RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

Céreq

TRAINING & EMPLOYMENT 155 2022

French Centre for Research on Education, Training and Employment

What role does education play in environmental concerns?

Several international studies and reports have highlighted the key role that education plays in raising people's awareness of environmental protection. The *Génération* 2013 survey, which includes a questionnaire focused specifically on sustainable development, sheds some new light on the issue. This edition of *Céreq's Bref* is concerned with the educational, socio-economic and geographical factors that influence young people's environmental concerns. Above and beyond the level of awareness, it is above all the types of environmental issues that seem to vary with level of education.

By
Magali Jaoul-Grammare
Centre associé au Céreq de Strasbourg, BETA-CNRS, Université de Strasbourg
Anne Stenger
Centre associé au Céreq de Strasbourg, DR INRAE au BETA (UMR INRAE, CNRS, Université de Strasbourg, Université de Lorraine, AgroParis-Tech)

SUSTAINABLE DEVELOPMENT
EDUCATION
SKILL
TRAINING LEVEL
EDUCATIONAL NEED
YOUNG PERSON

Génération

Of all the levers available to public policy makers seeking to change people's behaviour with regard to environmental questions, the various kinds of monetary incentives (taxing polluters or subsidising users of renewable energy, for example) tend to be effective only at the time when they are deployed and are heavily dependent on government budgets [1]. Education can turn out to be equally effective and has the advantage that its effects are lasting.

Several studies have established that education, whether formal (as provided through the education system) or informal (through socialisation within the family), can have direct and indirect effects on environmental concerns as well as on the individual environment-friendly behaviours resulting from it [2][3][4]. The link between education and environmental concerns has been established by various international studies (PISA surveys, World Values Surveys* carried out between 2005 and 2012), which have shown that a higher level of education improves understanding of the risks linked to environmental degradation, thereby demonstrating the need to conserve natural resources, for example. Education in general, and in environmental subjects in particular, is said to produce direct effects in the short term on young people's behaviour towards the environment and, in the long term, on the adults they are going to become. This generational effect may also have an intergenerational impact, with the changesin young people's behaviours producing an indirect positive effect on their parents who, in return, may tend to change theirs.

As for the actual effects of education on environment-friendly attitudes, the existing studies seem to indicate that there is a greater likelihood of observing them when education levels are high [5]. However, these results should be qualified, either because of variables omitted from the analyses or because of the existence of compensation effects. After all, even educated individuals may take account of the environmental consequences of their behaviour as consumers but by compensating for acts with positive consequences with others with more harmful consequences. Thus some may declare themselves worried about climate change and yet continue to use heating systems dependent on fossil fuels or private car-based modes of transport. They may also be more concerned with the types of environmental problems that confront them most often or of which they are more aware but are less inclined to change their behaviours in respect of others, notably through the interplay of these compensation effects. Finally, the expression of environmental concerns is not necessarily followed by changes in behaviour, since some effort is required to put any changes into practice [5] [6]. In addition to these qualifications, there is the need to define what is meant by "environmental education" as well as the length of general education that is required for lasting changes in behaviour to become apparent.

Based on an analysis of the Sustainable Development module in the *Génération* 2013 survey, this edition of *Céreq Bref* offers an exploratory analysis of the effect of education and other demographic factors on environmental awareness and highlights a number of different

** L 'enquête mondiale sur les valeurs (World Values Survey) est portée par un réseau international de chercheurs en sciences sociales présidé par Ronald Inglehart, politologue américain*

Pour des résultats plus détaillés consultez le supplément numérique accessible sur www.cereq.fr

socio-demographic profiles depending on the types of environmental concerns.

Environmental concerns differ with level of education

Among the various factors likely to explain the risk In the sample analysed, individuals were asked to describe their main environmental concern. For the question: "Of the following problems linked to environmental degradation, which is the one that seems to you the most worrying?", seven possible answers were offered: "noise pollution, biodiversity, natural disaster, increase in household waste, water pollution (lakes and rivers), air pollution, climate change and greenhouse effect".

Focusing on basic competencies is a way of approaching in greater detail the difficulties experienced by some of the young NEET population. Among these competencies, literacy and numeracy are of crucial importance, since they are often a precondition for accessing other competencies and facilitating access to life-long learning. Surveys such as INSEE's IVQ (Information et Vie Quotidienne/Information and Daily Life) survey and the OECD's PIACC survey make it possible to measure these competencies in adults (Cf. Box 1).

While qualifications obtained is an indicator of educational level, we have little information about the specific educational variables, such as the courses taken in sustainable development (see Box 1). Thus, over and above the educational aspect itself and in order to contextualise its effects, the analysis also has to include socio-economic and geographical context variables that also influence individuals' awareness of environmental problems (see digital supplement). The socio-educational factors are individuals' social origin as measured by the highest level of education achieved by the father or, failing that, by the mother (higher or lower than the *baccalauréat*), as well as respondents' educational background: the highest qualification obtained, perception of education as offering a grounding in environmental issues and an objective measure of the environmental element of education as evaluated on the basis of an individual's educational background (see methodology box).

The socio-economic factors are variables relating to occupational situation (employment, unemployment, others) and to individuals' health (chronic illness or otherwise), since a person who is ill may be more aware of environmental problems than an individual in good health (allergies, for example).

As far as the geographical factors are concerned, a person's past and present area of residence may each influence their environmental awareness. Thus the analysis includes the area of residence during childhood (at age 11-12), any changes between childhood and adulthood and the current area of residence. These areas are assigned to one of three categories: rural, urban and highly urbanised (more than 500,000 inhabitants). They can also be used to identify any changes in the area of residence between the age of 11-12 and the time of the survey. Finally, the analysis takes account of the presence (or otherwise) of a national park or marine reserve or protected area in the *département* in which the area of residence is located.

The analysis was carried out using a sample of 3,533 individuals aged between 16 and 35. The sample was not balanced in terms of gender (28% women), notably because of the associated educational pathways, which were predefined in the construction of the survey sample (see methodology box). All levels of education are represented at both the level of the individual and of the parents. Most of the respondents live in an urban area (76 %) but one that is less dense than that of their childhood (84%). While 79% of the

1 Environmental education (EE) and education for sustainable development (ESD)

The incorporation of the notion of environment into the French education system dates from the end of the 1970s. The early EE courses aimed to raise individuals' awareness of environmental problems, but the availability of such courses varied considerably by level, institution and discipline. In France, such courses were concentrated in primary and lower secondary schools. As the decades passed, an approach focusing exclusively on the environment gradually gave way to one focused on the individual with the aim of promoting sustainable development, in which the affective dimension was becoming increasingly important. Thus from the 2000s onwards, the emphasis in ESD was on the behavioural changes to be made, the aim being "to integrate the principles, values and practices of sustainable development into all aspects of education and learning" (UNESCO, United Nations Decade of Sustainable Development, 2004-2015). Despite this development, until the 2010s, ESD was virtually non-existent in primary schools, accounted for only 11% of secondary-level provision and was scarcely mentioned at all in higher education. In 2014, spurred on by the Conference of University Vice-Chancellors and the Conference of the Grandes Écoles (*la Conférence des Présidents d'Université and la Conférence des Grandes Écoles*), a working group put forward a reference framework for sustainable development that specified the necessary minimum knowledge and led to the guide on SD in the FECODD (*Formation – Education – Compétences – Objectifs du Développement Durable*: https://fecodd.fr/) tool box. In 2015, the 193 UN member states adopted 17 Sustainable Development Goals (SDGs) for the period 2015-2030, a common road map for the transition to sustainable development. SDG 4 "Quality Education" provides notably for the acquisition of the knowledge required to promote sustainable development. In France, this goal was given concrete expression through the introduction of education plans in SD in primary and upper and lower secondary schools and award of the designation "E3D – École/Établissement en démarche de développement durable/School moving towards sustainability"; these two measures increased by 149% and 60% respectively between 2014 and 2016 (INSEE, Indicateurs pour le suivi des ODD). In 2021, the minister for higher education, research and innovation extended the Mission Jean Jouzel, which had been launched in February 2020, in order "to give greater consideration to the recommendations made in the intermediate report in such a way as to support and facilitate the introduction of these training and awareness-raising measures within higher education establishments" (MESRI). For further information, see [7].

2 Scope of the analysis and methodology

Of the 22,000 individuals questioned during the *Génération* 2013 - 3 Years On survey, a sample of 3,533 individuals answered additional questions on sustainable development. This module was added at the request of the General Commission on Sustainable Development (Commissariat Général au Développement Durable/CGDD). The scope consists of a list of educational courses compiled by the Commission and which it regards as falling within the sphere of environmental concerns. There is no official classification of these so-called "environmental" courses. They were identified by means of a specific methodology based on a search for key words in the titles of qualifications and in teaching modules. Thus only certain courses identified by the CGDD are covered by this sample. The individuals were asked about their perception of the education they had received about the environment: "Would you describe the education you received as environmental education?". Now 22% of the individuals in this sample did not perceive their education as environmental. Furthermore, in preliminary analyses, this variable proved to be non-significant. These results led us to analyse the courses in greater detail. Above and beyond the young respondents' subjective perceptions, we constructed an objective variable relating to the environmental dimension (see digital supplement). In order to investigate the links between environmental perceptions and educational, socio-economic and geographical factors, we carried out four multiple correspondence analyses (MCAs, see digital supplements) that enabled us to differentiate the types of environmental concerns by level of qualification, socioeconomic situation and geographical areas of residence both past and present.

respondents had remained in the same type of area of residence between the age of 11-12 and the survey date, 5.8% had moved from a rural into an urban area and 15% had moved in the opposite direction.

Three fundamental environmental concerns emerge from the analysis, with more than 70% of respondents mentioning one or other of them: climate change and the greenhouse effect (26%), biodiversity (24%) and water pollution (20%). These concerns are differentiated by level of education. Those with few qualifications are relatively more worried about noise pollution than about the environmental problems, and this concern also occupies a relatively more important position among the individuals with low levels of qualification than in the population as a whole.

The fundamental role of education in the type of environmental concern...

Educational profiles appear to be a decisive factor in environmental awareness. After all, individuals' educational characteristics play a greater role than their social characteristics in determining the overall profile of their environmental concerns. Those with the highest qualifications and having completed higher education courses on the environment are more aware of global concerns such as climate change and water pollution. This profile is found more frequently among girls and children from the higher social strata. The least well qualified individuals who have not had any environmental education are more aware of local concerns, such as increasing waste and noise and air pollution.

Individuals are more aware of the environment as a global public good when they have been educated in and sensitised to environmental issues. Those with the lowest levels of education have different environmental concerns, closer to their daily worries. After education, other socio-economic and geographical factors help to fine-tune these profiles.

... qualified by individuals' socioeconomic and geographical profiles

The dominant role of education has to be viewed in the context of individuals' lives. In particular, the economic profiles show that the more vulnerable a person's occupational situation is, the more their concerns move away from the global level (climate change, water pollution) and revolve around the immediate environment (air and noise pollution). These profiles contrast the youngest respondents and men with older respondents and women, on the one hand, and those individuals who have a job with those who do not, on the other.

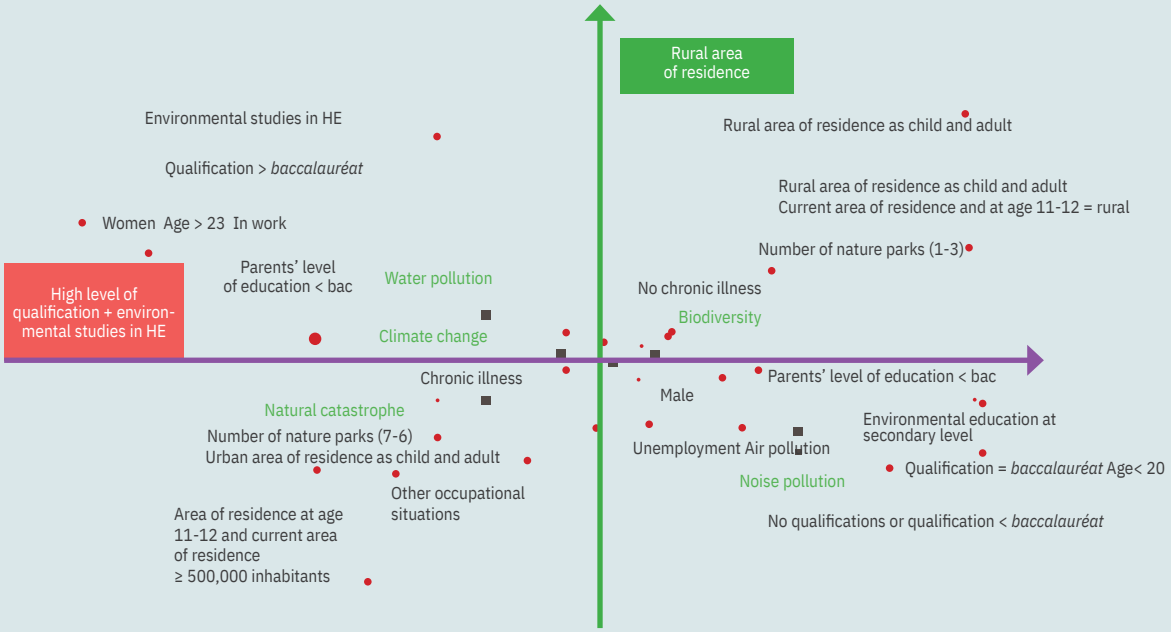
Over and above the educational and economic factors, geographical factors also seem to play a part in determining individuals' environmental concerns. Thus among those who live in rural areas, these concerns move all the further away from the local level, giving way to a greater preoccupation with global issues. The geographical profiles divide individuals depending on whether or not they live close to many and diversified protected areas, on the one hand, and, on the other hand, residents of relatively non-urban areas from those living in highly urbanised areas.

3 Scores and differences in scores for numeracy and literacy by level of qualification and situation (20-34 year olds, all 29 countries)

	Air pollution	Biodiversity	Climate change	Natural catastrophes	Noise pollution	Increase in waste	Water pollution
No qualifications or qualification lower than the bac	**1,22**	0,91	0,94	**1,2**	**2,26**	1,09	0,85
Bac or equivalent	**1,22**	**1,16**	0,93	0,79	0,72	1,04	0,81
Higher than bac	0,63	0,94	**1,1**	1,01	0,29	0,91	**1,25**

Example: a disparity index > 1 signifies both that the level of education is relatively more frequent in the concern in question but also that this concern occupies a relatively more important position within that level of education than in the population as a whole.
Céreq, enquête Génération 2013 interrogation 2016, module Développement durable.

4 Socio-demographic profiles as a function of environmental concerns - Modalities (axes F 1 and F2: 50.89%) -



Example: the closeness of the individual characteristics to each other determines individuals' profiles. For example, those individuals who are sensitive to noise and air pollution are mostly young, with a relatively low level of qualification and received some form of environmental education at secondary school. The majority of them are unemployed and come from working class backgrounds.

If they live close to protected areas, these latter are more concerned about natural catastrophes, noise and atmospheric pollution. These results seem relatively consistent with some earlier surveys on environmental concerns in France (CREDOC 2015; OCDE 2014), which show notably that "proximity to a remarkable natural space increases interest in environmental issues" (CREDOC survey on the future biodiversity agency, 2015). Finally, the various analyses enable us to compile a very specific profile of those individuals concerned with biodiversity, who generally hold an agricultural *baccalauréat* and tend to live in rural areas.

These preliminary results tend to confirm the role of education in environmental concerns: individuals with the highest levels of education do indeed appear to have an awareness of environmental problems that is more global in nature (climate change) than local (noise pollution). However, our results also show that education is only one of a number of variables that have to be taken into account. This initial analysis confirms that education should be seen as a major lever to be activated by those seeking to increase awareness of environmental problems and to encourage environment-friendly behaviours. However, while the existing data have enabled us to analyse the link between education and environmental concerns, they fail to capture environment-friendly behaviour. In order to improve our understanding of the "education-concern-behaviour" relationship, it will be necessary to track the cohorts of the *Génération* surveys in order to ascertain both the environmental concerns they express and any environment-friendly behaviours they might adopt, and to do so while taking into account the specific educational courses taken. A better understanding of this relationship would make it possible, on the one hand, to champion those courses that have the greatest impacts on behaviours and, on the other hand, to identify more clearly those populations on whom the public authorities might concentrate their efforts.

Learn more

[1] "Short & long-term effects of monetary and non-monetary incentives to cooperate in public good games", Lefebvre M. & Stenger A., Plos One, Public Library of Science, 15 (1), 2020.

[2] Notre avenir à tous, Rapport Brundtland, Commission mondiale des nations unies sur l'environnement et le développement, Québec, 1987.

[3] Feuille de route pour la mise en œuvre du programme d'action global pour l'éducation en vue du développement durable, Unesco, Paris, 2014.

[4] « Environnement : comment changer nos comportements ? », Granon. S., Le Journal du CNRS, 2015.

[5] "Does education increase pro-environmental behavior? Evidence from Europe", A. Meyer, Ecological Economics, 116, 2015.

[6] "The determinants of individual's attitudes towards preventing environmental damage", B. Torgler, M. García-Valiñas, Ecological Economics, Volume 63, Issues 2–3, 2007.

[7] Travail, formation et éducation au temps des transitions écologiques, F. Drouilleau-Gay (Coord.), A. Legardez (Coord.), co-édition Céreq Octarès, 2020, 280 p.

Subscribe to our newsletter

Céreq

SINCE 1971
Get to know the training - employment - work links better.
A scientific collective at the service of public action.

+ info and all studies on www.cereq.fr

National public institution under the supervision of the Ministry of Education and the Ministry of Employment.

T&E N° 155 | 2022 | Newsletter on employment and training research from Céreq
Publications manager: Florence Lefresne
Translation: Andrew Wilson

Centre d'études et de recherches sur les qualifications
10, place de la Joliette CS 21321 • 13567 Marseille Cedex 02 / T. +33 (0)4 91 13 28 28
All of our publications are available on our web site at www.cereq.fr