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# UNIT 1 ENVIRONMENTAL PSYCHOLOGY

## OVERVIEW\*

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### Learning Objectives

After having read this Unit, you will be able to:

- Describe the emergence and growth of environmental psychology
- Identify the salient features and characteristics of environmental psychology
- Explain the recent developments and scope in the area of environmental psychology, and
- Discuss environmental psychology from an Indian perspective

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## 1.0 INTRODUCTION

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Psychology, as an academic field, has shown tremendous advancement since its inception. The subject of Psychology has many applied branches, some even touching upon various other disciplines like Sociology, Organizations, Biology, and so on. While the various fields of psychology were developing during a period of five decades, the physical settings of the environment were initially overlooked (Tewari & Mathur, 2014). As the awareness grew around the dimensions of the physical space, it became apparent how deeply it impacts a person's behaviour. In this introductory Unit, we will introduce you to the branch of environmental psychology, followed by its salient features, recent trends and scope. A description of main research methods used in environmental psychology will be presented. The Unit ends with status of environmental psychology in India.

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## 1.1 WHAT IS ENVIRONMENTAL PSYCHOLOGY?

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In the present decade, when the environment is a concern for the human race, studying of environmental psychology is very relevant. The environment includes the surroundings or conditions in which a person, animal, or plant lives or operates. It is the natural world as a whole, or in particular geographical areas, as affected by human activity. The environment provides ideas, meanings, and affects behaviour just as the social settings, or age, or the developmental stage (Bell, Greeve, Fisher, and Baum, 2001).

Proshansky (1976) says that the person's physical world in the form of rooms, buildings, study halls, streets, schoolrooms, bedrooms, hospital wards, day-care centres, subway trains, apartment houses, etc., influence their behaviour too. Environmental psychology, thus, is one of the important branches of psychology that has brought a new perspective to study and understand the complexities of human behaviour and social-physical environments.

Environmental Psychology deals with the environment at two different levels. It is concerned with the environment as well as the context of behaviour. At one level, environmental psychology studies how the environment determines which behaviour is possible and how it is possible. It is concerned with the properties of environment which act as determinants that affect human behaviour and mood. At the next level, environmental psychology is concerned with the consequences of behaviour on the environment or broadly with environmental problems such as pollution, recycling, and ecosystem issues. This is a very different focus, though it follows from a basic premise that behaviour and environment mutually affect each other. Environmental psychologists encompass both how the environment influences people and how people influence the environment. Thus, it is an interactive discipline (Bell, Greeve, Fisher, and Baum, 2001).

Moving further, environmental psychology is the study of people's complicated interactions with their surroundings. It differs from other major areas of psychology in that it is focused on the everyday physical environment. According to Gifford, larger environmental factors, such as social, political, economic, and cultural pressures, are also included in this field. Environmental psychology's biggest strength is its multidisciplinary approach and recognition of the interconnected nature of behaviour and environment. Environmental psychology does not simplify things in an artificial way. Instead, it offers a framework of perspectives, research, and theories to aid in our understanding of how humans and the environment interact. Though there are no black-and-white answers, we may use bits and pieces from the body of work to better design the physical space for human needs. "The fundamental significance of environmental psychology for the design professions lies in its potential capacity to provide a body of knowledge—conceptual and empirical—for understanding the relationships between human behaviour and experience in the built environment,"- Proshansky in his paper, *The Role of Environmental Psychology for the Design Professions*.

In the process of finding possible solutions for environmental problems, psychologists are using a practical approach by gaining information about the relationships between conceptual models of human behaviour. Environmental psychology is not only practically oriented but also incorporates the theoretical approach of traditional psychology. Environmental psychology is thus an applied field that involves research to improve our environmental resource management.

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## 1.2 DEFINITION AND SCOPE

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Environmental psychology is an interdisciplinary field that focuses on the transactions between individuals and their surroundings. It examines how the natural environment or built environment shapes the individual. Environmental psychologists emphasize on an individual's transactions with their environment. They examine the human transactions in work space, home, natural environment, and how these are related to one's satisfaction, subjective well-being, productivity and mental health. The term "environment" is defined extensively in this discipline, and it includes natural surroundings, social settings, physical environments, learning environments, and informational environments. The area has been dedicated to the establishment of a discipline that is both value and problem-oriented since its inception, prioritizing research aimed at solving complex environmental problems in the pursuit of individual well-being.

Early definitions of environmental psychology emphasized the relationship between the physical environment and human behaviour. H.M. Proshansky (1967 b) defined environmental psychology as *'the attempt to establish empirical and theoretical relationships between behaviour and experiences of a person and his built environment.'* According to Encyclopedia of Social Psychology, *environmental psychology deals with people's homes, the workplaces and leisure settings, the visual impact of buildings, the negative effects of cities, the restorative role of nature, and environmental attitudes and sustainable behaviour.* Russel and Snodgrass (1987) defined the field as the branch of psychology that is *concerned with providing a systematic account of the relationship between humans and their environment.* In the handbook of environmental psychology, Stokols and Altman (1987) defined it as the *study of human behaviour and well-being in relation to the socio-physical environment.*

These definitions often point to the relationship between the environment and behaviour but do not really emphasize the bi-directional nature of the environment-behaviour relationships since the environment affects the behaviour and behaviour also affects the environment. Also, these definitions are not able to describe the non-built environment and its impact on the relationship between behaviour and the environment as a whole.

Recent definitions adopt more inclusive, holistic, and transactional approach on human-environment relationship. Gifford defines environmental psychology as "a study of transactions between individuals and their physical settings in these transactions individuals change their environment, and their behaviours and experiences are changed by their environments" (Gifford et. al, 2010). According to him, environmental psychologists work at three levels of analysis:

- a) Fundamental psychological processes like the perception of the environment, spatial cognition, and its effects on our personality.
- b) The management of social space: personal space, territoriality, crowding, privacy, and the physical settings, aspect of complex everyday behaviours such as working, learning, living in a residency, and community.
- c) Human interactions with nature and role of psychology in climate change (Gifford et. al, 2010)

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## 1.3 SALIENT FEATURES

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Environmental psychology studies the interactions between people and the physical environment as well as the built environment. Environmental psychologists rather than defining discipline have been in charge of describing some of its main features:

1. A holistic molar perspective: The researcher examines behaviour in its context or surroundings and tries to delve into complex psychological processes and environmental factors.
2. An applied problem-solving perspective: here the research is designed to discuss the basic principles of behaviour and find solutions to social problems involving a physical environment.
3. A broad and eclectic methodology: environmental psychology uses laboratory experiments, field experiments, surveys research, observations, on diverse environments, and diverse methodology to study problems.
4. A wide range of levels of analysis: It employs micro and macro-level approaches to study human problems concerning everyday life problems. It applies a 360-degree approach.
5. Environmental psychology is a multi-disciplinary subject that has adapted theoretical ideas not only from core psychology but also other social sciences in developing its theories.

Bell et. al has precisely stated that “environmental psychology is characterized by the following:

1. Study of the environment- behaviour, relationships as a unit
2. Study of interrelationships of environment and behaviour.
3. A relative lack of distinction between applied and theoretical research.
4. An interdisciplinary and international appeal.
5. An eclectic methodology (a rich mixture of methods).

### Characteristic Features of Environmental Psychology

The four key features that characterize the field of environmental psychology are briefly described below (Steg and Groot, 2019):

- **Interactive Approach** Environmental psychology is mainly interested in the interactions between people and their built and natural environment, it also takes into account the way the environment influences behaviour as well as which factors have an impact on human behaviour that can be helpful in improving the quality of the environment.
- **Interdisciplinary Approach** Environmental psychologists often work in interdisciplinary settings and collaborate with other experts from other disciplines as this can help them in having a more holistic approach. Each and every discipline brings in a different point of view to the given phenomenon, when all perspectives are integrated, it helps in providing a comprehensive scenario to solve the problem at hand and answer questions accordingly.

Environmental psychologists often work with architects, geography experts, cognitive psychologists, and social psychologists.

- **Problem-focused Approach** Environmental psychology intends to solve real-life problems and often carries out studies in a manner that can be helpful in solving a problem but it also works relentlessly to study the various phenomenon, test theories, and understand and explain various aspects of human behaviour in the context of their environment and their interaction with the environment. The approach can be centered on the immediate surrounding of an individual and can be extended to a global level as well to deal with issues like global warming, climate change, ecological restoration, etc.
- **Diversity of Methods Approach** Environmental psychology also utilizes qualitative and quantitative research methodologies as used in other disciplines of psychology. The distinctive feature of this field, in particular, is the way it uses various methods that are very diverse in nature and work through the problem or research work. The optimal method is often chosen by weighing the strengths and weaknesses of a particular type of method and then taking internal and external validity into consideration.

#### Box 1.1 Founding Fathers of Environmental Psychology

Brunswik and Lewin are known to be the founding fathers of environmental psychology. They have laid the groundwork for environmental psychology as a discipline.

Egon Brunswik (1903–1955) was one of the first psychologists to suggest that the features of the organism’s environment should be given equal weight in psychology as the properties of the organism itself. He felt that outside of people’s awareness, the physical world has an impact on psychological processes. He was a big proponent of research that included all parts of the person’s surroundings, rather than the fragmented and artificial environments that were more common in psychological studies at the time.

Kurt Lewin (1890–1947) believed that research should be motivated by real-world societal problems. He coined the term “social action research,” which refers to a non-reductionist, problem-focused approach to research that puts ideas into reality, emphasizing the need of finding new ways to conduct research to solve social problems (Benjamin 2007). Furthermore, Lewin, like Brunswik, saw the environment as a significant driver of behaviour. He claimed that behaviour is influenced by both the individual and the environment (Lewin 1951). Although Lewin primarily concentrated on social or interpersonal factors rather than the physical environment (Wohlwill 1970), he influenced a number of students to continue and build on his theories. Barker and Bronfenbrenner, both considered forerunners of environmental psychology, were among these students.

## 1.4 THE EMERGENCE AND GROWTH OF ENVIRONMENTAL PSYCHOLOGY

Environmental psychology is a relatively new field of psychology. Since the 1960s, four stages of its emergence have been established, in general—*Seeds of Environmental Psychology*; *American transition*; *Architectural Psychology*; and *Environmental Psychology for its sustainability* (Tiwari & Mathur, 2014). The origins of this field of

psychology can be traced back to the German authors who put forth the word and spoke about this discipline of psychology. The American transition was a phase of time during which environmental psychology was seldom mentioned but its theoretical foundations were laid. Then it was the time of Architectural Psychology which later paved the way for environmental psychology focused upon sustainability.

The origin of environmental psychology can be traced back to Hellpach, one of the first scholars who introduced the term “environmental psychology” in the first half of the 20<sup>th</sup> century. He studied the effects of various stimuli such as colours, forms, etc. Hellpach (1911) studied how different environmental stimuli, such as form and colour, the moon and sun, and extreme conditions impact humans and their lives. Further, he went on to study the urban phenomenon, such as overstimulation, crowding, and differentiating between different types of environments in his work and studies, including natural, social, and historical-cultural environments (Pol, 2006). Researches in environmental psychology were first outlined by Craik (1968) based on the dominant strategy of personality measurement. In this era, the work of Proshansky was significant. The growth of environmental psychology, as well as its current approach, is documented in a series of reviews published in the Annual Reviews of Psychology (Sundstrom et. al, 1996).

When people became more aware of environmental problems in the late 1960s, the second period of rapid expansion in environmental psychology began. As a result, studies on sustainability issues, i.e., studies on explaining and modifying environmental behaviour to produce a healthy and sustainable environment, have been conducted. The early research in this field concentrated on air pollution (De Groot 1967; Lindvall 1970), urban noise (Griffiths and Langdon 1968), and environmental quality assessment (Griffiths and Langdon 1968). (Appleyard and Craik 1974; Craik and McKechnie 1974). From the 1970s onwards, the scope of the research expanded to include concerns such as energy supply and demand (Zube et al. 1975), as well as risk perceptions and risk assessment in relation to (energy) technology (Fischhoff et al. 1978). The earliest studies on efforts to promote conservation behaviour, such as links between consumer attitudes and behaviour, were undertaken in the 1980s (Cone and Hayes 1980; Stern and Gardner 1981).

Next came Gestalt’s contribution, it was Koffka who differentiated between geographical and behavioural environments. The geographical environment refers to the perceived environment. This school mainly emphasized upon environmental perception and cognition. Brunswick and Lewin’s study on human and natural environment interactions are trendsetters for future research and are also regarded to be the ‘founding fathers’ of environmental psychology (Gifford, 2007). Even though both of them havenot done significant empirical work that could be classified today as environmental psychology but, their ideas, such as the interaction between the physical environment and psychological processes and studying the human behaviours in the actual settings rather than artificial settings were pioneering and influential for many future studies that studied the interactions between humans and environment.

Park, Wirth, and Milgram studied the influence of physical environment on behaviours and it was labelled as ‘Architectural Psychology.’ The constructed physical environment (architecture, technology, and engineering) and how it affected human behaviour and well-being were given a lot of attention in the early days of environmental psychology (Bonnes and Bonaiuto, 2002). The political and social circumstances of the time

influenced this attention on the built environment. The modern design attempted to answer post-war concerns such as adequate housing (Pol 2006). Most of the environmental psychological research looked at how to best design homes, offices, and hospitals for their intended users, as well as how environmental stresses (such as excessive temperatures, humidity, and crowding) affect human performance and well-being (Wohlwill 1970). Environmental psychology was established as a field of research to create structures that would promote behavioural functions.

The post-world war scenario emphasized the fact to build better homes, workplaces, schools, hospitals, etc. It also was a period that attempted to reduce environmental stressors and optimize performance and well-being. This period from the end of World War II to the early 1960s belonged to Chicago school whose works were more towards the amalgamation of experimental and academic American tradition. In the 1970s, environmental psychology was concerned with establishing empirical and theoretical relationships between the behaviour and experience of the individual and his built environment. The analysis was for understanding human behaviour and experiences in terms of social processes and social organizations concerning the physical settings that provide the context for such behaviour and experiences. (Proshansky, 1976)

By the 21<sup>st</sup> century, environmental psychology became concerned with addressing human problems, environmental psychology became more enriched, it included holistic sustainability, and also included ecological studies. Three journals disseminating knowledge in the field of environmental psychology are:

1. *Journal of Environmental Psychology* which represents the psychological perspective of research.
2. *Environment and Behaviour* which is an interdisciplinary journal.
3. *Journal of Architectural and Planning* research emphasizes architectural designing and its related fields.

The *Handbook of Environmental Psychology* was published under the editorship of Daniel Stokols and Irwin Altman. This is one of the pioneers and significant books on environmental psychology (1987). The Handbook of Environmental Psychology presents a balanced and complete introduction of this rapidly growing topic, including the latest research and concepts in the field straight from the world's best scientists and practitioners. This revolutionary resource presents you with a pluralistic perspective to the area as an interdisciplinary effort with ties to other disciplines, bringing together contributions from an international team of leading academics representing a variety of fields. The Handbook of Environmental Psychology is structured into five organized and accessible parts to provide a full understanding of the ideas, research, and applications at the forefront of environmental psychology today. It addresses a variety of themes and practical contexts. Part I concentrates on refining ideas, while Part II connects the subject to other disciplines, Part III on methodologies, Part IV on applications, and Part V on the field's future. The Handbook of Environmental Psychology is a must-read for anybody dealing directly with the attitudes, beliefs, and actions that are ruining our environment and putting our lives in peril. It defines the ongoing revolution in thinking about how the environment and psychology interact.

### Check Your Progress 1

1. Who was the first scholar to introduce the term “environmental psychology”?  
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2. List the founding fathers of environmental psychology.  
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3. Name the three journals that are focused on sharing the knowledge related to environmental psychology.  
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4. Define environmental psychology.  
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## 1.5 RECENT TRENDS AND FUTURE DIRECTIONS IN ENVIRONMENTAL PSYCHOLOGY

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Environmental issues such as climate change, pollution, and deforestation have been recognized as serious difficulties impacting people’s health, economic prospects, and food and water supplies since the beginning of the twenty-first century (IPCC 2013). It is also widely acknowledged that human behaviour is a major contributor to these environmental issues. Finding strategies to influence people’s behaviour to reverse environmental problems while preserving human well-being and quality of life is an ongoing and developing concern of environmental psychology. To this goal, a comprehensive concept of sustainability has been widely adopted, which incorporates environmental, social, and economic factors (World Commission on Environment and Development 1987). This broad concept of sustainability has grown in importance as a guiding and unifying element for environmental psychology research (Giuliani and Scopelliti, 2009). Indeed, it has been suggested that, over the past decades, the field of environmental psychology has gradually evolved into a ‘psychology of sustainability’ (Gifford 2007).

Environment influences human behaviour and well-being. Environmental psychology thus studies the environmental risk perceptions and environmental stress. It also studies the positive influence of the natural environment on humans. Researches have been in this field to create a sustainable environment that supports human well-being and increases the quality of life.

Environmental psychology also studied factors influencing environmental behaviour like values, social norms, affect, and conflicts between individual and collective interests. An integrative and multi-disciplinary approach is undertaken by environmental psychologists. The best example to depict this is the *Chipko movement*. A social



event happened in the western Himalayan region in the 1970s, when a small-scale social invention (the Chipko movement) to rescue the forests spread far and wide. This is regarded as a significant rethinking of the significance of man's relationship with nature. 'Grassroots activists like those seen in India's Chipko Movement have suggested a new alternative ecological approach in which insight into ecosystem interrelationships is gained through folk knowledge rather than scientific observation,' argues Hannigan, a social scientist (Hannigan 1995: 119). Although Chipko's success story has many social dimensions and interpretations, its articulation as a native cognitive model is an insider's socio-cultural fabrication of the wisdom of those involved in the movement (Pirta, 2007). They emulated Gandhi's nonviolent protest, drew on Hindu wisdom, made naturalistic observations, and synthesized data from a variety of sources. However, the leadership and organization of these community natural resource management initiatives are crucial for their success (Kellert et al. 2000).

The other topics of research by environmental psychologists include encouraging pro-environmental behaviour concerning informational strategies, reinforcements, punishments, and persuasive technology and strategies for behaviour change. It also tried to develop various models that integrate interactions between man and environment. The future directions include challenges for environmental psychologists towards a greater engagement that are studied embracing sustainability as a central focus of research delivering many valuable insights and tools for promoting sustainability at local and global levels.

Environmental psychologists are struggling to save the planet from environmental and social degradation and increase the well-being of the inhabitants. The further action of environmental psychologists is to increase the political relevance and applicability of their work. Finally, the initiative should be taken at the interface of science, politics, and society such as the establishment of international forums and bringing together knowledge and behavioural determinants of global environmental problems (Ehrlich and Kennedy, 2005) Such initiatives can take a significant role in engaging citizens, policymakers, globally to explore the moral elements and the consequences of choices about environmental psychologists can engage and contribute to interdisciplinary and trans-governmental solutions that make a difference from present to future generations.

Environmental psychologists thus, should explore studying and researching on communities that are residing in areas that are tremendously growing and dislocated by the government for various projects and industrial developments

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## 1.6 MAJOR RESEARCH METHODS IN ENVIRONMENTAL PSYCHOLOGY

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The main research methods used in environmental psychology-related research are questionnaire studies, laboratory experiments, simulation experimental methods, field study methods, and case studies. All the major research methods are discussed below briefly:

- a. **Questionnaire Studies** – These studies intend to provide a description of behaviours and also gather information about people's opinions, attitudes, beliefs, and perceptions about various issues. These are also used in order to establish relationships between two or more variables. These became popular in environmental psychology for various reasons, such as these tend to have

higher external validity, manipulation of environmental circumstances is a little easier, and these methods often incur lower monetary cost than the other methods.

- b. **Laboratory Experimental Methods** – These include studies conducted under artificial and controlled environmental conditions. Laboratory experiments are often helpful in establishing and understanding the causal relationships between variables. These methods are characterized by two main features: random assignment or randomization and manipulation. When the independent variable (IV) is only manipulated while keeping the other variables controlled or constant, any changes in the responses between the conditions will be attributed to the manipulation of the independent variable. Randomization refers to the technique used by researchers in which all the participants of the experiment have an equal chance of getting assigned to each experimental condition. Random assignment mainly decreases the chance that differences between the different experimental groups are caused by confounding individual factors like personality, socio-demographics, etc. These methods are often low in external validity and the result can not be easily generalized to real-world settings.
- c. **Computer Simulation Studies** - Real people or authentic environmental stimuli are sometimes impossible to use in the study. Studies involving thousands of people to learn about complicated systems or studies on how people judge future environmental scenarios are two examples. For this reason, environmental psychologists are increasingly turning to environmental simulations. Environments and/or humans are reproduced as exactly and realistically as feasible in this style of research. Immersive virtual environments created with computers to give participants a realistic impression of what it would be like to experience specific environments or events (De Kort et al. 2003), 3D visualization of data in Geographical Information Systems, or agent-based models of land use or resource use are examples of simulations. In general, simulations allow you to maintain some control over the environment, boosting internal validity while not jeopardizing external validity.
- d. **Field Studies** – Many environmental psychologists use field investigations and experiments to obtain high external validity without sacrificing too much internal validity. Field experiments have a high level of external validity because they are conducted in real-life settings. Internal validity, on the other hand, is relatively high because the experimenter attempts to control the situation by systematically manipulating independent variables (e.g., placing or removing a bin from the environment) and/or by randomly assigning participants to different study conditions (e.g., environments with and without bins). Internal validity is ensured when researchers can be relatively certain that any variations between conditions are due to the manipulations (rather than, for example, personality differences). However, because field studies take place in real-world situations, it's impossible to account for confounding factors like changing weather or unexpected interruptions. Furthermore, random assignment is not achievable in many instances.
- e. **Case Studies** - A case study is an in depth study of a specific situation. it's a way used when a researcher really wants to narrow down a really broad topic of research into one single case, i.e., a person, setting, situation, or

event. for instance, the broad topic of urban environmental quality could also be studied in one particular neighbourhood where the municipality has recently installed garbage bins to tackle littering. instead of employing a strict protocol and close ended inquiries to study a limited number of variables, case study methods involve an exploratory, qualitative examination of one situation or event: a case. Qualitative research uses words or other non numerical indicators (such as images or drawings) as data. the most purpose of case studies and other sorts of qualitative research is to explore and understand the meaning that individuals or groups ascribe to a phenomenon. during a case study, people or events are studied in their own context, within present settings, such as the home, playing fields, the university, and therefore the street. These settings are ‘open systems’ where conditions are continuously suffering from interactions with the social, physical, historical, and cultural context to offer rise to a process of ongoing change, including ethnography, grounded theory, and phenomenology (Wolcott 2001). Although there will not be one objective truth of the interpretation of the phenomenon (Willig 2001).

**Table 1.1 Summary of methods of research in environmental psychology illustrated in Environmental Psychology (2019) Edited by Steg and Groot. Second Edition.**

Setting	Method	Strengths	Weaknesses	Use
Environment independent setting	Questionnaire studies	High external validity Cost-effective method for reaching large populations	No manipulation of variables Hard to make causal inferences	Describing perceptions, beliefs, and behaviour Studying relationships among variables
Artificial setting	Laboratory experiments	High internal validity Control of variables	Low external validity Artificiality	Testing theories or hypotheses Identifying causal relationships
	Simulation studies	Good balance between external/internal validity Realistic visualization	Requires advanced skills and equipment Often perceived as ‘fictitious’	Study complex human–environment dynamics Visualize and evaluate future developments
	Field studies	Good balance between external/internal validity Replicable	Limited experimental control Time-consuming data collection	Studying current behaviour Evaluating interventions
Real setting	Case studies	High external validity Rich data	Low internal validity Time demanding Limited generalizability	Descriptions Explorations Developing hypotheses

**Check Your Progress 2**

1. What are the major characteristics of environmental psychology listed by Bell et. al.?

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2. What are the major methods of research used in environmental psychology?\

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## 1.7 ENVIRONMENT PSYCHOLOGY AND ITS RELATIONSHIP WITH OTHER DISCIPLINES

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Let us explore the relationship of environmental psychology with other disciplines.

### 1. Environmental Psychology and General Psychology

Environmental Psychology stresses upon the studies related to the influence of physical environmental factors like noise, crowding, heat, etc., on human behaviour, health, and feelings. General psychology is a much broader branch of psychology that intends to explore various principles that can be generally applied to humans that is strikingly different from the other specialized sub-fields of psychology who are more into finding the way in which people differ on the grounds of various factors.

### 2. Environmental Psychology and Biological Sciences

The Research Commission of the American Institute of Architects (AIA) submitted a proposal to the National Science Foundation (NSF) in 1956 to hold a conference on the relationship between the physical, biological, and social sciences with regard to the problems of creating optimal environments for human activities. The conference was held in 1959 at the University of Michigan, and the main topic was the relationship between the physical, biological, and social sciences with regard to the problems of creating optimal environments for human activities. Prior to this, a preliminary seminar on the topic was held at the AIA convention in Cleveland in 1958, with architects, civil engineers, urban planners, psychologists, and sociologists among the attendees. The sciences of the physical, geographical environment and those of the ecological naturalistic environment, both of which showed a growing “human” or “anthropic” factor by the end of the 1960s, are examples of disciplines outside of psychology that contributed significantly to the emergence of environmental psychology. Each person’s perceptions are distinct, personal, and unique. Perception is the process through which a person assigns significance to their current external situation based on their behavioural centre.

As a result, there is a strong link between environmental psychology and other sciences in many ways. It is easy to notice in one’s daily life.

### 3. Environmental Psychology and Human Engineering

Human engineering is a multidisciplinary field that includes contributions from psychology, engineering, industrial design, and anthropometry, among others. It is concerned with the characteristics of human capability. In human engineering, the human factor is a physical attribute of an individual that is unique to that individual and determines human environment equilibriums. Human factors encompass all aspects of how humans interact with the world around them with the goal of enhancing operational performance, safety, and other issues. Human engineering

contributes to improving the environment for humans in one way. As a result, it helps with the workings of environmental psychology.

#### 4. Environmental Psychology and Applied Psychology

Applied Environmental psychology attempts to improve environmental management for a higher quality of life and psychological development. It researches effective ways to protect the natural environment, better ways to develop towns and communities, and strategies to raise environmental consciousness among the general public. In town planning, psychology has a lot of applications. While planning the growth of towns, studies on how communities work, people's psychological requirements, and their likes and dislikes should be taken into account. Since the environment moulds and limits behaviour, careful planning is required to achieve optimal happiness, efficiency, and growth.

#### 5. Environmental Psychology and Community Psychology

The influence of the social environment is the emphasis of community psychology, whereas the influence of the physical environment is the subject of environmental psychology. The study of social processes in physical contexts, as well as the psychology of social settings such as the home, workplace, and school, falls under the umbrella of community and environmental psychology. Bronfenbrenner's (1989) ecological approach to human development has contributed to a better understanding of how the qualities of one type of environment, such as a family, are influenced by other aspects in participants' life, such as occupational and educational settings.

#### 6. Environmental Psychology and Architectural Psychology

In many ways, there is a link between environmental psychology and architectural psychology. The study by Ittelson and Proshansky's group in the United States looked at the link between architectural design and the behaviour of psychiatric patients. At the same time, other psychologists and psychiatrists in the United States and other nations were working on comparable research projects. Aside from that, Sommer created the notions of human "territoriality" and "personal space," which would go on to have a huge impact on psychology in general, environmental psychology in particular, and architectural design.

##### **Box 1.2 What is Architectural Psychology?**

It is the branch of psychology discussing considerable impact of the built environment on human experience and behavior, and also a better understanding of the human-designed and influenced world.

Systematic research on ordinary physical settings and psychological processes gradually increased in the late 1940s and 1950s, with some pioneering studies on human factors in work performance (Mayo 1933), home lighting (Chapman and Thomas 1944), and child behaviour in natural settings (Barker and Wright 1955). As a result, it took until the late 1950s and early 1960s for human-environment interactions to be recognised as a comprehensive discipline. Because the majority of the studies looked at how diverse settings influence people's perceptions and behaviours, they were labelled as 'Architectural Psychology' studies to distinguish them from other types of psychology (Canter 1970; Pol 2007; Winkel et al. 2009).

The constructed physical environment (architecture, technology, and engineering) and how it affected human behaviour and well-being were given a lot of attention in the early days of environmental psychology (Bonnes and Bonaiuto 2002). The political and social circumstances of the time influenced this attention on the built environment. Modern design attempted to answer to post-war concerns such as adequate housing (Pol 2006). Many environmental psychological research looked at how to best design homes, offices, and hospitals for their intended users, as well as how environmental stresses (such as excessive temperatures, humidity, and crowding) affect human performance and well-being (Wohlwill 1970). Environmental psychology was established as a field of research to create structures that would promote behavioural functions.

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## 1.8 ENVIRONMENTAL PSYCHOLOGY WITH SPECIAL REFERENCE TO THE INDIAN CONTEXT

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Flora's magic of colour and camouflage is appreciated by everyone. The creepers and plants convert the concrete structures' dismal silence into scenes of beautiful feasts. Landscaping provides a welcome respite from congested streets. The diversity of flowers that are blooming all around are just breath-taking. Flowers are popularly used to decorate people's bodies, buildings, and backyards. People are awestruck by a lush green forest teeming with animal life. It awakens people to the wonder of creation. Environmental psychology is concerned with the interaction of persons with their surroundings. It's gaining traction as the human footprint on the natural world grows larger. The repercussions of human footprints make us aware of our obligation to nature. However, humanity has a long history of environmental concern, which is a component of our religious heritage. This worry has been expressed in modern science, particularly in the field of ecology. In fact, ecological psychology has a longer history than the global term 'environmental psychology'. Environmental assessment, environmental perception, cognitive representation of the large-scale environment, personality and the environment, environmental decision making, public attitudes toward the environment, sensory environment quality, ecological psychology, and the analysis of behaviour setting, human spatial behaviour, behavioural effects of density, etc., were all covered in the first review of environmental psychology (Craik 1973). The word "environmental psychology" was useful as an inclusive and theoretically neutral term at the time, according to the reviewer. A specialized branch of psychology, such as ecological psychology (Barker 1965), is likely to be researched by a group of researchers within this large field. Ittelson et al. (1974), in a seminal paper, defined environmental psychology as the dynamic interaction between man and his surroundings (Indigenous approach to environmental psychology, Pirta, 2011).

Environmental psychology studies the effects of the environment on behaviour, as well as the consequences of behaviour on the environment. Environmental psychologists typically take a multidisciplinary approach to their work. However, the solution is dependent on the problem. For example, the Gestalt technique is more suited to researching environmental perception (Ittelson et al. 1974). Conservation psychologists working in the field of biodiversity preservation, on the other hand, must collaborate with scientists. On the other hand, the global and local challenges of sustainable water and other natural resources necessitate historical, social, political, and ecological understanding, as well as good science and cooperative entrepreneurship (Ostrum 1999; Rogers 2008).

Environmental psychology studies in India started approximately three and a half decades ago treating the environment as a separate entity and exploring the unidirectional relationship between the physical environment and behavioural outcome, social outcomes, psychologists adopted a social system perspective to analyze social problems and environmental issues (Padaki&Vyasulu, 1981).

This perspective equated social problems with environmental problems and used a framework for analyzing social problems rather than environmental issues. Various reviews and surveys of psychology and social science during the 1980s and 1990s, find a limited of studies dealing exclusively with physical environment behaviour relations. Contemporary research on environmental psychology in India carried out with Euro-American psychological framework has focused on the human response to various environmental stressors such as crowding, noise, pollution, poverty, disaster, encroachment of territory and personal space, etc. and has ignored other aspects of the environmental problems and issue (Jain and Palsane, 2004).

Research in environmental psychology in India has been dominated mainly in the area of crowding and growing populations. The development of environmental psychology in India refers to considering the problem and the work of social scientists, some research including territoriality (Asthana &Sexena, 1989), crowding (Jain, 1987), and deprivation (Misra, 2001). They all used ecological perspectives to study psychological adaptations. Cross-cultural techniques were used to examine the cognitive behaviour of three tribal groups in the states of Bihar – Birhour, Asir, and Oraon. The other aspect of ecological environmental research in India have been reviewed by Jain and Palsane (2004), Pandey (1998), and Pirta (2007, 2009a).

In the 21<sup>st</sup> century, people were mainly concerned with the problems of nature like global warming, ozone depletion, acid rain, and other pollutions. Psychologists are facing challenges and are trying to engage constructively in engaging in the developmental processes and framing of social policies that are pro-environmental and hints towards sustainable development. This approach has been highlighted by Mehta (2001), Pirta (2007, 2009b), and Tripathi (2003) in the Indian context.

The future directions for research in the Indian context may include culture-specific methods that may be more appropriate for understanding environmental behaviour relations in the Indian socio-cultural and environmental context. To develop cultural-inclusive environmental psychology in India, there is a need to analyse the environment-behaviour relationship from a broader perspective which may be envisaged within the eco-cultural framework (Barry, 1977) because the person is perceived as an inextricable part of the human being as an integral part of the universe. As eco-cultural framework incorporates both socio-cultural and physical components of the environment in shaping human behaviours, it can provide culture-specific ways and means to deal with the present environmental crisis (Singh, 2008).

**Box 1.3 INTERESTING APPLICATION OF ENVIRONMENTAL PSYCHOLOGY KNOWLEDGE IN INTERIOR ARCHITECTURE by Nelleke Lagerwerff from GISPEN**

(<https://www.gispn.com/en/blog/environmental-psychology/>)

Healthcare furnishing draws its ideas from the field environmental psychology as hospitals are places which are visited by people often when they are under higher levels of stress and this is the major reason for designing the areas in a way that

provides a comfortable stay or wait while also being functional. Environmental psychology takes into consideration everything that happens in the hospital, its rooms, signage, routing to the buildings, entrance, ceilings, acoustics, colours, sounds, colour of lights, view, natural lighting, type and shape of tables, artwork in the area, etc. Using plants and natural lights can help to ensure people experience nature by being near plants and also have proper seating arrangements. Gispen creates unique healthcare projects and take into account everyone's needs, wants, and challenges to be able to design a unique and tailor-made project that caters to everyone's needs and work out for everyone. We are also seeing an increase in the demand of such projects in office design projects.

### Check Your Progress 3

1. Explain the relationship between environmental psychology and architectural psychology.

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2. Discuss the status of environmental psychology in India.\

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## 1.9 SUMMARY

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To sum up what we have learnt in this unit, here is a quick recap:

- Environmental psychology is a specialised branch of psychology that studies the interactions between people and the physical environment as well as the built environment.
- The way environmental psychology deals with the environment at two different levels: possible behaviours and consequences of behaviour on the environment.
- The emergence and origins of environmental psychology and the growth of environmental psychology developed to be a separate discipline.
- Egon Brunswik and Kurt Lewin are the founding fathers of environmental psychology and whose foundation work for future research work in the field.
- The influence of constructed physical environment on human behaviour and well-being is known as architectural psychology.
- The different ways that environmental psychology has been defined by various researchers like Proshansky, Gifford, etc.
- The major methods of research used in the field of environmental psychology are questionnaires, laboratory, computer simulation, field, and case-study.



- Research in environmental psychology in the Indian context, have focused on crowding and growing population, territoriality, and deprivation. Culture-specific methods are required for understanding environmental behaviour relations.

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## 1.10 REVIEW QUESTIONS

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1. Define environmental psychology. What are the salient features of environmental psychology?
2. What do you mean by architectural psychology?
3. Which methods are mainly used to carry out research work in the field of environmental psychology?
4. Describe the questionnaire studies methods used in environmental psychology.
5. How is environmental psychology related to architectural psychology?

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## 1.11 REFERENCES AND FURTHER READING

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## 1.12 ADDITIONAL ONLINE RESOURCES

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- Introduction to Environmental Psychology by Professor Daniel Stokols <https://www.youtube.com/watch?v=wHUS5T6uYT4&list=PLA2E69FC89640C272>

- Applying principle of Env Psychology to the analysis and resolution of community problems by Daniel Stokols  
<https://www.youtube.com/watch?v=gz0gDjpClgY&list=PLA2E69FC89640C272&index=2>
- How Architecture affects the way you feel <https://www.youtube.com/watch?v=yWuqO1iY1z4>
- Applied Environmental Psychology by Dima Najib TEDx event <https://www.youtube.com/watch?v=JFA5n4JQO2k>
- <https://www.lifeperson.com/environmental-psychology-characteristics-and-principal-theories>
- Environmental Psychology  
[giffordstegreser2011.pdf](http://giffordstegreser2011.pdf) ([rug.nl](http://rug.nl))



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