting developing countries).

Ethical Dimensions:

- Those contributing to a risk are not always the ones affected.
- Raises ethical questions regarding responsibility to future generations and vulnerable populations.

Environmental risk perception

- **'Risk perception' refers to people's subjective judgement about the risk that is associated with some situation, event, activity, or technology.** Research has developed several techniques to assess subjective risk judgements.

- **First approach:** respondents are asked to give an overall judgement by either rating or rank ordering various risks according to their overall riskiness or to the degree to which they experience concern, worry, or threat concerning these risks.

- **Second approach:** is to ask people how much money they would be **'willing to pay' (WTP)** to mitigate or how much they would be **'willing to accept' (WTA)** to tolerate a particular risk.

Would you be willing to pay (WTP) for clean water?

Recreational swimming

Recreational fishing

Recreational boating

Would you be willing to accept (WTA) compensation for

Housing

Solar installation

Road network

Environmental risk perception

Role of Values and Morality: Risk perception is influenced not only by facts but also by **personal values and moral positions**.

Traditional vs. Altruistic Values:

- People **low on traditional values** (family, patriotism, stability) and **high on altruism** (concern for humans and other species) tend to perceive **greater global environmental risks** (e.g., ozone depletion, global conflict).

Nature- vs. Ego-Oriented Values:

- People who **value nature intrinsically** show **greater awareness** of environmental problems.
- People with **strong egoistic values** show **reduced awareness** of environmental risks.

Protected or Sacred Values:

- Some values are considered absolute and non-negotiable, such as: Human or animal life, Unspoilt nature, Human dignity. People with protected values are less likely to accept market-based approaches like trading emission rights, even if such approaches could mitigate climate change. Individuals holding such values reject trade-offs for economic gain
- Sacred values can reduce risk perception: Example: People holding sacred beliefs about the Ganges River are less likely to perceive it as polluted, despite evidence of contamination.

Environmental risk perception

People judge risks **higher** when they feel **negative** about an activity. People judge risks **lower** when they feel **positive** about an activity.
Types of Emotional Responses:

1. **Consequence-Based Emotions** – Focus on the outcomes of a risk:
   ○ **Prospective:** Fear from anticipating harm (e.g., fear of future flooding).
   ○ **Retrospective:** Sadness from experienced loss (e.g., loss of habitat).
2. **Ethics-Based Emotions** – Focus on moral rightness of actions:
   ○ **Self-directed:** Guilt when one's own actions cause harm (e.g., excessive car use).
   ○ **Other-directed:** Outrage when harm can be attributed to others (e.g., chemical pollution by a company).

Examples of Emotional Triggers:

- Individual behaviours → **strong guilt** (self-directed ethics-based).
- Clearly attributable actions by others → **outrage** (other-directed ethics-based).
- Species extinction → **fear** (prospective) and **sadness** (retrospective).

Natural vs. Human-Caused Risks:

- Emotional reactions are generally **weaker** for natural risks (e.g., earthquakes).
- Emotional reactions are **stronger** for risks **caused by humans** (e.g., pollution, deforestation).

Environmental behavior

Environmental behaviour is defined as 'all types of behaviour that change the availability of materials or energy from the environment or alter the structure and dynamics of ecosystems or the biosphere'.

This includes behaviours which are environmentally damaging as well as behaviours which are beneficial for the environment. This includes almost all kinds of behaviour as almost everything we do has some sort of impact on the environment. Measures of actual impact necessarily include both behaviours which are environmentally damaging and behaviours which are environmentally friendly.

Deforestation

Reforestation

Pro-environmental behavior

Most research in environmental psychology focuses on studying **pro-environmental behaviour**, also referred to as **environmentally friendly behaviour**, **ecological behaviour**, or **conservation behaviour**.

Pro-environmental behaviour consciously seeks to minimize the negative impact of one's actions on the natural and built world'. This type of behaviour can therefore be labelled as goal-directed pro-environmental behaviour – behaviour which people adopt with the explicit goal of doing something beneficial for the environment.

Alternatively, pro-environmental behaviour harms the environment as little as possible, or even benefits the environment'. This is behaviour that is beneficial for the environment but is not necessarily (or exclusively) motivated by environmental goals.

Pro-environmental behavior

Which bag do you use (reusable or single-use plastic)?

If reusable, why do you use it?

Is it your conscious choice?

Is there any any explicit goal?

Pro-environmental behavior


Do you eat less meat, and more vegetables?

Does eating less meat save you money?

Does eating less meat benefit your health?

Environmental impact: perceived versus actual

There are several reasons why measures of behaviour may not necessarily reflect actual impact.

Behaviour measures often rely on self-reports, which are sensitive to response biases and thus may not reliably reflect actual behaviour and consequently cannot accurately reflect environmental impact
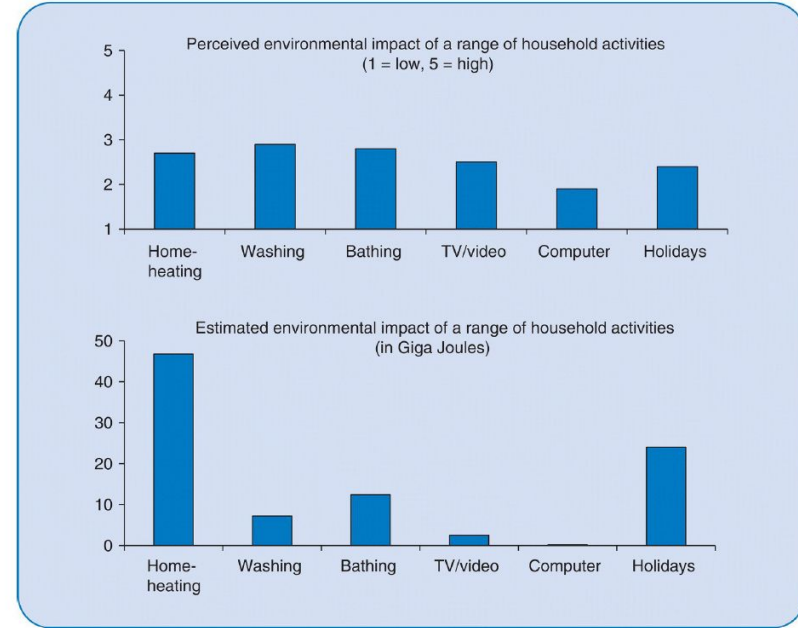
Key values for pro-environmental behavior

- **Four key value types** shape environmental attitudes, norms, and behaviours:
  - *Self-transcendence*: **Altruistic** and **biospheric** values
  - *Self-enhancement*: **Egoistic** and **hedonic** values
- **Biospheric values**:
  - Concerned with protecting nature and the environment *for its own sake*
  - Strongly predict pro-environmental attitudes, norms, and behaviours
  - Positively correlated with altruistic values
- **Altruistic values**:
  - Concerned with the welfare and well-being of other people
  - Also linked to pro-environmental behaviour, but generally less predictive than biospheric values
- **Egoistic values**:
  - Focus on personal costs and benefits (e.g., money, power, convenience)
  - Typically negatively related to pro-environmental attitudes and behaviours
- **Hedonic values**:
  - Concerned with pleasure, comfort, and reducing effort
  - Distinct from egoistic values
  - Also tend to be negatively related to environmentally responsible preferences and actions

Key values for pro-environmental behavior

Example	Type of value
I avoid using plastic bags, because they harm wildlife and pollute natural ecosystems.	Biospheric
I avoid using plastic bottles, because reducing plastic waste helps create a cleaner, healthier environment for everyone.	Altruistic
I avoid using single-use plastic because it saves me money in the long run when I use a reusable bottle or bag.	Egoistic
I avoid using plastic packaging because reusable containers look nicer and make my daily routine feel more enjoyable.	Hedonic

Key values for pro-environmental behavior

Example	Type of value
I reduce my mobile screen time, because using less electricity helps lower my environmental impact.	
I reduce my mobile screen time, because I want to set a positive example for others and encourage healthier digital habits.	
I reduce my mobile screen time, because it helps me save battery and keeps my phone performing better.	
I reduce my mobile screen time, because taking breaks makes me feel more relaxed and mentally refreshed.	

Social norms and environmental behavior

Injunctive social norms tell us which behaviour is approved or disapproved. Conforming to such norms is often associated with social acceptance or rewards, whereas violating them often entails disapproval and social sanctions. **People conform to injunctive norms to gain social approval or to avoid social sanctions.**

In one of the studies, the descriptive and injunctive messages were aligned. The message read:

Many of our resort guests have expressed to us the importance of conserving energy. When given the opportunity, nearly 75% of our guests choose to reuse their towels each day. Because so many guests value conservation and want to conserve, this resort has initiated a conservation program. ….
PLEASE REUSE YOUR TOWELS.

Results over a six-month period showed that 62% of guests who stayed in a room with the aligned norm message reused at least one towel on the first opportunity to do so, and the average room replaced 1.74 towels on the first cleaning day. By comparison, 57% guests who stayed in rooms with a control message about the environmental benefits of reusing towels chose to reuse at least one towel, and the average room replaced 2.32 towels.

Emotions and environmental behavior

Anticipated emotions—the expected positive or negative feelings from performing a behaviour—strongly influence whether people engage in that behaviour.

These emotions can lead to **environmentally harmful actions**. For example: People may commute by car more often because they anticipate pleasure from driving.

Anticipated emotions can also promote **pro-environmental behaviour**.

- ○ **Positive emotions: *Feeling happy* when reducing electricity use at home.**
- ○ **Negative emotions: *Feeling ashamed* about wasting water or electricity.**

Pro-environmental actions can strengthen moral self-identity.

- Acting in environmentally responsible ways signals to oneself: *"I am a good person."*

This action-based confirmation builds a **positive self-image**, composed of various identity components that shape how people see themselves.

When people view their actions as environmentally friendly, this enhances self-image and generates **positive emotions**. This pleasant feeling derived from helping others or benefiting the environment is known as a **warm glow**.

Dilemmas and environmental behavior

Social dilemmas are situations in which individual interests are in conflict with collective interests. Each selfish decision creates a negative outcome (or cost) for other people involved. When a large number of people make selfish choices, negative outcomes accumulate, creating a situation in which everybody would have been better off if they had not acted in their own interest.

Example: Imagine a community that relies on a shared freshwater lake.

- Each person wants to use as much water as they like—for watering plants, washing cars, or running small businesses—because it benefits them individually.
- However, when many people overuse the lake, the water level drops and eventually becomes too low for anyone to use safely.
- As a result, *everyone* ends up worse off than if they had all used only the amount necessary.

This shows how **individual self-interest (using more water) conflicts with the collective interest (preserving the lake for all)**.

Dilemmas and environmental behavior

A large scale dilemma refers to situations where many people interdependently act under conditions that represent high anonymity, a low degree of communication, where choices to cooperate or defect are made by people in a collective that is weakly united, and where individuals are geographically separated.

Example: Climate change mitigation is a classic large-scale dilemma.

- People across the world use fossil fuels because it is convenient and often cheaper.
- Individuals are anonymous, rarely knowing who else is cooperating or defecting.
- There is a low level of direct communication between billions of people making these decisions.
- The global population is weakly united, with different countries having different priorities, resources, and policies.
- People are geographically separated, yet their actions (e.g., carbon emissions) collectively affect the entire planet.

Even though everyone benefits if all reduce emissions, many individuals continue high-carbon lifestyles because the personal cost of reducing emissions seems larger than the immediate personal benefit.

Dilemmas and environmental behavior

A resource dilemma arises when multiple individuals share a limited resource with free access, where each group member decides how much to withdraw from the common resource. Examples are common forests, rivers, fisheries, or grazing land. Resource dilemmas are also often named common pool resource (CPR) dilemmas.

Example: A shared village fishpond is available for all local fishers.

- Each fisher decides how many fish to catch each day.
- Catching more fish benefits the individual in the short term (more income or food).
- But when many fishers harvest too much, the fish population cannot replenish fast enough.
- Over time, the pond becomes overfished, and everyone suffers from the loss of the resource.

This shows how individual overuse of a shared, limited resource leads to collective depletion.

A resource dilemma (CPR dilemma) is a subtype of social dilemma, specifically involving a shared, limited physical resource where people decide how much to take (e.g., fisheries, forests, groundwater).

Dilemmas and environmental behavior

In a **public good dilemma** the common goods depends on individual contributions but is accessible to all group members.

Example: Maintaining street lighting in a neighborhood

- The streetlights provide safety and visibility for everyone in the community.
- Each household can choose whether to contribute to the electricity or maintenance costs.
- Even if some households do not contribute, they still benefit from the streetlights.
- If too many households choose not to contribute, the lights may not be maintained, and everyone's safety decreases.

This shows how individual contribution is optional, but the public good depends on collective support.

Dilemmas and environmental behavior

The **Greed Efficiency Fairness Hypothesis** proposed by Wilke (1991) predicts that there are three conflicting motives in social dilemmas: greed, efficiency, and fairness.

Greed
The competitive or defecting choice in a social dilemma corresponds to the greed motive to maximize own outcomes. Greed can be based on survival instincts or social comparison motives like trying to avoid being worse off than others.

Efficiency
The cooperative choice in a social dilemma corresponds to the efficiency motive to maximize collective outcomes. In productivity and performance-oriented groups it is often linked to the distribution principle of equity (see below). Efficiency is assumed to restrain greed.

Fairness
The fairness motive reflects a desire to distribute outcomes according to one of three principles: equity (distributing a resource in proportion to input, which is common when productivity is a primary goal), equality (to split resources equally, which is common when group harmony is a primary goal), and need (helping others in need or jeopardy, which is common when wellbeing and personal development are primary goals). Fairness is assumed to restrain greed.

Dilemmas and environmental behavior

FACTORS INFLUENCING COOPERATION IN SOCIAL DILEMMAS

Group size and communication: The degree of cooperation increases when group size decreases. Communication will increase as group size decreases. If people are able to communicate with each other, they will have more opportunities to make strategic and coordinated choices; members in a group can decide how to act in order not to deplete or reduce a common resource, resulting in a decrease in environmental and social uncertainty.

Response efficacy: reflects the extent to which people feel that their cooperative actions are crucial in order to maintain or create a common resource. Obviously, response efficacy is linked to group size: members in large groups tend to believe that their efforts will be insignificant. People are less likely to act for the common good if they feel that a cooperative act will be wasted.

Environmental uncertainty: The level of cooperation depends on group members' knowledge about the size of the common resource. Quite often, however, there is no or incomplete environmental information, giving rise to so called environmental uncertainty. Environmental or resource uncertainty increases subjects' estimation of the size of the resource (the bigpool illusion), resulting in a higher request from the resource.

Dilemmas and environmental behavior

FACTORS INFLUENCING COOPERATION IN SOCIAL DILEMMAS

Social uncertainty: reflects the uncertainty about other members' choices in a social dilemma. It has been found that when participants were unaware of how others in a group would act, they were less cooperative. Social uncertainty is reduced, for example, by the principle of equal share.

Norms in large scale dilemmas: a guideline for appropriate behaviour may be how others in the social group behave or think one ought to behave. In such situations, social norms could guide behaviour; with no clear information about how to act, people may simply do what other people do or regard as appropriate. Norms that regulate and coordinate social interactions, such as commitment, reciprocity, and equity, increase cooperation in social dilemmas.