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

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.

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.**

Brunswik (1903–1955) and Lewin (1890–1947) are generally regarded as the ‘founding fathers’ of environmental psychology. Brunswik believed that the physical environment affects psychological processes outside people's awareness. Lewin conceptualized the environment as a key determinant of behaviour. He argued that behaviour is a function of the person and the environment.

In 1940s and 1950s in the field of environmental psychology, much attention was given to the built physical environment (i.e. architecture, technology, and engineering) and how it affected human behaviour and wellbeing, guided by the political and social context of the time.

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

During the late 1960s when people increasingly became aware of environmental problems. This resulted in studies on sustainability issues, that is, studies on explaining and changing environmental behaviour to create a healthy and sustainable environment.

The first studies in this area focused on air pollution (De Groot 1967; Lindvall 1970), urban noise (Griffiths and Langdon 1968), and the appraisal of environmental quality (Appleyard and Craik 1974; Craik and Mckechnie 1974).

From the 1970s onwards the topics further widened to include issues of energy supply and demand (Zube et al. 1975) and risk perceptions and risk assessment associated with (energy) technologies (Fischhoff et al. 1978).

In the 1980s the first studies were conducted that focused on efforts promoting conservation behaviour, such as relationships between consumer attitudes and behaviour.

Current scope

A continuing and growing concern of environmental psychology is to find ways to change people's behaviour to reverse environmental problems, while at the same time preserving human wellbeing and quality of life.

To this end, a broad concept of sustainability, which encompasses environmental as well as social and economic aspects, has been widely adopted (World Commission on Environment and Development 1987).

This broad concept of sustainability has increasingly become a central guiding and unifying principle for research in environmental psychology. Indeed, it has been suggested that, over the past decades, the field of environmental psychology has gradually evolved into a ‘**psychology of sustainability’.**

Environmental sociology

Environmental sociology is typically defined as the study of relations between human societies and their physical environments or, more simply, “societal environmental interactions”.

Such interactions include the ways in which humans influence the environment as well as the ways in which environmental conditions (often modified by human action) influence human affairs. Defining the field in this way, however, immediately raises the question as to what environmental sociologists take to be “the environment.”

The emergence of “environment” on the U.S. national agenda in the late 1960s and early 1970s led sociologists to study factors that contributed to environmental quality becoming recognized as a social problem.

The environmental movement played the major role in placing the environment on the nation’s agenda, and studies of environmentalism were a primary emphasis of early sociological work not only in North America but subsequently in Europe, South America, and Asia as well.

Environmental risks

Environmental changes and pollution, as well as many human activities and technologies, bear the possibility of harmful and long lasting consequences for both humans and nature. How people perceive such risks is a crucial question; risk perceptions can prompt or oppose actions to address particular risks. Risk entails a causal chain between a risk source (a situation, event, activity, etc.) and an uncertain adverse outcome.

Environmental risks are characterized by high complexity and uncertainty, entailing intricate causal relationships and multiple consequences. Consequently, they often encompass both risks for (e.g. acidification of oceans caused by anthropogenic carbon dioxide) and risks from (e.g. destruction of human habitat due to flooding) the environment.

Environmental risks often emerge from the aggregated behaviours of many individuals (e.g. use of fossil fuels) rather than from a single activity. Therefore, mitigations cannot be easily attained, because they require actions of many people.

The consequences of environmental risks are often temporarily delayed and geographically distant. The people who contribute to a risk (e.g. industrial countries) are not necessarily the ones who suffer the consequences (e.g. developing countries, future generations). Environmental risks, therefore, often raise ethical issues.

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, 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.

A 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

Risk perception may also be driven by values and moral positions.

People low on traditional values (i.e. family, patriotism, stability) and those high on altruism (concern with welfare of other humans and other species) tend to perceive greater global environmental risks (depletion of ozone layer and global war).

People who value nature in its own right, show greater awareness while people with strong egoistic values show reduced awareness of environmental problems.

Many think that it is morally wrong to sacrifice nature or endangered species for money. People think of such entities or values (e.g. human or animal life, unspoilt nature, human dignity) as absolute, not to be traded off for anything else, particularly not for economic values.

Individuals holding protected values are more likely to reject market based approaches to trading emission rights, despite their possible benefit in mitigating climate change. Besides, sacred values seem to affect environmental risk perception: People holding sacred beliefs for the Indian river Ganges are less likely to perceive this river as polluted.

Environmental risk perception

Emotions influence risk perceptions. We judge risks as higher when we feel negative about an activity, but we judge risks as lower when we feel positive about it.

When people focus on the consequences of a risk, they experience consequence based emotions. These can be prospective (e.g. fear arising from the anticipation of harm) or retrospective (e.g. sadness triggered by an experienced loss). When people focus on moral rightness, they experience ethics based emotions. These can be directed towards **oneself (guilt when taking blame) or towards other people (outrage when blaming others)**.

Ethics based self-directed emotions (e.g. guilt) are particularly strong for individual behaviours such as car use. Ethics based other directed emotions (e.g. outrage) are experienced when responsibility can be ascribed more clearly to one agent (e.g. chemical dumps). Species extinction triggers mainly prospective (e.g. fear) and retrospective (e.g. sadness) consequence based emotions

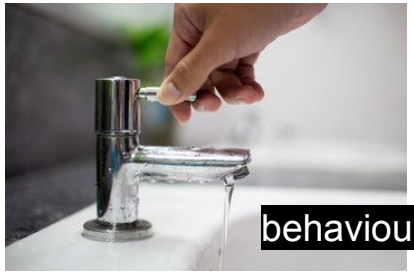
Emotional reactions to natural risks (e.g. earthquakes) are generally weaker than those to risks that are caused by humans.

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 has been defined as ‘behaviour that 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 has been defined as ‘behaviour that 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.



behaviour is habitual

motivated by other goals

Environmental behavior

Environmental behaviour has been 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. Arguably 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.

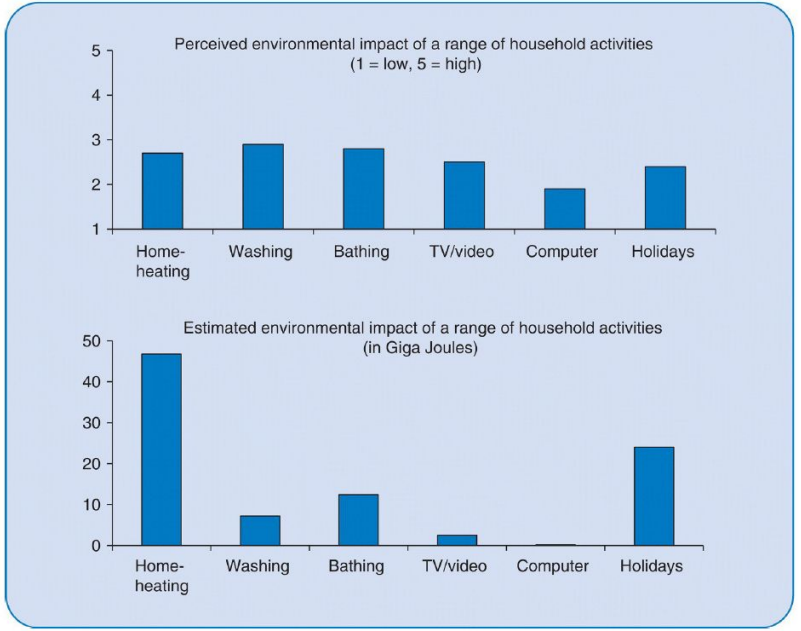

Deforestation


Reforestation

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

In the environmental domain, two types of **self-transcendence (altruistic and biospheric)** and two types of **self-enhancement (egoistic and hedonic) values** appear to be particularly relevant in relation to attitudes, norms, and behaviour.

Biospheric values reflect a concern for the quality of nature and the environment for its own sake, while altruistic values reflect a concern with the welfare of other human beings. Biospheric and altruistic values are positively correlated. In most cases, biospheric values are more predictive of pro-environmental attitudes, norms, and behaviours than are altruistic values.

While egoistic values reflect costs and benefits affecting individual resources (such as money and power), hedonic values reflect a concern with improving one's feelings and reducing effort. Hedonic values can be distinguished from egoistic values; like egoistic values, hedonic values are typically negatively related to a range of environmentally relevant attitudes, preferences, and behaviours.

Key values for pro-environmental behavior

Example	Type of value
I want to reduce carbon footprint, because I believe nature has intrinsic worth.	Biospheric
I support renewable energy, because that will ensure a safe planet for everyone.	Altruistic
I drive an electric bike, because it is high-tech and reduces fuel cost.	Egoistic
I bike in nature, because it feels enjoyable and refreshing, rather than for environmental or health reasons	Hedonic

Key values for pro-environmental behavior

Example	Type of value
I go to a restaurant that serves organic food.	Biospheric
I go to a restaurant that has a better working condition.	Altruistic
I go to a restaurant that serves affordable food.	Egoistic
I go to a restaurant that serves food to my taste.	Hedonic

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

Research shows that the extent to which people believe engaging in behaviour will elicit positive or negative emotions, socalled, anticipated emotions, can be an important predictor of whether they will act accordingly. This can lead people to engage in environmentally harmful behaviour, such as commuting by car more often because they associate car use with bringing pleasure.

Anticipated emotions can also lead people to engage in pro-environmental behaviour. For example, people's intention to use public transport is stronger when they anticipate positive emotions coming from using it and when they anticipate negative emotions when not using it.

By engaging in moral behaviour such as acting pro-environmentally, you show yourself that you are a good person. As such, engaging in pro-environmental behaviour sends a **positive self- signal** . **People's self-image** can be seen as a collection of different components that together form a person's view of who they are.

When perceiving one's actions to be environmentally friendly leads to a positive self-image, this in turn elicits positive emotions. Such a positive feeling as a result of helping others or benefiting the environment is also referred to 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.

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.

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.

In a **public good dilemma** the common goods depends on individual contributions but is accessible to all group members. An example is paying taxes: others benefit when I pay my taxes regardless of whether they contributed as well. For instance, others may enjoy the city parks regardless of whether they contributed to their maintenance through local taxes.

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.