PSYCHOLOGY AND THE ENVIRONMENT: AN UNAVOIDABLE CHALLENGE

Miguel López-Cabanas[1] and Juan Ignacio Aragonés[2]
[1]*Junta Directiva Greenpeace España.* [2]*Universidad Complutense de Madrid*

En este trabajo se reflexiona sobre el papel de la Psicología ante el deterioro del medio ambiente tratando de mostrar una simbiosis entre dos disciplinas psicológicas como son la Psicología Ambiental y la Psicología de la Intervención Social. A lo largo del texto se pone de manifiesto la alarmante situación medioambiental en la que se encuentra el Planeta Tierra debido a las conductas del ser humano, y las implicaciones que esto tiene para sus habitantes. Se reconoce la necesidad de abordar el cambio climático desde una perspectiva pluridisciplinar, si bien en este caso se trata de poner de manifiesto el papel de la Psicología a la hora de contribuir a que la ciudadanía lleve a cabo conductas ecológicamente adecuadas a la evitación del cambio climático. Así mismo, se hace una breve presentación de los textos de este número monográfico en el que se presta atención a algunos de los temas que pueden considerarse centrales de procurar comportamientos que atenúen el deterioro del medio ambiente. Tras una síntesis de cómo el cambio climático es visto por la Psicología, se documentan los fundamentos teóricos para conseguir conductas ecológicamente responsables, se habla del papel de las normas sociales, de la importancia de las experiencias infantiles en la preocupación por el medio ambiente y se da cuenta de un caso de intervención en ante una situación de catástrofe ilustrando lo que puede entenderse como una conducta adaptativa en términos del cambio climático.
Palabras clave: Psicología Ambiental, Psicología de la Intervención Social, Preocupación ambiental, Cambio climático.

This work reflects on the role of psychology in the face of a deteriorating environment, showing a symbiosis between two psychological disciplines, environmental psychology and social intervention psychology. The text highlights the alarming environmental situation in which planet Earth finds itself due to human behavior, and the implications this has for its inhabitants. The need to approach climate change from a multidisciplinary perspective is recognized, although in this case the aim is to highlight the role of psychology in helping citizens carry out actions that are ecologically appropriate to avoid climate change. Likewise, a brief presentation of the texts of this monographic issue is made, focusing on some of the questions that can be considered central to seeking behaviors that attenuate the deterioration of the environment. After an overview of how climate change is seen by psychology, the theoretical foundations for achieving ecologically responsible behavior are documented, the role of social norms is discussed, and the importance of children's experiences in the concern for the environment and a case of intervention in a catastrophe situation are reported, illustrating what can be understood as adaptive behavior in terms of climate change.
Key words: Environmental Psychology, Psychology of Social Intervention, Environmental concern, Climate change.

Undoubtedly, this monographic issue deals with one of the problems of greatest interest to the world at the present time: environmental concern. At present there is enough scientific evidence to affirm that the great deterioration suffered by the planet has been caused by mankind, in a singular way in the last two centuries. The current number of inhabitants stands at 7.5 billion people, harmed by the legacy received by their ancestors, whilst collectively responsible for maintaining an absolutely unsustainable status quo from an environmental point of view, as well as the inheritance that they will therefore leave for generations to come. It is a collective responsibility that, evidently, is not distributed equally among all individuals, with greater weight falling to those in places and decision-making positions that affect the population.

At the root of this situation is a human development model focused on permanent growth, understood as a constant increase in the consumption of goods and services, produced, in turn, through the incessant intensive extraction of finite natural resources and the incremental production of polluting waste, which long ago exceeded the regeneration capacity of the planet itself (Herrero, Cembranos, & Pascual, 2011). All this is having an enormous impact on the group of living beings that have planet Earth as a shared habitat, producing an alarming loss of biodiversity.

Focusing on the human species, the consequences of the deterioration of the environment could be elevated to the category of social emergency just because of its impact on health: the Lancet Commission on pollution and health (2017) estimated that the diseases caused by the different types of pollution were the reason that nine million people died prematurely in 2015, 16% of the total world deaths, 25% in the most severely affected countries, which coincide with medium and low income countries. This inequality is also found internally in all countries regardless of their economic level, since, according to the aforementioned report, illnesses caused by pollution are more prevalent among the most vulnerable or those in situations of poverty or social exclusion. These data highlight the need to relate and work together the concepts of environmental protection and social justice. In Europe, air pollution alone is the cause of the premature death of 800,000 people a year (Lelieveld, et al., 2019). The previous data merely serve as examples, since it would be very lengthy to detail the negative impacts that the deterioration of the environment caused by human behaviors has on health, as well as exceeding the purpose of this introductory article. We simply add in this section that, with the data indicated above, one of the possible approaches to work on environmental protection would be to place more emphasis on the public health paradigm.

Climate change, one of the most important environmental problems, is now causing serious consequences for humanity, beyond those directly related to health, with forced migration processes being noteworthy: severe floods, extreme and prolonged droughts, increased desertification and limitation of access to drinking water are some of the most obvious manifestations of climate change, which, in turn, lead to famines that are at the origin of many massive migratory processes in search of basic natural resources for subsistence (Egea & Soledad, 2011), to the extent that the term "environmental refugees" is beginning to be used (El-Hinnawi, 1985). This term has difficulties of conceptual precision and has not been incorporated, to date, into the international legal acquis, mainly because of the obligations that the international community would have towards these people if they were recognized by the Refugee Convention (Espósito & Torres, 2011).

On the other hand, mass displacements and forced migrations due to environmental reasons, in interaction with other contextual variables, have important social conflicts as a consequence, in some cases with military derivations. The paper *Climate, conflict and forced migration* (Abel, Brottrager, Crespo, & Muttatak, 2019) presents relevant research, in which this interaction is highlighted, noting, among other examples, its incidence in what was known as the Arab Spring and the conflict in Syria, a country that between 2007 and 2010 had one of the worst droughts in its history.

There is, in summary, abundant evidence of the negative impact of environmental deterioration on humanity, which has led international organizations and numerous countries to be alert to this situation. Environmental organizations have played a decisive role in this process of generating collective consciousness, with Greenpeace standing out for its history, trajectory, independence, and international implementation, created in 1978 and with more than three million members worldwide. However, it cannot be thought at this time that the problem is in the process of being solved. The existing international confrontation due to the need to control the hegemony over the world and, consequently, the international *powers*, prevent to a large extent the realization of a global policy that enables us to alleviate the great deterioration that the planet is suffering. Suffice it to recall the discrepancies at the major international conferences on climate change (Protocolo de Kyoto [Kyoto Protocol], ONU [UN], 1998; Informe de la Conferencia de París, [Report of the Paris Conference], ONU [UN], 2015) and the difficulties for its subsequent application.

On the other hand, science, which is subject to the cultural contexts in which it develops, is bringing its research interests closer to the problems that are arising all the time. In the case discussed here, the deterioration of the environment has been the subject of interest in virtually all disciplines. Psychology is no stranger to this necessary involvment, especially considering that, as has been said, human behaviors are responsible for this deterioration. It is a commitment of psychology in general, as a scientific discipline, with the set of methodologies and techniques that derive from it, and, in particular, from some of its specialties, notably the psychology of social intervention and environmental psychology. The first of these aims to promote social change that will result in improving the quality of life, intervening in the processes of interaction between people, groups, organizations,

and communities (López-Cabanas, Cembranos, & Casellas, 2017), and to do this, work must be done on, among other aspects, promoting individual and collective behaviors that respect the environment. Likewise, the psychology of social intervention may have a relevant role in the adaptations that the population will have to make in the face of the impending energy transition that all the governments of the European Union have committed to implement in the coming years, as well as in the development of strategies and behaviors that are resilient to the new scenarios that will be produced by environmental deterioration, especially by climate change (Cembranos, 2017). Within this framework, among other lines of research and intervention that need to be further developed, there are those that allow us to stop linking consumerism or the excessive consumption of goods and services as a way of measuring the development of societies, as well as their relationship with some basic concepts of social psychology: subjective well-being (Diener, 1994; Unanue, 2017), life satisfaction and its synonym *happiness* (Veenhoven, 1994), quality of life (Argyle, 1993; Michalos, 1995; Casas, 1998, 1999), subjective quality of life (Cummins & Cahill, 2000), multidimensional concepts that show that once the basic aspects related to subsistence are covered (Maslow, 1975), there is not necessarily a positive correlation between the *ecological footprint* that is left throughout the entire existence of a person and the life satisfaction that they have had (Fernández & López-Cabanas, 2017).

In the same way, environmental psychology has been involved with this phenomenon since its inception, back in the sixties: it began paying attention to the built-up environment and has gradually been focusing more on the natural environment or, if you prefer, on nature conservation. Thus, if one turns to the manuals of the discipline, it is observed that there is a change from environmental psychology (Aragonés & Amérigo, 2010) to environmental and conservation psychology (Clayton, 2012). APA Division 34 itself modified its original designation "Population and Environmental Psychology" to "Society for Environmental, Population and Conservation Psychology". And if we turn to the evolution of the work in the scientific meetings, an analogous turn towards conservation issues is observed, see for example the works presented to the congresses of the Association of Environmental Psychology (PSICAMB) (Aragonés & Valera, 2016).

This strong development of environmental psychology in recent times makes a monographic number such as the one presented in these pages appropriate, taking into account the amount of empirical research and reviews that have been carried out on the concern for the environment recently. The theoretical and empirical developments presented in this issue are motivated by the environmental problems that appear in the discourse of developed societies and, therefore, all of them are agreed in public documents on this matter (e.g., Ministry of Agriculture, Food, and Environment, 2015) and therefore, by policy makers and environmental managers. However, when one looks at the lists that laypeople configure about the environmental problems that concern them the most, it is difficult to find the logic of the

experts in their lists, since sometimes the causes of environmental deterioration appear as a problem and at other times its effects (Aragonés, Sevillano, Cortés, & Amérigo, 2006). It could be concluded that an environmental problem is a social construction where political issues, and ethical and social values have a place, together with personal and collective interests in each context.

However, there are notable differences when considering environmental events as a problem. The media, for example, tend to recognize an environmental problem if any of the aspects emerge that can give rise to the impact of the news: drama, novelty, scale, conflict, resonance, ability to personalize the stories, daily life, and visualization (Petts, Horlick-Jones, & Murdock, 2001). For example, according to the World Health Organization (WHO), the second cause of lung cancer is radon gas, which is a product derived from the natural decay of uranium. This gas is abundant in the Sierra de Guadarrama (Madrid) and there is hardly any talk about it or the need to commence a behavior attenuating its effects, such as the ventilation of homes. If the media included it on their agenda, people would surely be talking about this spontaneously generated environmental problem. Like the media, scientific research also has its criteria when ordering environmental problems and being interested in them; as Gardner and Stern (1996) note, in this case, two variables are usually used: magnitude and irreversibility.

Returning to the concerns of legal persons, they place environmental problems in three different areas according to the study carried out by Aragonés et al. (2006): those that correspond to an abiotic level, a biotic level, and those derived from human behavior. In the first two cases the participants listed a series of problems that corresponded to the deterioration of the environment—either of water, air or land—in a first group, or of the animal or vegetable kingdom in a second. However, what was surprising was the result that corresponded to the human being as a problem for the environment and, among those listed, there appeared behavioral problems such as lack of recycling or behaviors of a personal nature, such as lack of environmental awareness. Therefore, this study is not only of interest for the empirical list produced by the participants, but also the fact that it is considered as an environmental problem that people themselves do not assume their responsibility to the environment.

In these backs and forths of the study of environmental problems, one could mention a number of psychological biases that human beings commit when assessing environmental problems and associated behaviors. One of those most mentioned in the literature is what is known as "environmental hyperopia" by Uzzell (2000). This bias results in the perception of environmental problems being conditioned by the spatial scale, such that as they get closer problems are perceived as less serious and as the problem occurs in a further spatial dimension their seriousness increases. However, there is a tendency to act to avoid closer problems than more distant ones, even when they are perceived as more serious.

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Two other biases that are usually identified are related to the evaluation of one's own attitudes and behaviors. These are "false consensus" and "false uniqueness" and both have to be taken into account when designing campaigns that seek better care of the environment. The first refers to the tendency of people to perceive others as similar to themselves, especially when the attitude or behavior is not considered appropriate. This equates to "we are all equal" and is therefore an interpretation of the egocentric social world. The second occurs when one perceives one's own attitudes and/or behaviors as unique and scarcely occurring in the population, and this bias can make collective actions difficult for those who have it since it responds to "I am different". In a study by Sevillano and Aragonés (2009), it is shown how these biases emerge in the Spanish population regarding pro-environmental attitudes and behaviors.

Up to this point, we have attempted to highlight how environmental psychology has been concerned with the issues that affect the care of the environment, even though this was not its primary objective. Similarly, the role that the social situation has in formalizing an event as an environmental problem has been pointed out, and a taxonomy of environmental problems has been provided, emphasizing some as cognitive biases that undoubtedly affect the evaluation of these problems. However, if we are to highlight an environmental problem that currently subsumes all of them, it is climate change. This problem appears systematically in the political-economic-social discourse at the international level.

Although previous studies already paid attention to the concern for the environment, at the present time they have focused on climate change as a problem that is affecting the planet. In this dynamic, environmental psychology has been carried away by the current making this issue its own. Thus, it is enough to take a look at the PsycINFO database, where it is observed that until 2000 there were only three publications associated with climate change, whereas in contrast during the 21st century under the same heading the number of publications exceeds 1,500. This difference in the number of publications highlights the current importance of this field of study. However, despite the figures, it does not mean that environmental psychologists have not worked on these issues over the years; what happened is that until now they worked with other terms that were in vogue such as: environmental concern or sustainable development, among others.

Furthermore, obviously, it should be noted that although it is not up to psychology exclusively to solve this serious problem, it is however its job to provide tools to decision makers to enact and apply laws that are necessary to mitigate or adapt the population to this phenomenon. As Clayton shows, in this same issue, in order for this to happen, the concurrence of numerous disciplines and technologies to facilitate the addressing of this problem is necessary, among which environmental psychology and the psychology of social intervention must be present.

To begin with, it would be interesting to know what the state of opinion of the Spanish population about climate change is in general, because having a good diagnosis of a society can enable it to be more likely to cope successfully when solving its problems. Thus, for example, mention can be made of two works. In the first one, carried out by Heras-Hernández, Meira-Cortea, and Benayas (2013), these authors observe that Spaniards associate adverse effects and negative assessments with climate change, with the interviewees seeing themselves as more affected by the consequences than as the cause of the problem, which implies a clear external attribution of responsibilities. The second study is the one carried out by the Center for Sociological Research (CIS in Spanish) (study No. 3231) in November 2018, in which it reports that 83.4% of Spaniards believe that climate change is taking place, and 94.4% believe that human activity influences this issue a lot or rather a lot. In addition, 88% believe that climate change itself "forces a change in the functioning of our societies" and 62.7% "believe that climate change can be stopped and reversed." When the interviewees are asked "what changes do you think it is necessary to incorporate due to climate change", the five most frequent responses were: "Recycle products: glass, paper, oils, plastics" (70.5%); "Control energy consumption in the home" (57.6%); "Use alternative transport: bicycles, ecological public transport, etc." (55.3%); "Control water consumption" (53.4%); and "Reuse objects (clothes, furniture) to a greater extent" (37.9%). This brief synthesis of the aforementioned study allows us to think that we are facing a society that seems receptive to the action to *fight* against climate change and that all that remains is to establish policies and design programs that attempt to avoid it.

However, the evaluation carried out by the CIS may be considered insufficient in the sense that it does not consider a number of important issues on the fight against climate change. It covers all questions regarding behavior that were in the category that Stern (2000) calls "private-sphere environmentalism", whereas those that this author calls "nonactivist behaviors in the public sphere" or "environmental activism" are not considered, which are probably more important than the aforementioned issues in diagnosing how worried a society is about climate change. Most likely, this individualistic orientation of research is one of the symptoms of the difficulty of truly acting at the political-social level on climate change. It means that the person responsible for the situation is at the same time the one who is to solve the problem.

Up to this point, we have tried to present briefly how environmental psychology has evolved and how it has dealt with environmental problems. Throughout this monograph, a number of issues are addressed with which the accumulated knowledge of this discipline can contribute to avoid the deterioration that the Earth is suffering. As already noted, the different developments that appear in this issue do not generally address specific problems, but rather attempts have been made to give importance to basic issues that can be easily applied to ensure the ecological behavior of the population. In this sense it is easy

to find references in psychological research on studies that attempt to facilitate issues related to recycling, conservation, energy savings, the use of public transport, etc. Especially, it is worth mentioning one issue that, at the present time, is very relevant because of the need for citizen intervention: solid waste pollution. This problem is a challenge for urban authorities in developing countries due to rapid urbanization with a population increase, the economic growth of many societies, and the search for well-being (Permana, Towolioe, Aziz, & Ho, 2015; Xu, Ling, Lu, & Shen, 2017). Work such as solid waste management can be a good example for intervention according to the factors that explain the behavior of separation (Bernstad, 2014; Nguyen, Zhu, & Le, 2015; Xu et al., 2017), showing the contribution of environmental psychology to the approach for reducing the impact of environmental problems.

The topics covered in this issue offer certain peculiarities that deserve to be discussed in this previous text. Although each article in this monograph responds to the idiosyncrasy of the topic it deals with and the authors who write it, it can be seen that all of them share certain aspects, especially referring to social intervention. That is, if you look closely at each of the articles, you can find strategies or intervention techniques for the topics they deal with. The articles aimed to highlight the social importance of the problem addressed, i.e., it was intended to show the relevance of the issue in society. In addition, a review of the current developments that are being carried out in the field that each article deals with as well as empirical experience is provided that provides resources to professionals who address an environmental problem.

The order of the different articles also responds to a criterion, it begins with an approach to climate change from environmental psychology, carried out by one of the world's leading experts in the field. Secondly, the different theoretical approaches with which proenvironmental behavior is studied from a psychological level are shown, in this case the authors have solid experience in the field as shown by their extensive curriculum. Then there is a venture into the world of norms as facilitators of proenvironmental behavior. On this occasion the authors have sufficient experience in the field of cognitive processes to explain proenvironmental behavior. Thirdly, a very important and transcendental issue is developed: environmental concern since childhood; in this case the authors are experts in the area as endorsed by their international publications. The monographic number ends with an article that, after a brief outline on the perception of risk in general, goes into depth on the phenomenon of floods, focusing on a psycho-environmental experience in this field of intervention. This text is written by a research group with extensive experience in basic and applied research into this problem.

There is no doubt that the subject discussed in this issue is very broad and many questions have been left out; however, the different developments open up a horizon regarding how psychologists can act against the deterioration of the environment and how their collaboration with other branches of knowledge can be very fruitful to reverse climate change as

much as possible. It would be an inappropriate decision to demand the attention of psychologists when others can no longer solve the problems raised, as suggested by Fischhoff (1990), who observed that politicians call on psychologists when citizenship behaviors threaten their policies. Therefore, it would be appropriate to call on the knowledge of psychologists at the time of formulating policies.

CONFLICT OF INTERESTS
There is not conflict of interest.

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