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Nattavudh Powdthavee
Warwick Business School and IZA

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IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

The Causal Effect of Education on Climate Literacy and Pro-Environmental Behaviours: Evidence from a Nationwide Natural Experiment[1]

There is a widespread belief that a lack of education is the primary cause of public apathy to climate change. Yet, despite the global campaign to promote education as a tool to combat global warming, empirical evidence on the causal effect of education on climate literacy and pro-environmental behaviours remains worryingly scarce. Using the raising of the minimum school leaving age law in England from 15 to 16 years of age in September 1972 as a natural experiment, I showed that remaining in school as a result of the reform causally increased the level of comprehension about the causes of climate change. However, I found little causal evidence that more education also improved the pro-environmental behaviours of those who were affected by the reform. This raises an important question of whether policies aimed at improving climate change awareness through education can effectively produce long-lasting changes in pro-environmental behaviours.

JEL Classification: I26, Q54

Keywords: climate change, education, pro-environmental behaviours, regression discontinuity, UK

Corresponding author:
Nattavudh Powdthavee
Warwick Business School
Scarman Road
Coventry, CV4 7AL
UK

E-mail: Nattavudh.powdthavee@wbs.ac.uk

[1] I am grateful to Christian Krekel for providing comments on this paper.

1. Introduction

To combat climate change, UNESCO has introduced the Climate Change Education for Sustainable Development (CCESD) programme in 2009 to educate young people about the impact of global warming, and to encourage changes in their attitudes and behaviours to adapt to climate change-related trends (Anderson, 2010; Mochizuki & Bryan, 2015). One of the main motivations behind the CCESD programme is the belief that education plays a crucial role in providing young people with appropriate knowledge, skills, and critical insights to make informed decisions and take necessary actions to achieve sustainable and climate-resilient development goals.

However, despite the UNESCO's ambition to combat climate change through education, we currently know very little whether education causally improves people's comprehension about the causes and consequences of climate change, which should also, in theory, lead to a permanent change in their pro-environmental attitudes and behaviours. At present, virtually all studies that investigated the link between education and climate literacy/pro-environmental attitudes and behaviours were either correlational (see, e.g., Torgler & Garcia-Valiñas, 2007; McCright & Dunlap, 2011; Kahan et al., 2012; Lee et al., 2015) or small-scale experiments that focused on the impact of specially designed education about the causes and consequences of global warming on public understanding of climate change risks of a nonrepresentative sample (Ranney & Clark, 2016; Rumore et al., 2016)[2]. Consequently, it remains inconclusive whether differences in climate change literacy across education groups are the direct result of education affecting people's attitudes towards climate change, or whether these differences are due to other factors that may or may not be directly observable

[2] The findings so far have also been mixed, with many studies reporting a positive association between education and climate change related outcomes (e.g., Callan & Thomas, 2006; Torgler& Garcia-Valiñas, 2007; De Silva & Pownall, 2014) and a few finding the association to be either statistically insignificantly different from zero or negative (e.g., Johnston, 2001; Ek & Soderholm, 2008). Such an apparent divide in the research findings highlights the possibility that there are potentially many confounders in the observed relationship between education and climate change related outcomes.

such as differences in early life experiences, family background, political ideologies, and inborn predispositions.

To be more confident of the causal effect of education on climate literacy, we need more evidence from large-scale experiments that randomise the age at which children can leave school in a model where climate literacy is an outcome variable. However, running such an experiment would be not only unethical but also extremely costly to do. According to economists, one solution to this problem is to use natural experiments that randomly forced some people to remain in school for longer than they would have otherwise chosen (Rosenzweig & Wolpin, 2000; Angrist & Krueger, 2001). One of the most widely used natural experiments on education in the economics literature is the raising of the minimum school leaving age laws that affected all children in England who were born after a specified cut-off date.

Many writings in economics have exploited the UK education reforms to study the causal effect of education on a variety of outcomes that included, for example, income (Harmon & Walker, 1995; Oreopoulos, 2006), health (Powdthavee, 2010; Clark & Royer, 2013; Davies et al., 2018), and happiness (Oreopoulos, 2007). However, empirical evidence on the causal effect of education reform on climate change literacy and pro-environmental behaviours remains scarce. A few notable exceptions are the works by Meyer (2015) and Chankrajang & Muttarak (2017). Using changes in compulsory schooling laws in 20th century Europe except for the United Kingdom to instrument for education, Meyer (2015) found evidence that education causally increased the probability that an individual uses environmentally friendly travel, reduces disposables, recycles, reduces energy consumption, purchases environmentally friendly labelled products and local items, and reduces car usage. Using a different education reform – i.e. the exogenous variation in the supply of state primary schooling – in Thailand as an instrument, Chankrajang and Muttarak (2017) showed that education causally improved the

probability of taking knowledge-based environmentally actions such as using cloth bags instead of plastic bags and using energy-saving light bulbs, but not cost-saving pro-environmental actions such as unplugging electrical devices when not in use and turning off the tap while brushing teeth or taking a shower. They also found little evidence that education causally increased people's level of concern about global warming or their willingness to pay for environmental tax.

The current study attempts to contribute to this emerging literature by using the nationally representative data to study the effect of the raising of the minimum school leaving age from 15 to 16 years of age in September 1972 on climate literacy and pro-environmental behaviours of over 20,000 England-born citizens.[3] Our work is therefore similar to Meyer (2015) who used changes in compulsory schooling laws in 20th century Europe to estimate the causal effect of education on pro-environmental behaviours. However, we have made significant improvements upon Meyer's and previous other works in this area in at least three crucial aspects.

First, according to Imbens and Angrist (1994) and Oreopoulos (2006), many of the instruments used in the estimation of the causal effects of education – e.g., distance from home to college (Card, 1995), restrictive compulsory schooling law (Angrist & Krueger, 1991), and regional spending on education in regions where the individual was still a student (Berger & Leigh, 1989) – only affect a small fraction of the general population. Consequently, many of the causal estimates produced in the literature are only approximations of the average treatment effects among a small group of people who happened to be exposed to the instruments (Card, 2001). This statement also likely applies to both choices of the instruments used in Meyer's (2015) and Chankrajang and Muttarak's (2017) studies. For example, most of the reforms used

[3] We would have also liked to exploit the raising of the minimum school leaving age law from 14 to 15 years of age in April 1947. However, it was not feasible to do so, given the small number of observations that we have in the UKHLS of the people who were born before and after the cut-off date (April 1933).

in Meyer shifted the minimum school leaving age from 14 to 15 years of age, and hence "are likely affecting individuals from the lower end of the schooling distribution" (Meyer, 2015, p.116). Similarly, the education reform that increased the supply of state primary education in the number of primary schools and teachers in Thailand used in Chankrajang and Muttarak is likely to have affected only a small fraction of students, most of whom were living in more impoverished regions in Thailand. By contrast, the legislation on changing the minimum school leaving age from 15 to 16 years of age in September 1972 in England was incredibly successful at getting people to remain in school nationwide. Within one month after September 1972, the portion of 15-year-olds leaving school nationwide fell by nearly 30 per cent from 35 per cent to slightly more than 5 per cent. Given that the law change affected a significant fraction of people who would have left school at an earlier age had there not been a reform, our estimation of the local average treatment effects (LATE) of education on pro-environmental outcomes is likely to produce estimates that come close to reflecting the average treatment effects (ATE) that apply to the whole population (see Oreopoulos, 2006).

The second important difference lies in the nature of the data, which consists of over 20,000 observations of relatively more homogenous individuals – for example, we restricted our analysis to only those who were born in England – compared to the pooled European sample. The sheer size of the data also enabled participants to be grouped into a different quarter of birth rather than a different year of birth, which resulted in significantly more observations of local averages before and after the cut-off than what had been provided in previous studies, including Meyer (2015). Both of these data-generating processes allowed us to obtain a much more precise estimate of the education effect around the reform date.

Finally, unlike previous studies that used parametric models to estimate the causal effect of education, we adopted the nonparametric regression discontinuity design (RDD) with data-driven bandwidth selectors and bias-correction techniques (Calonico, Cattaneo, and

Titiunik, 2014a, 2015) to estimate the LATE of education on climate literacy and pro-environmental behaviours. According to Lee and Lemieux (2010), the nonparametric approach in the RDD context is intuitively more appealing than the parametric approach as it provides estimates based on data closer to the cut-off. The technique in RDD that we adopted also minimises the bias that can arise from using observations that are farther away from the cut-off (Calonico, Cattaneo, & Titiunik, 2014a, 2015), thus providing us with significantly more robust biased-corrected confidence intervals for average treatment effects at the cut-off.

2. Methods

2.1. Data

The data set used in this study is the so-called 'Understanding Society' UKHLS (the annual, nationally representative United Kingdom Household Longitudinal Survey), which is explained at, and is downloadable from, site https://www.understandingsociety.ac.uk. In Wave 4, which was conducted between 2012 and 2014, the survey participants completed self-report questionnaires on climate change literacy and pro-environmental behaviours. The full sample size exceeds 30,000 randomly selected individuals.

We restricted the sample to consist only of those participants who were born in England between 1930 and 1990. This is so that we have roughly the same starting bandwidth on either side of the reform, which affected those born in or after September 1957. Birth month variable, which requires a special license from the data provider, was also obtained and merged into the main UKHLS data set to create the 'quarter of birth' running variable in the regression discontinuity design.

Education variables. *Remained in school after 15 years of age*. The participants were asked about their school leaving age (*scend*). Responses, which ranged from 10 years old to 23 years old (*Mean* = 16.31, *S.D.* = 1.27), were used to generate a binary variable that takes a

value of 1 if the participant left school after 15 years of age and 0 otherwise. *Having completed at least one secondary education qualification*. Using the highest completed qualification variable (*qfhigh_dv*), the binary variable was generated to have a value of 1 if the participant has completed at least a secondary education qualification (GCSE/CSE/O-level) and 0 otherwise.

Outcomes. *Climate literacy*. The participants were asked to self-rate whether they agree or disagree with nine climate change statements that include (1) "Behaviour contributes to climate change" (*scenv_bccc*), (2) "Climate change is beyond control" (*scenv_tlat*), (3) "Climate change is too far in the future to worry" (*scenv_nowo*), (4) "Not worth making changes if others don't" (*scenv_noot*), (5) "Not worth UK making changes" (*scenv_canc*), (6) "Environmental crisis has been exaggerated" (*scenv_crex*), (7) "Soon experience major environmental disaster" (*scenv_meds*), (8) "People in the UK will be affected by climate change in 30 years" (*scopecl30*), and (9) "People in the UK will be affected by climate change in 200 years" (*scopecl200*). Possible responses for statements (1) to (7) range from "1. Strongly disagree" to "5. Strongly agree", while for statements (8) and (9) range from "0. No, don't believe this" to "1. Yes, believe this". All climate change literacy outcomes were standardised to have a mean of zero and a standard deviation of 1.

Pro-environmental lifestyle. The participants were asked to rate whether they agree or disagree with four pro-environmental lifestyle statements. They are (1) "Being green is an alternative lifestyle" (*scenv_grn*), (2) "Pay more for environmentally friendly products" (*scenv_pmep*), (3) "Current lifestyle is environment friendly" (*scenv_crex*), and (4) "How I feel about current lifestyle and the environment" (*scenv_ftst*). Possible responses for statements (1) to (3) range from "1. Strongly disagree" to "5. Strongly agree", while for statement (4) range from "1. Likes to do a lot more" to "3. Happy with what I do".

Supporting the Green Party. The participants were asked to state a UK political party that they support (*vote4*). I then generated a binary variable that takes a value of 1 if the participant stated his or her support for the Green Party, and 0 otherwise.

Pro-environmental behaviours. The participants were asked to self-complete how often they engage in each of the eleven pro-environmental behaviours (*envhabit1*, …, *envhabit11*). They are (1) "Leave your TV on standby at night", (2) "Switch off lights in rooms that aren't being used", (3) "Keep the tap running while you brush your teeth", (4) "Put more clothes on when rather than turning on the heater", (5) "Not buy something because of too much packaging", (6) "Buy recycled paper products such as toilet paper or tissues", (7) "Take your own shopping bag when shopping", (8) "Use public transport rather than travel by car", (9) "Walk or cycle for short journeys less than 2-3 miles", (10) "Car share with others who need to make a similar journey", and (11) "Take fewer flights when possible". Possible responses to these statements range from "1. Never" to "5. Always". All outcome variables were standardised to have a mean of zero and a standard deviation of 1. We report in Table 1A of the Appendix the descriptive statistics of all outcome variables used in this study for people who left school before 15 years of age and those remained in school after 15 years of age.

2.2. Nonparametric Regression Discontinuity Design

The effect of reform on educational attainment. We adopted the local polynomial nonparametric RDD with data-driven bandwidth selectors and bias-correction techniques (Calonico, Cattaneo, and Titiunik, 2014a, 2015) to estimate the effects of the reform on the probability of remaining in school after 15 years of age and the probability of having completed at least one secondary education qualification. More generally, the basic setup of the nonparametric RDD assumes that there is a pair of potential outcomes for each of the educational attainment variables: $Y_i(1)$ for what would occur if the participants were exposed

to the 1972 reform, and $Y_i(0)$ if not exposed. Based on the assumption that the reform is independent of the unobserved confounding factors and has no other direct effects on the outcome, the causal effect of the reform on each of the educational attainment outcomes is given by $Y_i(1) - Y_i(0)$. However, given that in the regression discontinuity setting, only the participants to the right of the cut-off were affected by the reform, whilst all those to the left of the cut-off were not. Hence, we could only observe $E[Y_i(1)|X]$ to the right of the cut-off and $E[Y_i(0)|X]$ to the left of the cut-off, which enabled us to obtain the following quantity

$$\lim_{\varepsilon \downarrow 0} E[Y_i|X_i = c + \varepsilon] - \lim_{\varepsilon \uparrow 0}[Y_i|X_i = c + \varepsilon],$$

which would equal to the average treatment effect at the cut-off c,

$$E[Y_i(1) - Y_i(0)|X = c].$$

In our RDD context, the running variable, X_i, is the quarter of birth and the cut-off, c, is September 1957, i.e., the birth month of the first cohorts who would go on to be affected by the 1972 reform. We followed previous work that applied the same RDD and controlled for the month of birth, to control for seasonality, and sex (see, e.g., Davies et al., 2018). Given that participants were not able to systematically sort themselves around the cut-off, this regression discontinuity design employs observations just below and above the cut-off as controls and treatment groups to conduct inference on the (local) causal effect of the reform on the educational attainment of the treated. We estimated the regression discontinuity plots with optimal bandwidths using rdplot command in Stata (for a full description of the rdplot command and its basic setup, see Calonico, Cattaneo, & Titiunik, 2014b).

Effects of educational attainment on climate change literacy and pro-environmental outcomes. Given that neither the proportions of participants who stayed in school after 15 years of age nor having completed at least a secondary education qualification jumped from 0% to 100%, We used a fuzzy regression discontinuity design to estimate the causal effects of educational attainment on climate literacy and pro-environmental outcomes. More formally, the causal effect of education attainment, Y, on the climate change literacy and pro-environmental outcomes, Z, can be recovered by dividing the jump in the relationship between Z and X at c by the effect of the reform on Y at the threshold, i.e., the discontinuity jump in the relation between Y and X. In this setting, the treatment effect can be written as

$$\frac{\lim_{\varepsilon \downarrow 0} E[Z_i|X_i=c+\varepsilon] - \lim_{\varepsilon \uparrow 0} E[Z_i|X_i=c+\varepsilon}{\lim_{\varepsilon \downarrow 0} E[Y_i|X_i=c+\varepsilon] - \lim_{\varepsilon \uparrow 0} E[Y_i|X_i=c+\varepsilon},$$

otherwise known as the local average treatment effect (LATE), which is similar to the treatment effect obtained in an instrumental variable setting. The fuzzy regression discontinuity design also controlled for the month of birth, to control for seasonality, and sex, and were estimated with optimal bandwidths using rdrobust command in Stata (Calonico, Cattaneo, & Titiunik, 2014b).

3. Results

The 1972 reform, which affected all children in England who were born in or after September 1957, was successful at getting participants who would have otherwise left school at 15 years of age to remain at least one more year in school. This is evident in Figures 1 and 2, which present regression discontinuity plots of the proportions of participants who i) remained in

school after 15 years of age and ii) with at least a secondary education qualification (i.e., GCSE/CSE/O-level) before and after the reform.

Using optimal bandwidths that minimise the mean squared error of the estimates (Calonico, Cattaneo, and Titiunik, 2015), the estimated increase in the proportion of the Understanding Society participants who remained in school after 15 years of age as a result of the reform was 28.2% (95% CI: 23.3-35.3). This is considered to be a substantial school-leaving law effect on educational attainment by any standards; compared to England, most compulsory schooling laws in other countries only affected a small population who are usually quite different from the general population (Oreopoulos, 2006). It is worth noting that participants who were born in July and August could still technically leave school before they turned 16 years old, which explains why noticeably more participants who were affected by the reform but born in the third quarter of each year left school before their 16th birthday. On the other hand, the estimated increase in the proportion of the Understanding Society participants with at least one of the secondary education qualifications as a result of the reform was 9.3% (95% CI: 3.4, 17.2), thus suggesting that only a fraction of people who stayed in school after 15 years of age because of the reform went on to complete a secondary education qualification. The reform had a similar effect on men's and women's decision to remain in school after 15 years of age; the reform raised the probability of remaining in school after the 16th birthday by 24.1% for men (95% CI: 18.7-32.5) and 23.9% for women (95% CI: 19.6-31.7). However, the reform effect on obtaining a secondary education qualification is noticeably stronger for men (10.6% (95% CI: 2.2-20.9)) than for women (5.1% (95% CI: -1.9-13.6)) (see Figures 1A-2B in the Appendix).

Figure 3 plots the corresponding local averages of the standardised belief that behaviour contributes to climate change before and after the reform. We can see a discontinuous increase in the average belief that behaviour contributes to the climate change of 0.17-standard deviation

(95% CI: 0.05-0.3) on the date of the law change in September 1972. This gives us some early indications that the average climate literacy had increased for the cohorts who were exposed to the reform.

Given that not all participants complied to the raising of the minimum school leaving age, Table 1 used the fuzzy regression discontinuity design (Lee and Lemieux, 2010; Calonico, Cattaneo, and Titiunik, 2014) to estimate the LATE of remaining in school after 15 years of age, and having completed a secondary education qualification (e.g., GCSE, CSE, O-level) on a range of climate change literacy variables. For all outcome variables, higher scores represent higher levels of expressed agreement with the statement. Given that not all outcome variables have the same unit, we also standardised all outcome variables, so that each variable has a mean of zero and a standard deviation of 1. We can nevertheless obtain qualitatively similar results when the categorical outcome variables had been collapsed into binary variables ("0. Disagree/neither disagree nor agree" versus "1. Agree") (See Table A2 in the Appendix). Note that optimal bandwidths were again used in each of Table 1's regression discontinuity regression.

Looking at Table 1, we can see that more education as a result of the reform had a positive and sizeable effect on the participants' belief that behaviour contributes to climate change (the effect of remaining in school after 15 years of age = 0.6 standard deviation (95% CI: 0.1-1.3) and the effect of having at least a secondary education qualification = 1.6 standard deviation (95% CI: -0.005-3.6)). There is also some evidence that education causally reduced the participants' belief that climate change is too far in the future to worry (the effects of staying in school after turning 16 and getting a secondary education are -0.5 standard deviation (95% CI: -1.1-0.03) and -1.3 standard deviation (95% CI: -3.2-0.2)).

However, despite the evidence that education causally improved the level of comprehension about the causes of climate change for the participants who were affected by

the reform, there is little evidence from the RDD results that more education had successfully made participants wanting to make changes to help the environment even if others do not (-0.4 standard deviation (95% CI: -0.9-0.1)). Similarly, there is little evidence that more education dissuaded the participants from the belief that environmental crisis is beyond control (-0.2 standard deviation (95% CI: -0.7-0.3)), has been exaggerated (0.01 standard deviation (95% CI: -0.4-0.6)) or strengthened their belief that if things continue on their current course, the planet will soon experience a major environmental disaster (0.1 standard deviation (95% CI: -0.4-0.8)). In summary, while Table 1's regression discontinuity results suggest that although more education had managed to have a desirable impact on the participants' understanding about the causes of climate change, it did not effectively increase their willingness to change their behaviours to help save the environment.

Table 2, which reports the fuzzy regression discontinuity results for the rest of the environmentally related questionnaires in the Understanding Society, provides further support for Table 1's finding that more education and qualifications did not cause people to adopt a more environmentally friendly lifestyle. In contrast with previous findings (e.g., Meyer, 2015; Chankrajang & Muttarak, 2017), more education brought about by the reform did not significantly improve people's willingness to pay for environmentally friendly products (0.3 standard deviation (95% CI: -0.1-0.9)) or made them more likely to vote for the Green Party that is known for being the most pro-sustainable political party in the UK (0.1 standard deviation (95% CI: -0.4-0.8)). There is also little evidence that the reform caused people to engage in more pro-environmental behaviours such as switching off lights in rooms that are not being used, buying recycled paper products such as toilet paper or tissues, using public transport rather than travel by car, and taking fewer flights when possible. Finally, there is little evidence that more education had different impacts on climate literacy and pro-environmental behaviours by the participant's gender (Tables 3A & 4A in the Appendix).

4. Discussions and conclusions

Using the nationally representative United Kingdom Household Longitudinal Survey data and the raising of the minimum school leaving age law in September 1972 as a natural experiment, this study provides one of the most robust tests of the causal effect of education on climate literacy and pro-environmental behaviours. One of the main reasons for this is because the education reform in September 1972 was incredibly successful at increasing the proportion of people who remained in school past the compulsory schooling age by almost 30% at the time of its introduction. This enabled us to estimate the local average treatment effects of remaining in school and getting a secondary school qualification that are close to the average treatment effects on the general population in England. However, while previous studies had shown that the reform was successful at improving health, wealth, and well-being for an average person who gained more education as a result of the reform, its contributions to the fight against global warming had been disappointingly small, almost to the point of nonexistence. It was not that the reform had failed to educate people about the causes of climate change; there was strong evidence that it did. However, despite this sharp difference in the level of climate change literacy between participants not affected by the reform and those affected by it, there is little evidence that more education had caused a drastic change in the participants' willingness to adopt more pro-environmental behaviours.

What explains why education causally improved our understanding that behaviours cause climate change, and yet it did not lead to a significant change in their pro-environmental behaviours? We could perhaps explain this inconsistency between what people know and what they should do as a result of that knowledge by appealing to many writings in psychology and behavioural economics, which had found that most people tend to prefer immediate

gratification than delayed rewards[4] (e.g., "*I know I should do more for the environment, but driving to work is a lot easier than taking a public transport*"), like to engage in social comparisons[5] (e.g., "*I know I should recycle more, but why should I when most people I know in my neighbourhood don't?*"), and are loss averse[6] (e.g., "*I know I should change to an electric car, but I don't want to stop driving the car that I've been driving for the last ten years*"). The current study contributes to this literature by providing very little evidence that more education can help mitigate cognitive biases that prevent people from doing what they should for the environment.

It does not follow, however, that we should give up on education in our fight against climate change. It may be true that the application of behavioural economics principles in environmental policies has proven to be much more successful at promoting people's pro-environmental behaviours than merely informing them to change (see, e.g., Ölander & Thøgersen, 2014; Vlaeminck, Jiang & Vranken, 2014; Schubert, 2017). Yet it has also been found that behavioural changes from these *nudge* policies are likely to be much more enduring if the person also identifies herself as someone who cares deeply about the environment (Mols et al., 2015). In other words, while education may not necessarily cause pro-environmental behaviours, nudge policies may have a much more significant and longer-lasting impact on the responses of better-educated people. This is primarily because the new behaviours are likely to be consistent with the more correct beliefs about the causes of climate change brought about by more education.

[4] Laibson (1997).
[5] Festinger (1954).
[6] Tversky and Kahneman (1991).

References

Angrist, J. D., & Krueger, A. B. (2001). Instrumental variables and the search for identification: From supply and demand to natural experiments. *Journal of Economic perspectives*, *15*(4), 69-85.

Anderson, A. (2010). *Combating climate change through quality education*. Policy Brief 2010-03. Washington, DC: Brookings Global Economy and Development. Web access: https://www.preventionweb.net/files/15415_15415brookingspolicybriefclimatecha.pdf

Berger, M. C., & Leigh, J. P. (1989). Schooling, self-selection, and health. *Journal of Human Resources*, 433-455.

Callan, S. J., & Thomas, J. M. (2006). Analysing demand for disposal and recycling services: a systems approach. *Eastern Economic Journal*, *32*(2), 221-240.

Calonico, S., Cattaneo, M. D., & Titiunik, R. (2014a). Robust nonparametric confidence intervals for regression-discontinuity designs. *Econometrica*, *82*(6), 2295-2326.

Calonico, S., Cattaneo, M. D., & Titiunik, R. (2014b). Robust data-driven inference in the regression-discontinuity design. *The Stata Journal*, *14*(4), 909-946.

Calonico, S., Cattaneo, M. D., & Titiunik, R. (2015). Optimal data-driven regression discontinuity plots. *Journal of the American Statistical Association*, *110*(512), 1753-1769.

Card, D. (1995). Using geographic variation in college proximity to estimate the return to schooling. In Louis N. Christofides, E. Kenneth Grant, and Robert Swindisky (eds.), *Aspects of Labour Market Behaviour: Essays in Honor of John Vanderkamp*. Toronto: University of Toronto Press, p.201-222.

Card, D. (2001). Estimating the return to schooling: Progress on some persistent econometric problems. *Econometrica*, *69*(5), 1127-1160.

Chankrajang, T., & Muttarak, R. (2017). Green returns to education: Does schooling contribute to pro-environmental behaviours? Evidence from Thailand. *Ecological Economics*, *131*, 434-448.

Clark, D., & Royer, H. (2013). The effect of education on adult mortality and health: Evidence from Britain. *American Economic Review*, *103*(6), 2087-2120.

Davies, N. M., Dickson, M., Smith, G. D., Van Den Berg, G. J., & Windmeijer, F. (2018). The causal effects of education on health outcomes in the UK Biobank. *Nature Human Behaviour*, *2*(2), 117-125.

De Silva, D. G., & Pownall, R. A. (2014). Going green: does it depend on education, gender or income? *Applied Economics*, *46*(5), 573-586.

Ek, K., & Söderholm, P. (2008). Norms and economic motivation in the Swedish green electricity market. *Ecological Economics*, *68*(1-2), 169-182.

Festinger, L. (1954). A theory of social comparison processes. *Human relations*, *7*(2), 117-140.

Harmon, C., & Walker, I. (1995). Estimates of the economic return to schooling for the United Kingdom. *American Economic Review*, *85*(5), 1278-1286.

Kahan, D. M., Peters, E., Wittlin, M., Slovic, P., Ouellette, L. L., Braman, D., & Mandel, G. (2012). The polarizing impact of science literacy and numeracy on perceived climate change risks. *Nature climate change*, *2*(10), 732-735.

Imbens, G. W., & Angrist, J. D. (1994). Identification and Estimation of Local Average Treatment Effects. *Econometrica*, 62(2), 467-475.

Johnston, R. J., Wessells, C. R., Donath, H., & Asche, F. (2001). Measuring consumer preferences for ecolabeled seafood: an international comparison. *Journal of Agricultural and Resource Economics*, 26(1), 20-39.

Laibson, D. (1997). Golden eggs and hyperbolic discounting. *Quarterly Journal of Economics*, *112*(2), 443-478.

Lee, T. M., Markowitz, E. M., Howe, P. D., Ko, C. Y., & Leiserowitz, A. A. (2015). Predictors of public climate change awareness and risk perception around the world. *Nature climate change*, *5*(11), 1014-1020.

McCright, A. M., & Dunlap, R. E. (2011). The politicization of climate change and polarization in the American public's views of global warming, 2001–2010. *Sociological Quarterly*, *52*(2), 155-194.

Meyer, A. (2015). Does education increase pro-environmental behaviour? Evidence from Europe. *Ecological Economics*, *116*, 108-121.

Mochizuki, Y., & Bryan, A. (2015). Climate change education in the context of education for sustainable development: Rationale and principles. *Journal of Education for Sustainable Development*, *9*(1), 4-26.

Mols, F., Haslam, S. A., Jetten, J., & Steffens, N. K. (2015). Why a nudge is not enough: A social identity critique of governance by stealth. *European Journal of Political Research*, *54*(1), 81-98.

Ölander, F., & Thøgersen, J. (2014). Informing versus nudging in environmental policy. *Journal of Consumer Policy*, *37*(3), 341-356.

Oreopoulos, P. (2006). Estimating average and local average treatment effects of education when compulsory schooling laws really matter. *American Economic Review*, *96*(1), 152-175.

Oreopoulos, P. (2007). Do dropouts drop out too soon? Wealth, health and happiness from compulsory schooling. *Journal of Public Economics*, *91*(11-12), 2213-2229.

Powdthavee, N. (2010). Does education reduce the risk of hypertension? Estimating the biomarker effect of compulsory schooling in England. *Journal of Human Capital*, *4*(2), 173-202.

Ranney, M. A., & Clark, D. (2016). Climate change conceptual change: Scientific information can transform attitudes. *Topics in Cognitive Science*, *8*(1), 49-75.

Rosenzweig, M. R., & Wolpin, K. I. (2000). Natural "natural experiments" in economics. *Journal of Economic Literature*, *38*(4), 827-874.

Rumore, D., Schenk, T., & Susskind, L. (2016). Role-play simulations for climate change adaptation education and engagement. *Nature Climate Change*, *6*(8), 745-750.

Schubert, C. (2017). Green nudges: Do they work? Are they ethical? *Ecological Economics*, *132*, 329-342.

Torgler, B., & Garcia-Valiñas, M. A. (2007). The determinants of individuals' attitudes towards preventing environmental damage. *Ecological economics*, *63*(2-3), 536-552.

Tversky, A., & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *Quarterly Journal of Economics*, *106*(4), 1039-1061.

Vlaeminck, P., Jiang, T., & Vranken, L. (2014). Food labeling and eco-friendly consumption: Experimental evidence from a Belgian supermarket. *Ecological Economics*, *108*, 180-190.

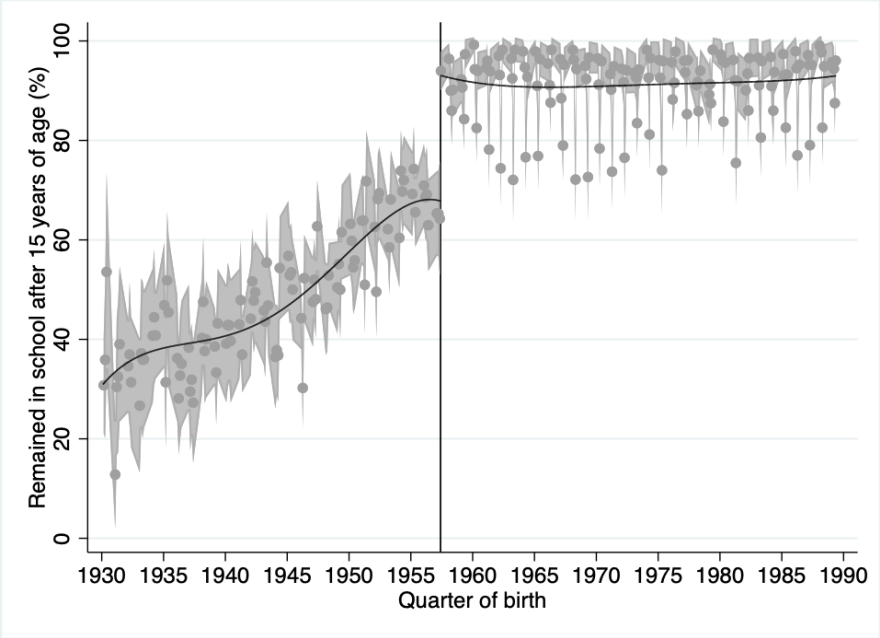

Fig. 1: Proportions of participants who remained in school after 15 years of age by quarter of birth. Each data point represents local averages of respondents who stayed in school beyond the age of 15 per quarter of birth. The change in the minimum school leaving age law from age 15 to 16 in September 1972 affected all children who were born in or after September 1957, as indicated by the vertical line. The shaded area represents 95% confidence intervals. The regression discontinuity plots controlled for the participants' birth month and sex. N=24,475. The order of polynomial fit = 4.

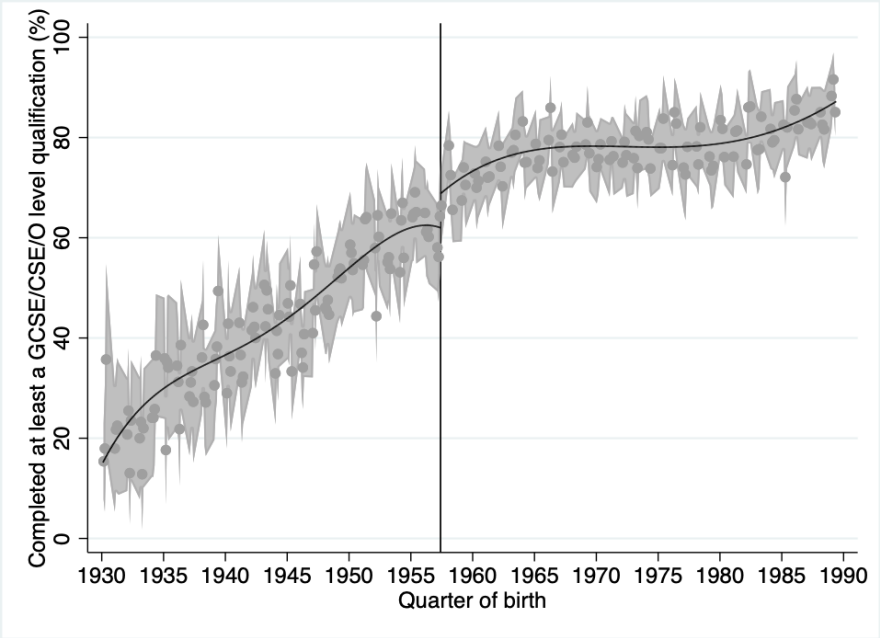

Fig. 2: Proportions of participants with at least a secondary school qualification by quarter of birth. Each data point represents local averages of respondents with at least a secondary school qualification (i.e., GCSE/CSE/O-level). The change in the minimum school leaving age law from age 15 to 16 in September 1972 affected all children who were born in or after September 1957, as indicated by the vertical line. The shaded area represents 95% confidence intervals. The regression discontinuity plots controlled for the participants' birth month and sex. N=24,475. The order of polynomial fit = 4.

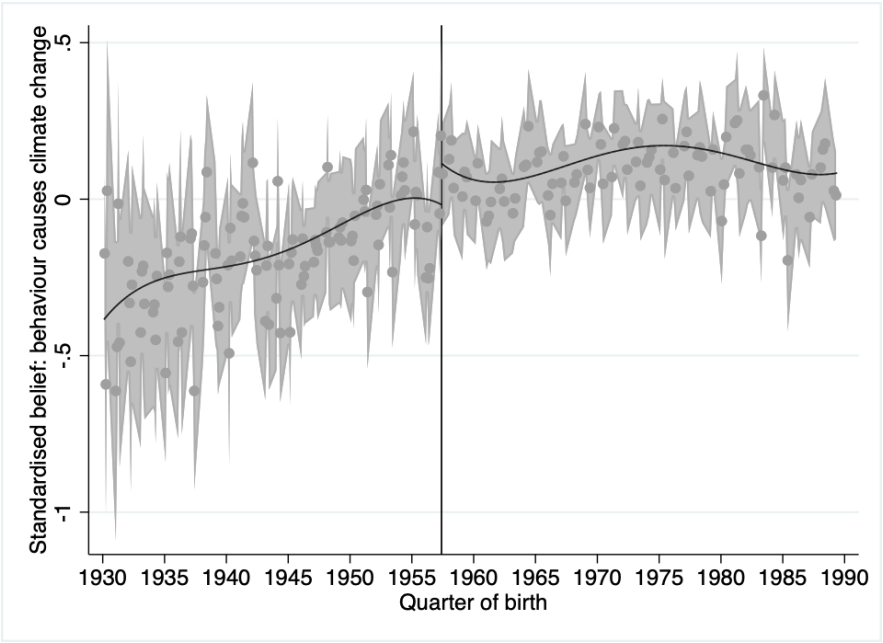

Fig. 3: Local averages of the standardised belief that behaviour contributes to climate change by quarter of birth. Each data point represents local averages of the standardised belief that behaviour contributes to climate change. The change in the minimum school leaving age law from age 15 to 16 in September 1972 affected all children who were born in or after September 1957, as indicated by the vertical line. The shaded area represents 95% confidence intervals. The regression discontinuity plots controlled for the participants' birth month and sex. N=20,932. The order of polynomial fit = 4.

Table 1: The causal effect of remaining in school after 15 years of age and having at least one secondary education qualification on climate change literacy outcomes: A fuzzy regression discontinuity design

		Remained in school after 15 years of age				Having completed at least one secondary education qualification			
			95% C.I.				95% C.I.		
Standardised outcome variables	**N**	*LATE* estimate	Lower	Upper	Robust *p*-value	*LATE* estimate	Lower	Upper	Robust *p*-value
Behaviour contributes to climate change	20932	0.626	0.143	1.270	0.014	1.646	-0.005	3.631	0.051
Climate change is beyond control	20928	-0.206	-0.753	0.303	0.404	-0.552	-2.311	0.771	0.327
Climate change is too far in the future to worry	20946	-0.492	-1.107	-0.027	0.040	-1.280	-3.175	0.179	0.080
Not worth making changes if others don't	20957	-0.361	-0.982	0.119	0.125	-0.858	-2.641	0.625	0.226
Not worth UK making changes	20942	-0.336	-0.949	0.135	0.141	-0.670	-2.487	0.885	0.352
Environmental crisis has been exaggerated	20930	0.0993	-0.397	0.563	0.735	0.431	-1.185	2.289	0.534
Soon experience major environmental disaster	20925	0.134	-0.394	0.754	0.538	0.430	-1.071	2.354	0.463
People in the UK will be affected by climate change in 30 years	20749	0.138	-0.337	0.736	0.465	0.323	-0.844	1.876	0.457
People in the UK will be affected by climate change in 200 years	20742	0.212	-0.271	0.788	0.339	0.577	-0.773	2.235	0.341

Note: LATE = local average treatment effect. Outcome variables are standardised to have a mean of zero and a standard deviation of 1, with more positive values indicating an increase in the level of agreement with the statement. All regression discontinuity estimates adjust for the month of birth and sex. The running variable is the quarter of birth and the cut-off date is 1st September 1957. Optimal bandwidths were used in all regressions.

Table 2: The causal effect of remaining in school after 15 years of age and having at least one secondary education qualification on pro-environmental lifestyle and behaviours: A fuzzy regression discontinuity design

		Stayed in school after 15 years of age				Having completed at least one secondary education qualification			
			95% C.I.				95% C.I.		
Standardised outcome variables	**N**	*LATE* estimate	Lower	Upper	Robust *p*-value	*LATE* estimate	Lower	Upper	Robust *p*-value
Being green is an alternative lifestyle	20804	-0.299	-0.877	0.036	0.071	-1.182	-3.120	0.311	0.108
Pay more for environmentally friendly products	20960	0.350	-0.139	0.969	0.142	0.960	-0.570	2.814	0.194
Current lifestyle is environment friendly	20973	0.105	-0.463	0.574	0.834	0.325	-1.388	1.724	0.832
How I feel about current lifestyle and the environment	20976	-0.152	-0.782	0.358	0.466	0.0835	-1.571	1.683	0.947
Politics: support the Green Party	24475	0.119	-0.449	0.826	0.563	-0.151	-1.985	1.772	0.911
Leave your TV on standby at night	22369	0.00274	-0.463	0.539	0.881	0.271	-1.259	2.116	0.619
Switch off lights in rooms that aren't being used	22597	-0.0783	-0.546	0.475	0.891	-0.692	-2.417	1.104	0.465
Keep the tap running while you brush your teeth	22485	-0.0414	-0.569	0.388	0.710	-0.263	-2.030	1.320	0.678
Put more clothes on when rather than turning on heater	22513	-0.269	-0.711	0.217	0.297	-0.931	-2.904	0.943	0.318
Not buy something because of too much packaging	22268	0.138	-0.361	0.795	0.463	0.319	-1.262	2.469	0.526
Buy recycled paper products such as toilet paper or tissues	22029	0.294	-0.101	0.860	0.122	1.261	-0.180	3.093	0.081
Take your own shopping bag when shopping	22204	-0.155	-0.715	0.357	0.512	-0.481	-2.270	1.239	0.564
Use public transport rather than travel by car	21418	0.411	-0.100	0.870	0.120	0.951	-1.446	2.695	0.554
Walk or cycle for short journeys less than 2-3 miles	21632	-0.488	-1.080	0.076	0.089	-1.721	-4.020	0.658	0.159
Car share with others who need to make a similar journey	18245	0.0888	-0.594	0.598	0.995	1.426	-1.476	3.968	0.370
Take fewer flights when possible	15118	-0.252	-0.951	0.268	0.272	-0.246	-2.502	1.694	0.706

Note: LATE = local average treatment effect. Outcome variables are standardised to have a mean of zero and a standard deviation of 1, with more positive values indicating an increase in the level of agreement with the statement. All regression discontinuity estimates adjust for the month of birth and sex. The running variable is the quarter of birth and the cut-off date is 1st September 1957. Optimal bandwidths were used in all regressions.

Appendix

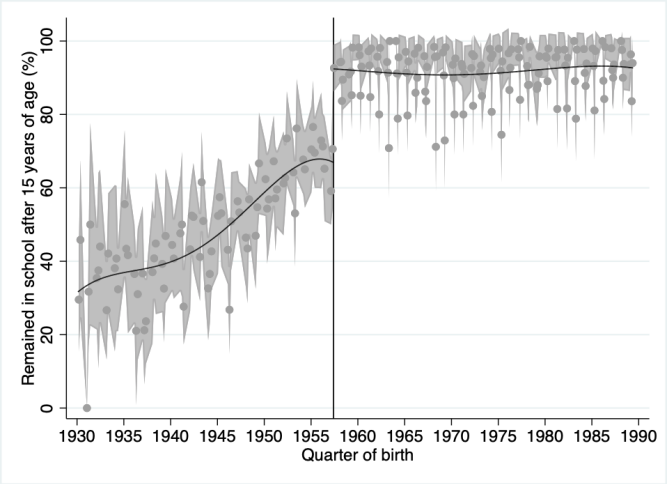

Fig. 1A: Proportions of male participants who remained in school after 15 years of age by quarter of birth. Each data point represents local averages of respondents who stayed in school beyond the age of 15 per quarter of birth. The change in the minimum school leaving age law from age 15 to 16 in September 1972 affected all children who were born in or after September 1957, as indicated by the vertical line. The regression discontinuity plots controlled for the participants' birth month. The shaded area represents 95% confidence intervals. N=11,410.

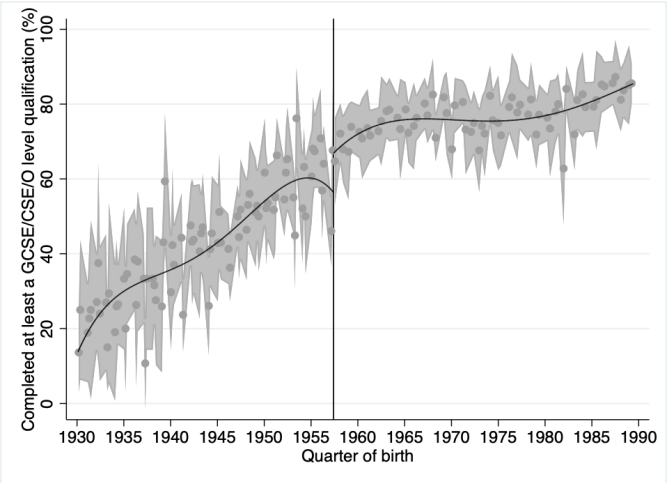

Fig. 1B: Proportions of male participants with at least a secondary school qualification by quarter of birth. Each data point represents local averages of respondents with at least a secondary school qualification (i.e., GCSE/CSE/O-level). The change in the minimum school leaving age law from age 15 to 16 in September 1972 affected all children who were born in or after September 1957, as indicated by the vertical line. The regression discontinuity plots controlled for the participants' birth month. The shaded area represents 95% confidence intervals. N=11,410.

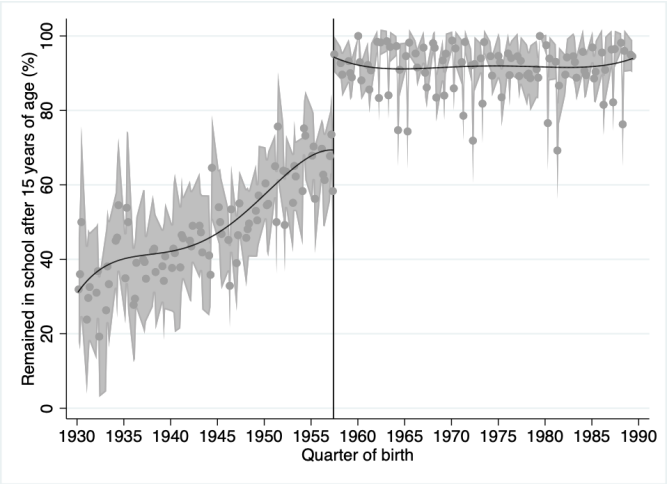

Fig. 2A: Proportions of female participants who remained in school after 15 years of age by quarter of birth. Each data point represents local averages of respondents who stayed in school beyond the age of 15 per quarter of birth. The change in the minimum school leaving age law from age 15 to 16 in September 1972 affected all children who were born in or after September 1957, as indicated by the vertical line. The regression discontinuity plots controlled for the participants' birth month. The shaded area represents 95% confidence intervals. N=13,065.

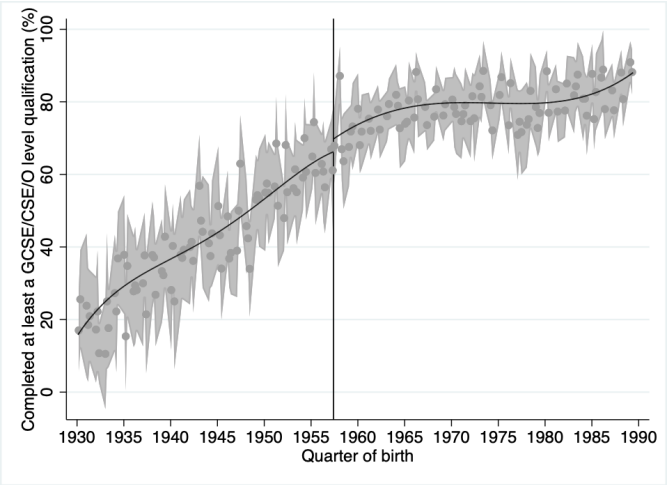

Fig. 2B: Proportions of female participants with at least a secondary school qualification by quarter of birth. Each data point represents local averages of respondents with at least a secondary school qualification (i.e., GCSE/CSE/O-level). The change in the minimum school leaving age law from age 15 to 16 in September 1972 affected all children who were born in or after September 1957, as indicated by the vertical line. The regression discontinuity plots controlled for the participants' birth month. The shaded area represents 95% confidence intervals. N=13,065.

Table 1A: Descriptive statistics by education groups

Unstandardized outcome variables	Left school by 15 years of age (A)			Remained in school after 15 years of age (B)					Test of mean differences across years of schooling groups	
	N	Mean	S.E.	N	Mean	S.E.	Min	Max	Mean differences (B-A)	*p*-values
Behaviour contributes to climate change	5077	3.193	.013	15855	3.368	.007	1	5	0.175***	(0.000)
Climate change is beyond control	5081	2.814	.014	15847	2.584	.007	1	5	-0.230***	(0.000)
Climate change is too far in the future to worry	5093	2.921	.015	15853	2.492	.008	1	5	-0.429***	(0.000)
Not worth making changes if others don't	5092	2.887	.016	15865	2.668	.009	1	5	-0.219***	(0.000)
Not worth UK making changes	5089	3.097	.016	15853	2.68	.009	1	5	-0.418***	(0.000)
Environmental crisis has been exaggerated	5074	3.209	.014	15856	2.94	.008	1	5	-0.269***	(0.000)
Soon experience major environmental disaster	5076	3.253	.014	15849	3.258	.008	1	5	0.005	(0.735)
People in the UK will be affected by climate change in 30 years	5002	.746	.006	15747	.804	.003	0	1	0.058***	(0.000)
People in the UK will be affected by climate change in 200 years	4991	.87	.005	15751	.912	.002	0	1	0.042***	(0.000)
Being green is an alternative lifestyle	5009	2.651	.009	15795	2.384	.006	1	4	-0.267***	(0.000)
Pay more for environmentally friendly products	5092	2.902	.014	15868	2.997	.008	1	5	0.095***	(0.000)
Current lifestyle is environment friendly	5101	2.822	.013	15872	2.684	.006	1	5	-0.138***	(0.000)
How I feel about current lifestyle and the environment	5107	2.737	.007	15869	2.59	.005	1	3	-0.146***	(0.000)
Politics: support the Green Party	5993	.006	.001	18482	.013	.001	0	1	0.007***	(0.000)
Leave your TV on standby at night	5657	2.587	.025	16712	2.798	.014	1	5	0.211***	(0.000)
Switch off lights in rooms that aren't being used	5687	4.521	.012	16910	4.382	.007	1	5	-0.139***	(0.000)
Keep the tap running while you brush your teeth	5601	2.596	.023	16884	2.598	.013	1	5	0.002	(0.926)
Put more clothes on when rather than turning on heater	5660	3.445	.018	16853	3.524	.01	1	5	0.079***	(0.000)
Not buy something because of too much packaging	5547	1.556	.012	16721	1.682	.007	1	5	0.127***	(0.000)
Buy recycled paper products such as toilet paper or tissues	5522	2.327	.018	16507	2.414	.01	1	5	0.086***	(0.000)
Take your own shopping bag when shopping	5532	3.935	.02	16672	3.607	.011	1	5	-0.328***	(0.000)

Use public transport rather than travel by car	5248	2.176	.019	16170	2.056	.01	1	5	-0.121***	(0.000)
Walk or cycle for short journeys less than 2-3 miles	5174	2.745	.02	16458	2.93	.01	1	5	0.185***	(0.000)
Car share with others who need to make a similar journey	4314	1.675	.017	13931	1.83	.01	1	5	0.155***	(0.000)
Take fewer flights when possible	3498	1.32	.015	11620	1.445	.009	1	5	0.125***	(0.000)

Note: *** indicates that the difference in the mean is statistically significantly difference from zero at the 1% confidence level.

Table 2A: Collapsing the categorical outcome variables into 0 ("Disagree/neither agree nor disagree") vs. 1 ("Agree")

	Remained in school after 15 years of age					Having completed at least one secondary education qualification			
			95% C.I.				95% C.I.		
Standardised outcome variables	**N**	*LATE* estimate	Lower	Upper	Robust *p*-value	*LATE* estimate	Lower	Upper	Robust *p*-value
Behaviour contributes to climate change	20932	0.212	-0.029	0.530	0.079	0.621	-0.226	1.621	0.139
Climate change is beyond control	20928	-0.164	-0.379	0.028	0.091	-0.413	-1.063	0.224	0.202
Climate change is too far in the future to worry	20946	-0.0983	-0.315	0.075	0.226	-0.110	-0.734	0.296	0.405
Not worth making changes if others don't	20957	-0.0578	-0.321	0.157	0.500	-0.0808	-0.812	0.515	0.661
Not worth UK making changes	20942	-0.0904	-0.363	0.138	0.379	-0.0534	-0.854	0.654	0.796
Environmental crisis has been exaggerated	20930	0.0482	-0.145	0.275	0.544	0.423	-0.295	1.275	0.221
Soon experience major environmental disaster	20925	0.0625	-0.190	0.365	0.537	0.162	-0.540	1.078	0.515

Note: LATE = local average treatment effect. Outcomes are unstandardized binary variables. All regression discontinuity estimates adjust for the month of birth and sex. The running variable is the quarter of birth and the cut-off date is 1st September 1957. Optimal bandwidths were used in all regressions.

Table 3A: The causal effect of remaining in school after 15 years of age and having at least one secondary education qualification on climate change literacy outcomes: A fuzzy regression discontinuity design, male sample

		Remained in school after 15 years of age				Having completed at least one secondary education qualification			
			95% C.I.				95% C.I.		
Standardised outcome variables	**N**	*LATE* estimate	Lower	Upper	Robust *p*-value	*LATE* estimate	Lower	Upper	Robust *p*-value
Behaviour contributes to climate change	9228	0.742	0.117	1.543	0.023	1.863	-0.253	4.132	0.083
Climate change is beyond control	9218	-0.344	-1.051	0.307	0.283	-0.835	-2.624	0.631	0.230
Climate change is too far in the future to worry	9225	-0.477	-1.249	0.106	0.098	-1.035	-2.867	0.423	0.145
Not worth making changes if others don't	9229	0.0118	-0.735	0.608	0.853	0.0523	-1.707	1.477	0.887
Not worth UK making changes	9223	-0.186	-0.880	0.523	0.619	-0.353	-1.962	1.166	0.618
Environmental crisis has been exaggerated	9225	-0.109	-0.794	0.630	0.821	-0.368	-2.093	1.185	0.587
Soon experience major environmental disaster	9221	0.281	-0.333	1.015	0.322	0.678	-0.917	2.521	0.360
People in the UK will be affected by climate change in 30 years	9172	0.295	-0.251	1.050	0.229	0.751	-0.636	2.529	0.241
People in the UK will be affected by climate change in 200 years	9154	0.227	-0.394	1.064	0.368	0.415	-1.034	2.247	0.469
Being green is an alternative lifestyle	9175	-0.167	-0.909	0.519	0.592	-0.395	-2.149	0.993	0.471
Pay more for environmentally friendly products	9230	0.383	-0.200	1.147	0.168	0.890	-0.847	2.685	0.308
Current lifestyle is environment friendly	9233	0.408	-0.158	1.126	0.139	0.983	-0.596	2.783	0.205
How I feel about current lifestyle and the environment	9234	0.335	-0.331	1.104	0.291	0.703	-0.914	2.546	0.355
Politics: support the Green Party	11410	-0.142	-1.006	0.744	0.769	-0.335	-2.611	1.913	0.762
Leave your TV on standby at night	9895	-0.117	-0.809	0.624	0.800	-0.309	-2.197	1.726	0.814
Switch off lights in rooms that aren’t being used	10014	-0.163	-0.801	0.504	0.655	-0.549	-2.288	1.206	0.544
Keep the tap running while you brush your teeth	9950	-0.191	-0.989	0.456	0.469	-0.514	-2.580	1.164	0.458
Put more clothes on when rather than turning on heater	9944	0.0204	-0.643	0.788	0.843	0.108	-1.603	2.235	0.747
Not buy something because of too much packaging	9841	0.155	-0.461	0.913	0.520	0.488	-1.346	2.693	0.513
Buy recycled paper products such as toilet paper or tissues	9576	0.553	-0.105	1.422	0.091	0.772	-0.912	2.612	0.344
Take your own shopping bag when shopping	9707	0.184	-0.442	0.937	0.481	0.475	-1.187	2.424	0.502

Use public transport rather than travel by car	9542	0.472	-0.097	1.196	0.096	1.284	-0.919	3.594	0.245
Walk or cycle for short journeys less than 2-3 miles	9667	-0.309	-1.078	0.382	0.350	-0.656	-2.577	1.299	0.518
Car share with others who need to make a similar journey	8248	0.248	-0.529	0.863	0.639	0.776	-1.152	2.355	0.501
Take fewer flights when possible	6923	-0.0393	-0.884	0.670	0.787	-0.0236	-2.018	2.027	0.996

Note: LATE = local average treatment effect. Outcome variables are standardised to have a mean of zero and a standard deviation of 1, with more positive values indicating an increase in the level of agreement with the statement. All regression discontinuity estimates adjust for the month of birth and sex. The running variable is the quarter of birth and the cut-off date is 1st September 1957. Optimal bandwidths were used in all regressions.

Table 4A: The causal effect of remaining in school after 15 years of age and having at least one secondary education qualification on climate change literacy outcomes: A fuzzy regression discontinuity design, female sample

	Remained in school after 15 years of age					Having completed at least one secondary education qualification			
			95% C.I.				95% C.I.		
Standardised outcome variables	**N**	*LATE* estimate	Lower	Upper	Robust *p*-value	*LATE* estimate	Lower	Upper	Robust *p*-value
Behaviour contributes to climate change	11704	-0.0846	-0.739	0.542	0.764	0.711	-2.094	4.731	0.449
Climate change is beyond control	11710	-0.00955	-0.733	0.650	0.906	-0.00376	-3.597	3.568	0.994
Climate change is too far in the future to worry	11721	-0.277	-1.124	0.357	0.310	-1.315	-5.591	2.004	0.355
Not worth making changes if others don't	11728	-0.438	-1.278	0.181	0.141	-2.038	-6.998	1.877	0.258
Not worth UK making changes	11719	-0.154	-0.990	0.492	0.510	-0.672	-5.062	2.651	0.540
Environmental crisis has been exaggerated	11705	0.377	-0.392	1.227	0.312	2.179	-3.294	8.263	0.399
Soon experience major environmental disaster	11704	-0.114	-0.730	0.727	0.997	-0.178	-3.312	4.178	0.821
People in the UK will be affected by climate change in 30 years	11577	-0.290	-0.883	0.485	0.569	-1.575	-4.900	1.925	0.393
People in the UK will be affected by climate change in 200 years	11588	0.164	-0.525	0.911	0.599	0.645	-2.159	4.063	0.549
Being green is an alternative lifestyle	11629	-0.734	-1.587	-0.088	0.028	-2.909	-7.819	1.316	0.163
Pay more for environmentally friendly products	11730	0.241	-0.347	1.031	0.330	1.210	-1.925	5.247	0.364
Current lifestyle is environment friendly	11740	0.0681	-0.528	0.712	0.772	-0.629	-4.723	2.826	0.622
How I feel about current lifestyle and the environment	11742	-0.539	-1.431	0.125	0.100	-2.464	-8.312	2.291	0.266
Politics: support the Green Party	13065	0.0461	-0.607	0.735	0.852	0.531	-2.453	4.055	0.630
Leave your TV on standby at night	12474	-0.000384	-0.698	0.587	0.866	0.216	-2.977	3.515	0.871
Switch off lights in rooms that aren't being used	12583	-0.174	-0.776	0.472	0.632	-0.913	-4.603	3.121	0.707
Keep the tap running while you brush your teeth	12535	0.146	-0.583	0.868	0.701	0.542	-3.141	4.059	0.803
Put more clothes on when rather than turning on heater	12569	-0.490	-1.153	0.109	0.105	-2.811	-8.829	3.155	0.353
Not buy something because of too much packaging	12427	-0.237	-0.823	0.531	0.672	0.365	-2.664	4.431	0.625
Buy recycled paper products such as toilet paper or tissues	12453	0.349	-0.242	1.192	0.194	1.445	-1.667	5.430	0.299

Take your own shopping bag when shopping	12497	-0.346	-0.949	0.304	0.313	-2.091	-7.338	3.205	0.442
Use public transport rather than travel by car	11876	0.399	-0.418	1.050	0.399	3.758	-7.804	14.654	0.550
Walk or cycle for short journeys less than 2-3 miles	11965	-0.662	-1.339	0.098	0.091	-3.356	-10.026	3.670	0.363
Car share with others who need to make a similar journey	9997	0.0504	-0.993	0.878	0.904	0.707	-11.413	9.804	0.882
Take fewer flights when possible	8195	-0.283	-1.324	0.510	0.384	-1.331	-6.406	3.057	0.488

Note: LATE = local average treatment effect. Outcome variables are standardised to have a mean of zero and a standard deviation of 1, with more positive values indicating an increase in the level of agreement with the statement. All regression discontinuity estimates adjust for the month of birth and sex. The running variable is the quarter of birth and the cut-off date is 1st September 1957. Optimal bandwidths were used in all regressions.