



Does schooling foster environmental values and action? A cross-national study of priorities and behaviors



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ARTICLE INFO

Keywords:
Environment
Sustainability
Civic action

ABSTRACT

Steering the course of climate change will require coordination and collective action between nations, which are directed not only by the interests of their political leaders and elites but also the values of citizens. Previous studies have investigated macro-level factors that help explain international differences in general environmental concern. The present article draws on the sixth wave of the World Values Survey, which offers researchers an even starker outcome measure than general concern: whether or not environmental protection should be prioritized over economic growth. Here we report on WVS data from 50 countries to show the individual-level and national-level factors associated with respondents' prioritizations of the environment.

1. Introduction

Education is fundamental in the framing of sustainable development and environmental protection, at least so it has been supposed since 1987. Both by informing citizens and through enclucating global norms, it has long been assumed that schooling generates pro-environmental values and behavior. This essay explores the theory and evidence supporting that assumption by analyzing a cross-national survey of adults who reported on their values and environmental actions in fifty countries. Here we draw on the most recent wave of the World Values Survey (WVS) and its measure of whether or not respondents thought that environmental protection should be prioritized over economic growth, and we further examine the association between education and three pro-environmental actions.

We first use WVS responses during the 2010–2014 period to show the individual-level and national-level factors that are associated with respondents' prioritizations of the environment over economic growth. Our main purpose is to identify any net association between respondents' educational attainments and their valuation of the environment after taking into account controls at both the level of the individual as well as their country of residence (national wealth, and extent and type of air pollution). We begin by showing there is no bivariate relation between education and environmentalism that is universal cross-nationally. However, in our multi-level model estimations we do find support for a positive association with education overall.

Of course, offering more education to more children is hoped and

expected to change more than the mere the expression of environmental values. Hopefully, both directly and through changing values, increased education can also alter individual behavior. Within the limits of a single wave of cross-sectional survey data, we therefore try to test this relation. To anticipate, we find support for a conclusion that concern for the environment is more than just an attitude: it is also associated with action and behavior. The connection we find between values and behavior – although already well-established in previous investigations¹ – is additional evidence that changing individual values through education is a precondition for the collective actions needed to steer a new course on climate change.

Although formal education is the main focus for this study, we have also modeled and estimated contextual influences that might affect environmental attitudes and behaviors. Our models control for country wealth, as categorized by the World Bank, because we expected that even highly-educated and well-informed respondents would prioritize economic growth and jobs over the environment if they live in poorer countries. In other words, we expected that respondents' prioritizations of environmental protection over the questionnaire alternative (faster economic growth) would be associated with their nation's economy. We further expected that respondents' prioritization of environment, and their subsequent environmental actions, would be associated with their national environmental context. That is to say, just as we hypothesized that citizens in poorer countries would be more concerned about growing their national economy, we also expected that citizens in very polluted countries would be more concerned about their nation's environment.

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¹ Kollmuss, Anja and Agyeman, J. 2002. Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research* 8:239–260.

One way that education might increase prioritization of the environment is by raising the subjective value of a sustainable environment, even if there is no cognitive effect of schooling on the processing of information about the environment. A second way education could raise concern for the environment is because more educated people might better process evidence about the environment, even if they value it no more than do people with less education. In either case we would expect the effects of education on prioritization to be most pronounced in countries doing the most environmental damage. Based on the data available to us in this investigation, both channels should lead to a hypothesis about the way educational attainment interacts with national levels of emissions of carbon dioxide (CO₂) and particulates (PM_{2.5}). Even if increased emissions do not directly increase environmental prioritization, they might have indirect consequences: more local pollution might accentuate the association between education and prioritization of the environment over economic growth.

But there is a crucial difference between carbon dioxide and particulates as contextual indicators. Previous studies have investigated macro-level factors that help explain international differences in citizens' general environmental concerns.² Based on such previous research, we hypothesized there would be no evident relation between environmental prioritization and national production of CO₂ because it is invisible and without obvious local effects. By contrast, the national production of particulate pollution (PM_{2.5}) should be associated with environmental prioritization and environmental action, net of the respondents' educational attainment.

2. Institutions and movements supporting use of education to protect the environment

The context for this investigation is worthy of emphasis: the decades long, previously separate campaigns for universal education and sustainable world development. The UN Development Decade was established in 1961 by resolution #1710 of the General Assembly. To achieve development and increase economic growth, the Secretary General was requested to take “measures to accelerate the elimination of illiteracy, hunger, and disease.”³ Education advocates, drawing on a variety of theoretical perspectives, saw social and global benefits from equitable, free and universal schooling. Beginning in the 1960s, economists theorized that productivity increased along with the skills associated with further schooling, leading to economic development.⁴ In the 1960s, sociologists viewed education as a requisite for individual modernity.⁵ In 1969, environmental education was launched as a pedagogy and sub-field in the United States, including the first scholarly journal.

The concept of *sustainable* development gained currency after 1987 through *A Common Future* (the “Gro Brundtland Report”), which argued

² Knight, K. W. and Messer, B. L. 2012. Environmental Concern in Cross-National Perspective: The Effects of Affluence, Environmental Degradation, and World Society. *Social Science Quarterly* 93: 521–537. doi:10.1111/j.1540-6237.2012.00846.x. Hao, F. 2016. A Panel Regression Study on Multiple Predictors of Environmental Concern for 82 Countries Across Seven Years. *Social Science Quarterly*. doi:10.1111/ssqu.12237. Franzen, A. and D. Vogl. 2013. Two decades of measuring environmental attitudes: a comparative analysis of 33 countries. *Global Environmental Change* 23:1001–1008. <https://doi.org/10.1016/j.gloenvcha.2013.03.009>.

³ UN (1961). Resolution 1710 (XVI): United Nations Development Decade. A programme for international economic cooperation (I). In: United Nations General Assembly – 16th Session. Resolutions adopted on the reports of the Second Committee, (pp. 17–18). New York: United Nations. Retrieved 12 September 2016 from [http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/1710%20\(XVI\)](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/1710%20(XVI)). The historic roots of these goals are deep. Beginning in the late 18th century, advocates of secular social and scientific progress argued for the benefits of universal education. In the Jeffersonian Republican era of the United States, enlightened citizens were believed to make informed public choices needed for self-government.

⁴ Anderson, C.A. and Bowman, M.J. (eds). 1965. *Education and Economic Development*. Chicago: Aldine.

⁵ Inkeles, A., & Smith, D.;1; 1974. *Becoming modern: Individual changes in six developing countries*. Cambridge, MA: Harvard University Press.

for “a vast campaign of education, debate, and public participation.”⁶; Five years later, at the Earth Summit in Rio, delegates affirmed that “Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues.... Both formal and non-formal education are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns. It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behavior consistent with sustainable development and for effective public participation in decision-making.”⁷ In 1992 the United Nations adopted its Framework Convention on Climate Change. Article 6, “Action for Climate Empowerment,” placed education at the foundation of this international normative framework. Then, in 2015, Article 12 of the Paris Agreement reaffirmed the need for “education, training, public awareness, public participation and public access to information, recognizing the importance of these steps with respect to enhancing actions.”

Outside the normative legal framework of UN treaty conventions, there were additional global movements that are relevant to this investigation. In 2000, two parallel and overlapping sets of declarations – Education for All (EFA) and Millennium Development Goals (MDG) – were publically embraced by representatives of most countries as agendas through 2015. EFA did not connect education with climate change, but the MDGs did include environmental sustainability targets along with universal primary education.⁸ Neither declaration had the force of international law. Rather, they were intended to effect change via soft power. Some evidence – but also faith – connected school expansion to sustainability. At this faith's apogee, more secondary schooling was prescribed to “save the planet” from environmental destruction.⁹

At the end of the MDG and EFA period in 2015, the United Nations General Assembly voted to embrace 17 new, integrated goals that were aimed at sustainable development and that also moved forward the education goal posts to universal secondary (even though universal primary education had not been reached or was of dubious quality).¹⁰ Three of the specific targets within the SDGs are:

4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education...

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles...

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Through the SDGs, the United Nations is trying to integrate – perhaps even reconcile – disparate development targets into a coherent framework for future decision-making. Previously education was considered a route to economic productivity; now it is seen as a path for sustainability. But it is necessary to ask how likely it is that universalizing secondary education will promote development that is sustainable, as opposed to promoting other well-known outcomes of expanded schooling, especially increased income and consumption. The problem, as critics note, is that existing schools can only be part of the solution if they teach the values

⁶ World Commission on Environment and Development;1; *Our Common Future*. New York: Oxford Univ Press, 1987.

⁷ United Nations. Rio Earth Summit Agenda 21. Page 320. <https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=23&menu=35>.

⁸ UNESCO (2015). *Education for all 2000–2015: Achievements and challenges. Education for All Global Monitoring Report*. Paris: UNESCO. <http://unesdoc.unesco.org/images/0023/002322/232205e.pdf>.

⁹ For example, UNESCO.;1; 2014. Schooling can save the planet <http://www.unesco.se/wp-content/uploads/2015/02/Education-transforms-lives.pdf>.

¹⁰ UN (2015). Sustainable development goals. Presented on the Sustainable development knowledge platform [interactive online resource]. New York: United Nations. Retrieved 12 September from <https://sustainabledevelopment.un.org/?menu=1300>.

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