

Four Topics for Environmental Psychology

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Summary

Four examples of research recently carried out in the Environmental Psychology Laboratory (CNRS - National Centre for Scientific Research and the University of Paris V) have engendered possible new approaches to the subject. The first example concerns a survey on needs as regards living space, with the analysis centred on the incoherence between satisfaction and available space. The second underlines the necessity of having a thorough grasp of the methods at one's disposal in order to be able to describe the complexity of subjective assessments of the environment. The third concerns research based on descriptions of "critical incidents" concerning noise. The fourth involves a research orientation linked to the appearance of new forms of working at home which have been fostered by the development of computer science.

Résumé

Quatre exemples de recherche menée récemment au Laboratoire de psychologie de l'environnement (CNRS — Centre National de Recherche Scientifique et Université de Paris V) ont permis d'élaborer de nouvelles approches du sujet. La première recherche concerne une étude des besoins relatifs à l'espace dans lequel on vit, l'analyse se centrant sur le manque de cohérence entre satisfaction et espace accessible. La seconde souligne qu'il est indispensable de très bien saisir les méthodes dont l'on dispose pour pouvoir décrire des évaluations complexes de l'environnement. La troisième décrit des "incidents critiques" relatifs au bruit. La quatrième s'intéresse à l'apparition de nouvelles formes de travail à domicile, engendrée par l'évolution de l'informatique.

Like all other fields in psychology which relate closely to everyday problems, environmental psychology possesses characteristics which distinguish it from approaches dealing with areas of basic research. The cause and effect relationships we are trying to uncover may, in fact, adopt two directions according to whether or not we are studying the effects of the environment on the individual or the effects of the individual on the environment. All research on Man in the environment is thus a reminder that the researcher artificially isolates one stage in a sequential process and that the reality corresponds to a series of actions and reactions - the environment acts upon the individual, who modifies the environment, who then acts upon this environment and so on.

Moreover, psychologists engaged in environmental research are all in close contact with decisions concerning the management of the environment. This is perhaps because in many countries, environmental psychology is only slowly gaining respectability as a scientific discipline worthy of support from official research organisations. So researchers in this field have willingly responded to sponsors with practical problems to solve. There is a further explanation for the very "applied" aspect of environmental psychology. Great importance is given at the present time, and rightly so, to the protection of the natural environment, to the social organisation of the urban environment and living conditions and decision-makers in this field have rapidly realised that they have very little knowledge on which to base their environmental protection policies. But above all, any protection of the environment must be achieved through an analysis of behaviours, individual needs and the effects of the physical characteristics of the environment on human conduct, their integrity, annoyance felt and "environmental satisfaction".

Furthermore, attempts at confrontation, indeed, at establishing relationships between physical measurements of the environment and their psychological "consequences" have taught us a great deal, not only because this represented a rare opportunity to differentiate between objective qualities and subjective evaluations of the environment but also because we came up against the absence of simple relationships between those characteristics of the environment which are measurable objectively and their behavioural effects.

These specific characteristics of environmental psychology as well as the fact that it borrows from practically all the "fundamental" psychological approaches (social psychology, the study of individual development, experimental psychology, indeed clinical psychology) explain its prolific development. This proliferation has fostered innovation and creativity in researchers but should, now that the importance and fertile nature of the field has been recognised, give way to more planned development.

Planned in what way? This question relates back to the problem raised by this special number (which lines of research should be explored in order to develop environmental psychology?) and also to what one might call "the environment of environmental psychology": what is expected of this branch of psychology? to what type of problems does it correspond? what fundamental new knowledge is it likely to contribute?

I do not claim here to provide THE only possible answer to this set of questions but rather to give four examples of the way in which the researchers in my laboratory have asked and answered this type of question both in research being carried out at present and in the context of the four-year programme of activities that the National Scientific Research Centre is requiring of the University laboratories associated with it.

The first example I would like to comment on is a reply to a request for proposal from the Ministry of the Environment concerning the housing needs of families. One of the subjects of this programme concerned living space requirements in housing. The present increase in the number of single-parent households and people living alone, as well as the drop in the birthrate which means that large families are rare, has encouraged builders to build a larger proportion of small dwellings adapted to the size of these smaller family units. However, we know that the problems of social integration experienced by young people lead them to leave the parental home later. Hence the importance of carrying out a study of real needs. It should be noted, in passing, that a demographic description is useful but inadequate when responding to this question. In fact,

the choice of a residence corresponds to a scale of priorities, and requires a strategy unique to each family, its way of life, its culture and objectives. Relatively spacious housing may be the same price as housing which is smaller but nearer the centre of a large town or situated in a neighbourhood with more communal facilities. How is a choice made between these different variables?

We decided to tackle the problem from the angle of an analysis of the satisfaction of families with regard to the available living space in their dwelling. This satisfaction was assessed both by means of a Likert scale and a set of questions on intentions to move house and on the characteristics which, were this to be the case, would be given priority in the choice of a new dwelling. The sample questioned had already been identified, which meant that a homogeneous group could be formed. For in fact, INSEE (the French national institute of economic and statistical information) had previously carried out a survey by means of interviews on living conditions among a large and representative French sample. These subjects were asked if they would agree to a new, more focused interview, but still relating to living conditions. This allowed us to build up a sample of families living in Paris or the Paris region, all consisting of two adults and two children, at least one of whom was under 15, who had agreed to a second interview and concerning whom a data bank already existed.

Precise information on the surface area of their dwelling at the time, on the number, arrangement and the use to which the different rooms were put had already been elicited from each of the families involved. When this data was related to the satisfaction expressed regarding the surface area and organisation of the dwelling, a clear relationship between surface area and satisfaction emerged as might have been expected: those who were better housed were more likely to belong to the group of "satisfied". However, there were notable exceptions to this relationship. It was thus possible to process the data in a non-traditional manner. Instead of contenting ourselves with the overall size of the surface area of the dwelling as a factor of satisfaction and considering exceptions to be "confirmations of the rule", we divided the sample into four groups: on the one hand, two groups considered to be "coherent" because they were either satisfied and living in a spacious dwelling, or dissatisfied and living in a reduced space and on the other, two groups considered "non coherent" because either they were satisfied with a limited available surface area or dissatisfied although they had considerable space available.

Several hypotheses come readily to mind when attempting to explain these differences between individuals. Notably that the families concerned might have access to a second home or that their friends and relatives lived nearby, or on another level, that their professional activities kept them away from home for a considerable part of the day. A control of these hypotheses was systematically carried out, and we also analysed all the significant differences between the answers given by the subjects in the four groups defined above. Details of these results are the subject of a publication (Lévy-Leboyer and Ratiu, publication in progress). What interests us here, is the idea of not simply looking for general trends and going no further, considering exceptions to be anomalies, but on the contrary, that by isolating the characteristics of those groups of families whose satisfaction or dissatisfaction seemed at first sight illogical, we gave ourselves the opportunity to identify the factors which compensate for inadequacies in living space and to uncover the order of importance of these environmental parameters. Among other things, we were able to describe those uses of space which give a practical demonstration of the way in which differing life styles are adapted to the space

available. In short, although surveys which reveal major trends in the relationships between living conditions and the inhabitant are important, allowing us to follow, indeed to forecast, developments in ways of life and needs, the study of the differences between individuals should not be neglected. This is true for several reasons. Firstly because these individual differences and the behaviours they give rise to represent experimental schemas which exist in reality and allow us a better understanding of the interrelationships between environmental variables, value hierarchy and behaviours. Secondly because current socio-economic conditions, migrations, increased mobility, individual access to various cultures and the right to tolerance as a primordial value, lend increasing importance to individual particularities.

The second point to which I would like to draw attention belongs on a completely different level. As a result of having frequently served as a member of commissions responsible for managing environmental research budgets, I have been struck by the fact that the dependent variables in the majority of research projects are drawn up from a subjective evaluation of the environment, whether it be a question of comfort, residential satisfaction, annoyance resulting from neighbourhood noise, or the overall quality of the neighbourhood environment. This is true even where pilot studies on the organisation of living conditions or urban sites are concerned. These projects are often complex as far as the composition of the samples is concerned, and put forward detailed hypotheses on the possible links between the physical characteristics of the environment, and psychological and demographic characteristics of individuals and evaluations of the environment. However, researchers often pay but scant attention to the measurement of the dependent variable adopted in the project and are too eager to suppose that a subjective evaluation of the environment constitutes a simple, uni-dimensional and uni-factorial variable. Moreover, since they assume that this will lend itself to direct questioning they do not attach great importance to the metric qualities of the measuring methods they propose to use, nor, quite clearly, to the significance of the assessment provided by their subjects.

There are other examples in applied psychology where psychologists take extreme care over the conception and measurement of causal or predictor variables yet accept the dependent variables suggested by the situation without further examination. This is the case, for example, in the assessment of individuals in the world of work. One can but marvel at the disproportion which exists between the in-depth research carried out by psychologists before the use of a test and the ease with which we accept, as criteria for success, measurements of performance at work which are often subjective and biased.

What is more, each project includes a method of measuring this or these dependent variables which is specific to it, to the extent that intercultural, indeed inter-regional and above all longitudinal comparisons are difficult, indeed impossible. It seems to me that as our knowledge stands at present and in view of the problems the social sciences are set by town planners and managers of the environment, it would be of the greatest use if we were to give priority to devising instruments with which to assess the environment. The significance of these instruments would be revealed through a study of their content validity, and their equivalents would be established in several European languages. This, in part, is the aim of the research project approved by the EEC and which links, under my direction, laboratories in Germany (Pr. Pawlik), Italy (Pr. Bonnes), England (Dr Chase), and Portugal (Pr. Ferreira Marquès). It seemed important to us to check the factorial composition of a list of specific evaluative items,

to analyse the role of possible individual and cultural determinants and the behavioural effects of clearly identified factorial dimensions. We hope that the possession of such an instrument will allow better use of the hundreds of research projects on the human aspects of the environment currently being undertaken and above all, make international and longitudinal comparisons easier.

The third point on which I would like to comment concerns the methods used for analysing environmental pollution. Whether it be a question of noise, residential over-crowding, or urban insecurity etc., the first reaction of researchers asked to define the thresholds of these forms of pollution, consists of questioning those individuals affected and trying to find simple relationships between the physical measurements of pollution on the one hand and the dissatisfaction it causes on the other. When, as is always the case, the research concludes that it is impossible to define simple relationships and provide the decision-makers with precise thresholds beyond which the annoyance caused will be severe enough to cause aggressive and anti-social behaviours, an attempt is made at a better understanding of which situational characteristics, in addition to the environmental characteristics, determine the annoyance felt. The semi-directive interview is the basic instrument used here. Nevertheless, this approach has many defects, the greatest of which is that it does not allow a distinction to be made between a reconstruction of memories, and something which constitutes the result of classic attribution processes.

In a recent research project on neighbourhood noise (Lévy-Leboyer and Naturel, 1991), we proceeded differently. A planned sample of urban residents replied to an anonymous questionnaire. They were asked to recall an annoying neighbourhood noise, then to describe it by means of precise questions, and finally, to describe the behaviour they adopted (tolerate the noise, contact its instigator, involve a third party, adapt to it by protecting themselves etc...). These same subjects were then asked to reply to the same questionnaire, this time recalling a neighbourhood noise which was not annoying. After analysing the content of the data thus collected and performing a statistical analysis of the correspondences, we were able to organise into a hierarchy those characteristics which determine whether a neighbourhood noise is annoying or not as well as those which determine the different types of behavioural reaction. This type of approach which consists essentially in collecting the data, without lingering over the interpretation given by the subjects themselves, and reserving this interpretation for the classic data analysis instruments, seems to me likely to give results that are both original and reliable.

The fourth point of interest I would like to raise concerns a research orientation and calls into question the traditional separation, accepted but rarely analysed, between the residential environment, where family life and at least some leisure activities take place and the work environment where professional activities are carried out (Lévy-Leboyer, 1992). Industrialisation, and the decline of rural activities mean that this separation has become increasingly marked. In those rural zones which remain, family and professional activities remain closely interlinked both in time and space. On the other hand, when work requires the worker to travel to wherever the means to carry it out and the groups within which it is performed are situated, the separation between the work place and the "living" place becomes marked. One might suppose that progress in information technology will make this separation less widespread. It is possible, as some, notably Ch. Handy (1985) think, that the experts, that is to say the fringe of the non-managerial working population with the most qualifications (the

"knowledge workers") will increasingly adopt self-employed status and turn their place of residence into the centre of their work activities. It is also likely that certain activities which simply require access to information which is now easy to circulate via computer networks will increasingly take place in the home. It is also highly probable that large organisations will cease to centralise their activities in a few sites with a high concentration of staff and will create small, relatively independent profit centres which are above all closer to both their customers and manpower. In other words, present technological progress leads one to think that the spatial organisation of work is undergoing a radical change and that the tightly closed frontiers between work space and space outside work will become more and more tenuous, or at least lend themselves to a variety of solutions.

The consequences of these developments for housing requirements are difficult to assess. It is becoming all the more urgent to observe the solutions which are emerging daily and their impact on lifestyle, requirements and individual priorities in that this development is accompanied by a dramatic increase in the number of working women, an increase which is now affecting young mothers as well as the older age groups.

Our representation of the physical environment, from the point of view of social science research, is too often that of a stable framework, presenting immovable physical properties, whilst at the same time, the social environment is seen as being essentially fluctuating, complex and difficult to measure. Even if we have defended "transactional" approaches for analysing the determinants of organisation behaviours, we have perhaps not taken the varied resources of traditional psychology sufficiently into account. Whether it be a question of differential psychology - and thus a reminder of the diversity of individuals - or social psychology - and thus an appeal to fertile concepts such as attribution or cognitive consonance - environmental psychology must delve deeper into the theoretical contributions of a more fundamental kind of psychology. For it is an opportunity to confront theoretical models with the reality of observed behaviours, to prove that psychology can contribute information which is useful in the management of the environment and that, in so doing, it brings about advances both in fundamental knowledge and methodological approaches.

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