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Appendix 1

A biobank is a place where human tissue samples are stored. DNA is gathered from these samples and linked to other health information about the donors, their families and past generations. The linked

information becomes a biobank resource that may help researchers identify the genetic causes of human diseases. It is hoped that biobank resources will lead to cures for a wide range of conditions, including diabetes, heart disease and cancer.

Biobanks are required by law to obtain permission from participants to use their samples and to link them with other health information. They are also required by law to ensure confidentiality. Biobank resources are expected to be kept secure, so that insurers, employers and others cannot access them. Bearing all of this information in mind, I would now like to ask you about your thoughts on biobanks. Using a scale from 0 to 10, where 0 means 'do not trust at all', and 10 means 'trust a great deal', please indicate how much you trust the following biobanks.

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Risk communication: climate change as a human-health threat, a survey of public perceptions in Malta

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Background: Scientific evidence shows that climate change is very likely the product of human behaviour and lifestyle. The effects of climate change on human health are diverse in nature and range from direct effects due to extreme weather events such as heat waves, floods and storms, to indirect effects such as those caused by water and food shortages. **Methods:** A telephone survey was conducted between January and February 2009, on a stratified representative random sample of the Maltese population over the age of 18 years ($N=310819$). **Results:** Five hundred and forty-three individuals successfully participated in the survey giving a response rate of 92.7%. The respondent sample was very similar to the target population by gender ($P=0.977$), age ($P=0.767$) and district ($P=0.812$). The results of the study demonstrate a very strong relationship between the perception of climate change as a threat to health and well-being, support for climate change mitigation policy and a willingness to implement measures to address climate change. **Conclusion:** The findings of this study show that the perception that climate change may claim lives, cause disease, reduce the standard of living and worsen water shortages, may be the strongest driver behind support for climate change mitigation policy and a willingness to act. It is recommended that, in order to gain more public support, climate change campaigns and risk communication strategies should frame climate change as a threat to human health and general well-being.

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Introduction

The term 'climate change' has become common currency in scientific, public and political fora alike. Health organizations now emphasize that climate change is not just a threat to biological systems and the environment, but, as described by the World Health Organisation, a 'significant and emerging threat to public health'.¹ Protecting health from the impacts of climate change is recognized as one of the defining challenges of the 21st century.²

The health impacts of climate change include the direct effects of extreme weather events such as floods, storms and heat waves to the change of patterns and re-emergence of vector-borne diseases such as malaria and dengue fever. The effects of climate change on water security, food security and air quality are recognized as having the greatest effect on human health, especially in the developing world.^{3,4}

In the knowledge that climate change is very likely anthropogenic,⁵ mainly due to increased greenhouse gas (GHG) emissions such as

carbon dioxide (CO₂) from the burning of fossil fuels and other human activities, a variety of measures can be taken to mitigate or slow down climate change by dramatically reducing GHG emissions.⁶ Meeting this challenge will require concerted international and intergovernmental efforts, but will also require public support for government policies and committed action by individual citizens and consumers.⁷

Studies on public perceptions provide a window of opportunity to forecast or project the degree of support that will be given to climate change mitigation policy and the public's willingness to adopt climate change mitigation behaviour. Social research on climate change emerged in the 1980's⁸ and has shown that, in general, climate change is not salient in people's lives, meaning that people do not ponder about climate change in their daily life.⁹⁻¹¹ Furthermore, the lay person often fails to differentiate between climate change and air pollution, ozone depletion and a range of other environmental hazards. Some populations perceive climate change as more of a threat to others than to themselves.¹² Consequently, studies indicate that climate change mitigation policy is

likely to be met with an absence of opposition rather than with active support.¹¹ In addition, willingness to implement measures that decrease GHG emissions is mostly limited to measures that are easily undertaken, can be done at home and are not costly.¹³ The reasons given for changing behaviour were mostly financial and health reasons, rather than a genuine concern for the detrimental effects of climate change.¹⁴

To date, social research has mostly focused on climate change as an ecological concern rather than as a threat to human health. Some studies have skimmed over the subject of perceptions of the health effects of climate change (e.g. the perception that climate change lowers standard of living and aggravates water shortages).^{8,11,12} Only few studies have considered the level of knowledge of the direct health effects (e.g. the knowledge that climate change increases the frequency and intensity of heat waves that in turn can affect health by leading to dehydration or heat stroke) as well as the indirect health effects of climate change (e.g. that climate change worsens air quality).

This study, which examines the Maltese public perception of climate change, gives particular attention to public perceptions and knowledge of the health effects of climate change. Health-related items that had already been used in other studies (e.g. perceptions that people are dying or becoming ill because of climate change) were replicated in the questionnaire used in this study. A new item on knowledge about the human health effects of climate change was introduced.

Risk perception and knowledge of the human health effects of climate change were in turn analysed together with knowledge about the contributors of climate change, willingness to adopt climate change mitigation behaviour and support for climate change mitigation policy.

Background

Malta is a small archipelago in the centre of the Mediterranean. The two larger islands—Malta and Gozo—together cover an area of 316 km². The island state, which has been a member of the European Union since May 2004, has a resident population of 413 609 (as at end 2008) and a very high-population density (1309 persons/km² as at end 2008).¹⁵

Over the last decades, Malta has experienced overall all year round warmer temperatures with particularly pronounced warmer temperatures during the summer months. This was accompanied by an increase in the frequency and intensity of heat waves. Rainfall precipitation was observed to have increased in the wetter months (between October and February) and decreased in the drier months (between March and September). Monthly projections indicate that the period from October to February may experience an increase in precipitation by as much as 22%.¹⁶ This implies a shift of precipitation to shorter time windows, which is problematic for a country with limited water reservoirs and which may further contribute to more frequent flooding events.

As in other countries, diarrhoeal disease caused by *Salmonella spp.* is projected to increase owing to the close relationship between the incidence of *Salmonella spp.* and higher temperatures.¹⁷ Local surveillance of vector-borne diseases shows a general decline overall; however, the introduction of new vector species due to climate change is a concern. *Aedes albopictus*, also known as the tiger mosquito, a major vector for Chikungunya fever and a secondary Dengue vector, was detected locally in September 2009.^{18,19}

Methods

The target population was the Maltese resident population over the age of 18 years ($N=310\,819$ as at end December 2008).¹⁵ The population is distributed over Malta and Gozo and both islands were included in the study. The study was conducted by means of a telephone survey. A representative random sample of 800 participants, stratified by gender, age and district, was taken from the March 2008 Electoral Register. Telephone and mobile-phone numbers of these participants were obtained from the two main telephone online directories.

The research tool was formulated through a multi-step process, which included the adaptation (with permission) of a similar tool from another

study.¹² The tool was then modified to meet the objectives of this particular study, adapted to a telephone-survey methodology and adjusted to be more sensitive to the Maltese islands' scenario. The modification process included continuous peer review and a focus group.

The focus group consisted of 10 people, three males and seven females with an age range of 22–60 years (mean age: 43 years) and with different educational backgrounds. They held different occupations ranging from staff support, receptionist and data-entry operator to research officer and administrator. None worked with the subject or had a particular interest in climate change and health. The formulation and categorization of the new question regarding the human health effects of climate change was based on the feedback from the focus group.

The questionnaire was translated into the Maltese language with back translation into English in order to ensure that the Maltese version corresponded in meaning with the English version. A pilot study was conducted between the 17 and the 28 November 2008 on an original sample of 50 individuals. Of these, 26 were traceable and 22 successfully answered the questionnaire. Following the pilot study, the sampling frame for the study was changed and minor modifications were made to the research tool.

The main telephone survey was carried out over a 7-week period between 12 January and 28 February 2009. Interviews were carried out by the author of the study and a trained interviewer. As per pilot study, significant differences between interviewers were sought and there were none. Informed consent was obtained over the telephone prior to the interview. Participants were contacted during days and times that were most convenient for them. After five failed attempts to contact participants on different days and times of day, the household was considered 'empty' and the participant considered untraceable.

Individuals who were not listed in the telephone directory, did not own a telephone or a mobile phone, or were untraceable by telephone for other reasons were excluded from the study. Persons who formed part of the selected sample but were hard of hearing, suffering from dementia or mental disability, on long-term hospitalization, living abroad long term or had passed away during the study period, were also excluded from the study.

Data input, validation and analysis was performed using 'Microsoft Excel 2007' and 'SPSS 16.0'. Indices were constructed for sets of items in order to summarize data and analyse it. As defined by Babbie, indices are efficient data reduction devices that summarize a respondent's answers to different questions measuring different dimensions of the same complex concept in a single score.²⁰ The idea of constructing indices was taken from other studies, including studies on climate change;⁷ however, most of the indices were constructed afresh on variables that were unique to this study.

Internal reliability testing of indices was carried out using Cronbach's α or Guttman's λ_2 to give a measure of the strength of the indices. Cronbach's α was used for reliability testing of items using Likert scales. Guttman's λ_2 was used for items with a Boolean or binary ('yes' or 'no') response. The latter is more complex than Cronbach's α and preferred by certain researchers, though less commonly used.²¹ It is better adapted for binary variables.

In total, five indices were constructed: the 'Knowledge of Contributors of Climate Change Index', the 'Risk Perception Index', the 'Knowledge of Health Effects of Climate Change Index', the 'Support for Policy Index' and the 'Willingness to Act Index'. Single variables were also used in the analysis. These variables are 'people dying' and 'people becoming ill', and refer to the perception that people are dying and people becoming ill due to climate change, respectively.

As shown in Appendix tables A1–A7, 'Knowledge about Contributors of Climate Change Index' is a construct of eight items related to knowledge about the contributors of climate change. 'Risk Perception Index' is a construct of six items related to the perception that climate change will have an impact on people's standard of living, water shortages and increased rates of serious disease in 50 years time, both world wide and locally. 'Knowledge of Health Effects of Climate Change Index' is a

construct of seven items related to knowledge about the direct human health effects of climate change. 'Support for Policy Index' is a construct of six items related to willingness to support national climate change mitigation policy. 'Willingness to Act Index' is a construct of six items related to willingness to adopt a set of 'climate change friendly' measures.

Results

Response rate

Out of a total sample of 800 individuals, 586 (73.3%) were eligible to participate in the study. According to the set criteria, 192 (24.0%) individuals could not be traced and 22 (2.8%) were excluded. Among 586 eligible participants, 543 (92.7%) successfully answered the questionnaire, 11 (1.9%) refused to participate and 32 (5.5%) were difficult to find (the participant was traced but was too busy to answer the questionnaire within the study period). The respondent sample ($n = 543$) was not significantly different from the study population for gender ($P = 0.977$), age ($P = 0.767$) and district ($P = 0.812$), and was appreciably similar to the study population by education, occupation and labour status.

Out of 543 participants, 455 (83.8%) were aware of the terms 'climate change' or 'global warming'. The rest (16.2%) were not aware of these terms and for this reason could not answer the rest of the questionnaire.

Internal-reliability testing was carried out on all the indices, the results of which are displayed in table 1.

Table 2 describes the relationships between different variables and indices using Spearman correlation analysis. As shown in this table, 'Risk Perception Index' correlates very strongly with all the variables and indices including 'People dying', 'People becoming ill', 'Knowledge of Health Effects of Climate Change', 'Support for Policy' and

'Willingness to Act', except 'Knowledge about Contributors of Climate Change Index'. Furthermore, the 'Willingness to Act Index' correlates very strongly with the 'Support for Policy Index', both of which in turn correlate very strongly with the 'Risk Perception Index' and to a lesser extent with the variables 'People dying' and 'People becoming ill'. 'Knowledge of Health Effects of Climate Change Index' is also significantly correlated with the 'Willingness to Act Index' but seems to be most strongly correlated with the variables 'People dying' and 'People becoming ill' and with the 'Risk Perception Index'. The 'Knowledge of Contributors of Climate Change Index' is not significantly correlated to any of the variables and indices except for 'People dying' in which case, it is negatively correlated.

Since 'Risk Perception Index' was found to have the strongest correlation with 'Support for Policy Index' and 'Willingness to Act Index', multi-variate analysis for the correlations between 'Risk Perception Index' and 'Support for Policy Index', and 'Risk Perception Index' and the 'Willingness to Act Index', was carried out to test for confounding with age, gender and education. The correlation between the 'Risk Perception Index' and the 'Support for Policy Index' was not found to be significantly confounded by age, gender or education. The correlation between 'Risk Perception Index' and 'Willingness to Act' was found to be significantly confounded by age and gender, but not by education. Nevertheless, the confounding effect of age and gender, though present, was minimal and the strength of the relationship between the 'Risk Perception Index' and the 'Willingness to Act Index' was retained even when age and gender were inserted in the model (table 3).

Table 1 Internal reliability testing

Index	Guttman λ_2	Cronbach's α
Knowledge about Contributors of Climate Change Index	0.602 ^a	
Risk Perception Index		0.797 ^b
Knowledge of Health Effects of Climate Change Index	0.605 ^a	
Support for Policy Index		0.452 ^c
Willingness to Act Index		0.538 ^c

a: Good for exploratory purposes

b: Good reliability

c: Poor reliability

Table 2 Correlation matrix between indices and variables

	Knowledge about contributors of Climate Change Index	People dying	People becoming ill	Risk Perception Index	Knowledge of health effects of Climate Change Index	Support for Policy Index	Willingness to Act Index
Knowledge about contributors of Climate Change Index	1.000						
People dying	-0.119 ^a	1.000					
People becoming ill	-0.062	0.450 ^b	1.000				
Risk Perception Index	-0.077	0.319 ^b	0.346 ^b	1.000			
Knowledge of Health Effects of Climate Change Index	0.002	0.199 ^b	0.186 ^b	0.276 ^b	1.000		
Support for Policy Index	-0.009	0.154 ^c	0.119 ^a	0.220 ^b	0.067	1.000	
Willingness to Act Index	-0.068	0.136 ^c	0.165 ^c	0.268 ^b	0.108 ^a	0.282 ^b	1.000

a: Correlation is significant at the 0.05 level (2 tailed)

b: Correlation is significant at the 0.0001 level (2 tailed)

c: Correlation is significant at the 0.01 level (2 tailed)

Table 3 Models for willingness to act as predicted by Risk Perception Index

Model	B	Standard error
1	2.0687	0.1494
Risk Perception Index	0.2958	0.0509
2	3.4638	0.3734
Risk Perception Index	0.2890	0.0501
Gender	-0.1144	0.0282
3	3.6787	0.3857
Risk Perception Index	0.2899	0.0499
Gender	-0.1192	0.0281
Age	-0.0035	0.0017

Bold in this table is being used to highlight figures that are referred to in the text

Discussion

This study demonstrates that the perception among the Maltese public that climate change poses a risk to one's health (increased disease, water shortages) and general well-being (impact on standard of living) may be the strongest driver behind support for climate change mitigation policy and a willingness to take measures to mitigate climate change. This correlation is also supported by the strong relationship between a perception that people die or become ill because of climate change, and support for climate change mitigation policy and a willingness to act.

Interestingly, the broad perception that climate change somehow influences health and well-being was a much stronger predictor of support for policy and a willingness to act than a correct knowledge about the human health effects of climate change. Therefore, for example, it was unimportant whether the Maltese public perceived climate change as influencing health due to an increase in the frequency of heat waves which would precipitate more cardio-respiratory events; or whether it incorrectly perceived climate change as a cause of cancer. As long as climate change was perceived as a threat to public health and general well-being, both locally and abroad, the public demonstrated a stronger willingness to act on the issue. This relationship still held strong in multi-variate analysis. The finding that the relationship between risk perception and a willingness to act was confounded by age and gender could imply that independently of risk perception, age and gender were also independent predictors of a willingness to act.

Despite the stronger link between risk perception and a support for policy and willingness to act, correct knowledge about the human health effects of climate change was found to correlate very strongly with the perception that climate change negatively affects health and well-being. This may imply that people who are better informed about the human-health effects are more likely to have an image of climate change as a threat to public health. Conversely, it could also mean that people who perceive climate change as a threat to health are more likely to seek information about ways by which climate change affects health. However, irrespectively of the strong relationship between knowledge and perception, the study shows that it is the perception of climate change as a threat to health and well-being that drives behaviour and not knowledge. This is consistent with studies conducted in the USA and in Australia by Leiserowitz, Bulkeley and Bord, who have argued at length about the importance of imagery, affect and risk perception as a means of influencing behaviour and garnering support for policy, and about the inadequacy of only providing scientifically sound information to educate the public.^{11,12,22} This study in addition shows that providing knowledge about the human-health effects of climate change may help influence perceptions about climate change as a risk to human health and well-being, which will in turn drive behaviour in support of climate change mitigation.

Knowledge about the contributors of climate change was not found to relate significantly to risk perception, knowledge about the health effects of climate change, support for policy or willingness to act. It correlated significantly with the perception that people can die because of climate change, although negatively. This is rather surprising as some studies in the United States have identified knowledge about the causes of climate change as an independent predictor of support for policy.^{8,23} This study shows that among the Maltese public, knowledge about the contributors of climate change is unimportant as a motivator for behavioural change and support for policy. Unlike knowledge about the human health effects of climate change, knowledge about the contributors of climate change does not even correlate with risk perception. This may reflect the poor knowledge about the science of climate change among the Maltese public. However, it may also mean that knowledge about the science of climate change is unimportant in influencing the public's perception of climate change as a social issue which requires action. Correct knowledge about the human-health effects of climate change, on the other hand, may help build an image of climate change as a threat to one's health.

Since climate change is most likely to be the result of human behaviour and activity,⁶ a strategy to mitigate climate change should engage the public into becoming more energy efficient by using energy from renewable sources and shifting the use of carbon intensive to less carbon intensive fossil fuels such as gas. This implies that climate change mitigation policy should address lifestyle issues and facilitate climate-friendly choices such as choosing walking or cycling as a means of transport, public transport over private car use, car pooling and investing in sources of renewable energy such as solar water heaters or photovoltaic technology. For this to be possible, a number of barriers (real or perceived), which have been described in depth by Lorenzoni *et al.*, must be addressed. These barriers include physical barriers (e.g. lack of showers on the workplace, unsafe roads for walking or cycling), systematic barriers (e.g. a lack of an efficient public-transport system) and financial barriers (e.g. capital outlay to buy energy efficient equipment). Nonetheless, literature shows that climate change lacks issue salience among the general public and this lack of issue salience has been repeatedly documented in the literature as being a major deterrent to engagement of the public in the climate change issue.

To the Maltese public, the perception that climate change may claim lives, cause disease, worsen standards of living and cause water shortages appears to be more important than knowledge of 'how' climate change will affect human health in predicting support for policy and a willingness to take measures to mitigate climate change. Framing climate change as a public health issue, in order to make climate change salient and to steer a movement towards a low carbon lifestyle, may prove more important and fundamental than educating and providing the public with information about the mechanisms by which climate change occurs and affects health. This does not mean that educating the public about climate change is unnecessary. Education and information provision are important but only secondary to presenting climate change as a public health issue.

The study encountered a number of limitations including those arising from a telephone survey methodology. This method effectively excluded ~16% of the Maltese public from participating in the survey mostly because these were untraceable by phone. Despite this, the respondent sample was ultimately very similar to the target population. Internal reliability testing of the indices also showed that it would have been desirable if some indices, especially the 'Support for Policy index', were stronger.

This study shows that policy makers should endeavour to change the face of climate change to one that includes health. Policy makers need to ensure that, apart from providing scientific information on climate change and bringing about the wider structural changes that are needed to facilitate lifestyle choices that mitigate climate change, the public must learn to appreciate that climate change is a public health issue which affects peoples' health and well-being. Re-framing climate change as a threat to human health can be the principal catalyst for people to change their behaviour and increase their support for climate change mitigation (and adaptation) policies.

Conflicts of interest: None declared.

Key point

- To the Maltese public, the perception that climate change may claim lives, cause disease, worsen standards of living and cause water shortages appears to be more important than knowledge of 'how' climate change will affect human health, in predicting support for policy and a willingness to take measures to mitigate climate change.

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Appendix 1

The Appendix 1 shows some of the variables that were used in the questionnaire together with a description of how indices were constructed from their respective variables.

Table A1 Knowledge about contributors of Climate Change Index

Question: I am going to mention a list of things which may or may not contribute to climate change. In Malta, which of the following contributes to climate change? (ticked boxes represent correct answers)

1 'Power stations'	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
2 'Cars' and other transport vehicles	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
3 Aerosol 'spray cans'	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Don't Know <input type="checkbox"/>
4 'Pesticides'	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Don't Know <input type="checkbox"/>
5 The production and consumption of 'potable water'	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
6 The use of 'electrical appliances' such as freezers, televisions, air conditioners, toasters	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
7 The 'ozone hole'	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Don't Know <input type="checkbox"/>
8 'Mobile phones'	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Don't Know <input type="checkbox"/>

Construction of index: one point was awarded for a correct answer, one point was deducted for an incorrect answer, no points were awarded or deducted for 'Don't Know' answers.

Table A2 Risk Perception Index

Question: How likely do you think it is that each of the following will occur during the next 50 years due to climate change?

	Very unlikely	Somewhat unlikely	Somewhat likely	Very likely	Don't Know
(a) 'World wide', many people's 'standard of living' will decrease due to climate change.	1	2	3	4	9
(b) 'World wide', 'water shortages' will occur due to climate change.	1	2	3	4	9
(c) Increased rates of 'serious disease' 'world wide' due to climate change.	1	2	3	4	9
(d) 'You or your family's' 'standard of living' will decrease due to climate change.	1	2	3	4	9
(e) 'Water shortages' will occur 'in Malta' due to climate change.	1	2	3	4	9
(f) The chance of 'you or your family' getting a 'serious disease' will increase due to climate change.	1	2	3	4	9

Construction of index: the index is an average of the Likert scales of six items. 'Don't Know' answers were not excluded from the average but given a mid-point score on the Likert scale of 2.5.

Table A3 Knowledge of health effects of Climate Change Index

Question: The following list contains items, some of which are affected by climate change while others are not. Which of the following is affected by climate change? (ticked boxes represent correct answers)

1 Infectious diseases such as malaria	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
2 Asthma and respiratory conditions	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
3 Allergies	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Don't Know <input type="checkbox"/>
4 Cardiovascular conditions	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
5 Infections which can cause diarrhoea	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>
6 Skin cancer	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Don't Know <input type="checkbox"/>
7 Heat waves	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Don't Know <input type="checkbox"/>

Construction of index: One point was awarded for a correct answer, one point was deducted for an incorrect answer, no points were awarded or deducted for 'Don't Know' answers.

Table A4 Support for Policy Index

Question: The Maltese government has an important role in ensuring that Malta reduces its impact on the climate. To what extent would you agree or disagree with the following measures?

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Don't Know
(a) Money is spent on 'clean energy projects' such as wind farms so that Malta satisfies part of its energy demands from the wind and the sun.	1	2	3	4	9
(b) Money is spent on 'more information' provision and 'better education' of the Maltese public about climate change.	1	2	3	4	9
(c) Money is spent to 'increase subsidies on things like solar panels'.	1	2	3	4	9
(d) 'Petrol and diesel are taxed' so that people use their cars less.	1	2	3	4	9
(e) The introduction of a 'tax on those businesses and companies' that use energy inefficiently. This could raise the cost of some products that we buy.	1	2	3	4	9
(f) Money is spent on a 'public transport system to make it more efficient' so that people use their cars less.	1	2	3	4	9

Construction of index: the index is an average of the Likert scales of six items. 'Don't Know' answers were not excluded from the average but given a mid-point score on the Likert scale of 2.5.

Table A5 Willingness to Act Index

Question: To what extent are you willing to do some of the following?

	Definitely not	Probably not	Probably yes	Definitely yes	Does not apply
(a) Buy more 'energy-efficient' light bulbs, appliances, or motor vehicles	1	2	3	4	9
(b) Use 'less air-conditioning' during the Summer months	1	2	3	4	9
(c) 'Purchase solar panels'	1	2	3	4	9
(d) 'Car pool' at least a couple of days a week	1	2	3	4	9
(e) Use 'public transport' at least twice a week	1	2	3	4	9
(f) 'Walk or cycle' to work, to go shopping or other places	1	2	3	4	9

Construction of Index: The index is an average of the Likert scales of six items. 'Don't Know' answers were not excluded from the average but given a mid-point score on the Likert scale of 2.5.

Table A6 Variable: people dying

(a) Do you think 'people can die' because of climate change?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Don't Know	<input type="checkbox"/>
(b) If yes, worldwide, do you think that this is already happening, or is it something which will happen in the future?	Now	<input type="checkbox"/>	Future	<input type="checkbox"/>	Don't Know	<input type="checkbox"/>

Two points were given for respondents who answered yes and now, one point was given for respondents who answered yes and in the future, zero points were given for respondents who answered no.

Table A7 Variable: people becoming ill

(a) Do you think 'people can become ill' because of climate change?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Don't Know	<input type="checkbox"/>
(b) If yes, worldwide, do you think that this is already happening, or is it something which will happen in the future?	Now	<input type="checkbox"/>	Future	<input type="checkbox"/>	Don't Know	<input type="checkbox"/>

Two points were given for respondents who answered yes and now, one point was given for respondents who answered yes and in the future, zero points were given for respondents who answered no.