

**Office use only**

Reference number:

Quiz results received for all applicants? Y/N

**DEAKIN UNIVERSITY HUMAN ETHICS ADVISORY GROUP  
LOW-RISK APPLICATION FORM**

The [National Statement on Ethical Conduct in Human Research](#) (2007) defines low risk research as:  
'Research in which the only foreseeable risk is one of discomfort. Research in which the risk for participants is more serious than discomfort is not low risk'.

**Project Title:** Improving the measurement of beliefs regarding contested science**Proposed Start Date:** 15/07/2018 **Proposed end date:** 30/06/2020**Principal Investigator/s:** Mathew Ling, Emily Kothe**Student Investigator/s (if applicable):** Andrew Head; George Loram**Degree/s for which student/s enrolled:** 4th year in Psychology**School:** Psychology **Faculty:** Health**Contact Telephone No:** 03 924 46475**Email:** m.ling@deakin.edu.au**Contact details of all researchers involved in the project:**

Name	Role	Email	Phone
Mathew Ling	Principal Investigator		
Emily Kothe	Principal Investigator		
Anna Klas	Associate Investigator		
Eddie Clarke	Associate Investigator		
Andrew Head	Student Investigator		
George Loram	Student Investigator		

**Please note:** There has been an update by Microsoft which blocks links to single sign-on web pages.

To access the Deakin Human Ethics Guidelines referred to in this form, cut and paste the following address to your browser:

<http://www.deakin.edu.au/students/research/research-support-and-scholarships/integrity-secure/human-ethics/dheg>

Links to external sites in this form will still work.

## **PART A: Excluded Categories** (see *National Statement* [Chapter 5.1.6](#))

### **1 Does your project involve any of the following?**

- Yes ☐ No ☒ Aboriginal or Torres Strait Islander Peoples or issues
- Yes ☐ No ☒ Research involving pregnant women or the human fetus
- Yes ☐ No ☒ People highly dependent on medical care who may be unable to give consent
- Yes ☐ No ☒ People with a cognitive impairment, an intellectual disability, or mental illness
- Yes ☐ No ☒ People who may be involved in illegal activities
- Yes ☐ No ☒ Interventions and therapies, including clinical trials and non-clinical trials and innovations that involve blinding of participants (i.e. participants are 'blind' to which participant group they have been assigned)
- Yes ☐ No ☒ Human genetics
- Yes ☐ No ☒ Human stem cells
- Yes ☐ No ☒ Projects involving ionising radiation
- Yes ☐ No ☒ Travel to regions classified as Level 2, 3 or 4 (see [DFAT](#) and Section 35 of the Deakin Guidelines)
- Yes ☐ No ☒ Projects involving active concealment or planned deception of participants
- Yes ☐ No ☒ Collection of identifiable personal information, without permission from the person identified
- Yes ☐ No ☒ Risk of harm to participants (more serious than discomfort, *National Statement* [Chapter 2.1.6](#))

**If you answered yes to ANY of these elements, your project is not eligible for low-risk review.** You should complete a high-risk application form for full ethical review by DUHREC (see Section 6.5 of the Deakin Guidelines)

### **2 Does your project involve ethical review by another Australian organisation?**

- Yes ☐ No ☒ If yes, your project is not eligible for review by a HEAG. You should consult Section 6 of the Deakin Guidelines regarding the processes which apply to applications previously approved by another organisation.

### **3 Does your project involve ONLY use of existing collections of non-identifiable data?**

Data are non-identifiable when they do not identify the people to whom the information relates – identifiers should never have been collected, or should have been permanently removed from the data set before you received it.

- Yes ☐ No ☒ If yes, you should complete the application form for Exemption from Ethical Review (see Section 6 of the Deakin Guidelines).

## PART B: Checklist

This checklist will help you decide whether your research may be submitted for review by your Faculty HEAG. Research is eligible for low-risk review if the foreseeable risk level is no more than discomfort.

If you answer 'YES' to any items on the checklist **your project is not eligible for low risk review unless** you can explain how this potential risk will be managed or minimised to ensure that the project remains low risk. This should be explained in the special case assessment section (Section 6) below.

**It is your responsibility to assess the level of risk associated with your project. If your project is not considered low risk by the HEAG, you will be required to complete a high-risk application for submission to DUHREC.**

*Please ensure you include all signatures before submitting the application  
as approval cannot be granted until they are received.*

### 1 Are any of the following topics to be covered in part or in whole?

Parenting	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Sensitive personal issues	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Sensitive cultural issues	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Grief, death or serious/traumatic loss	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Gambling	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Eating disorders	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Illicit drug taking	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Substance abuse	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Self-report of criminal behaviour	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Any psychological disorder, depression, mood states and/or anxiety	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Suicide	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Sexuality, sexual behaviour or gender identity	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Race or ethnic identity	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Any disease or health problem	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Fertility	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Termination of pregnancy	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

### 2 Are any of the following procedures to be employed?

Use of personal data obtained from Commonwealth or State Government Department/Agency	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Concealing the purposes of the research	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Covert observation	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Audio or visual recording without consent	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Recruitment via a third party or agency	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Withholding from one group specific treatments or methods of learning, from which they may 'benefit' (e.g. in medicine or teaching)	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Psychological interventions or treatments	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Administration of physical stimulation	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

Invasive physical procedures	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Infliction of pain	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Administration of drugs or placebos	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Administration of other substances	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Use of medical records where participants can be identified or linked	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

### 3 PARTICIPANT VULNERABILITY ASSESSMENT

Does the research specifically target participants from any of the following groups?

Children or young people under 18 years	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
People with a physical disability or vulnerability	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
People whose ability to give consent is impaired	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Residents of a custodial institution	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
People unable to give free informed consent because of difficulties in understanding the Plain Language Statement or Information Sheet (e.g. language difficulties)	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Members of a socially identifiable group with special cultural or religious needs or political vulnerabilities	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
People in dependent or unequal relationship with the researchers (e.g. lecturer/student, doctor/patient, teacher/pupil, professional/client)	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
People with existing relationships with the researcher (e.g. relative, friend, co-worker)	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
People in a workplace setting with the potential for coercion or problems of confidentiality (e.g. employer/employee)	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Participants able to be identified in any final report when specific consent for this has not been given	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Persons not usually considered vulnerable but would be thought so in the context of the project	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

### 4. RESEARCH IN OVERSEAS SETTINGS ASSESSMENT

Does the research involve any of the following?

Research being undertaken in a politically unstable area	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Research involving sensitive cultural issues	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Research in countries where criticism of government and institutions might put participants and/or researchers at risk	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
*Please indicate which DFAT level of advice applies to the region you intend visiting (see <a href="#">DFAT</a> and Section 35 of the Deakin Guidelines)	<input type="checkbox"/> 1	<input type="checkbox"/> 2
	<input type="checkbox"/> 3	<input type="checkbox"/> 4
*Note: Travel to regions classified as Level 2 (or above) is considered higher than low risk and not eligible for review by a HEAG.		

### 5. OTHER RISKS

Are there any risks to the researcher, (e.g. research undertaken in unsafe environments or trouble spots)?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
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Are there any other risks not covered in this assessment that you consider may be relevant?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
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## 6. SPECIAL CASE ASSESSMENT

If you have answered 'YES' to an item in the checklist but you still believe that because of the particular nature of the project and the participants your project may still be eligible for low risk review. Please provide details below, or attach an additional sheet.

### SPECIAL CASE DETAILS:

All participants for this study will be recruited via a third party – the crowdsourcing online platform MTurk (<https://www.mturk.com/>). MTurk works as an intermediary party between researchers and potential participants, who are voluntary subscribers to the service. Researchers provide survey links to online studies (such as questionnaires), which are then shared by MTurk with their pool of users. Confidentiality of participants' responses will not be breached at no stage will MTurk host the questionnaire. As MTurk works simply as a platform to post online studies, it will not receive access to the participant data (which will be stored securely at Deakin University's School of Psychology).

## **PART C: Project**

### **1. Aims of the project**

Misinformation and false beliefs are a substantial threat to individuals and the environment, principal examples of this are vaccination hesitancy and the denial of climate change. While these are fertile areas of research, measurement in these areas remains predominantly ad hoc, with a proliferation of measures that are not comparable and have limited applicability to settings such as telephone interviews (which are important to the capturing of representative samples).

This study aims to implement 2-parameter item-response theory models to evaluate the characteristics of a variety of items measuring both vaccine hesitancy and climate change denial, allowing for the development of measures with a wide range of sensitivity for the underlying constructs, and the ability to be implemented as part of short or adaptive testing regimes.

### **2. Research design and methods**

This study will utilise a cross-sectional survey to collect a variety of self report measures (see attachments). In addition to demographics and the candidate items for the new measures (drawn in part from existing scales) a number of measures will be administered to provide validity evidence for the new scales. These will include:

- The Muenster Epistemic Trustworthiness Inventory (Trust in Science)
- Perceived sensitivity to medicines scale
- Aggression-Submission-Conventionalism scale (Social Conservatism)
- Social Dominance Orientation scale 7 (Economic Conservatism)
- Ideological self-placement
- Generic Conspiracist Beliefs Scale

The Candidate items will be evaluated with Item response theory models and the resulting measures will be validated against the relevant set of predictors above.

### **3. Use of existing stored data**

N/A

### **4. Risks and benefits**

#### **Give a summary of the expected benefits of this project**

The ultimate objective is to develop sensitive measures of climate change denial and vaccine hesitancy that can be rapidly implemented in adaptive testing formats, thereby enabling new research. There are not expected to be any benefits to individual participants.

#### **Give a summary of the expected risks of this project and how they will be managed**

The risk of harm to any group is not expected to be greater than that experienced in everyday life. All information will be treated confidentially.

### **5. Monitoring**

Members of the research team will have face to face meetings about the progress of the study at least fortnightly. Information about progress to date; maintenance and security of records; compliance with the approved proposal; and compliance with any conditions of approval will be provided to the HEAG-H annually and at the conclusion of the project (as well as at any time requested by HEAG-H). Research participants will be invited to provide feedback about their experience of participating in the research at the end of the each wave. This feedback will be regularly monitored by the Principal Investigator.

### **6. Resources**

The project will be funded by the School of Psychology 4th year student project research funding. Data collection will be funded by 2018 Student budget.

## **7. Conflict of interest**

No researchers in this project have a conflict of interest.

## **PARTICIPANTS**

### **8. Describe your participant group/s**

266 participants will be recruited to the study. The sample size has been determined on the basis of the maximum available budget for each year (\$1000) but will allow for adequate statistical power to test the theoretical models. In order to be included in the study participants must be registered on the Amazon MTurk, be over the age of 18. These eligibility requirements will be configured via the Amazon MTurk platform and only MTurk users who have previously indicated that they meet these criteria will be provided information about the study.

### **9. Explain your recruitment process**

Participants of the research project will be recruited via the online crowdsourcing platforms Amazon MTurk. Potential participants will be voluntary subscribers MTurk, and as such MTurk will mediate all interactions between the research team and potential respondents.

The research team will provide MTurk the web link for the study. MTurk will then send this web link via email to participants who fit the inclusion criteria required for the study. These inclusion criteria include being over the age of 18, and residing in the USA. This web link will include the Plain Language Statement, followed by the study materials. The description of the study that will be sent to potential participants by MTurk is provided as an attachment.

## **CONSENT**

### **10. Describe the consent process**

When potential participants click on the web link for the study they will be invited to read the online Plain Language Statement. After participants read the PLS they will have the option of continuing on with the questionnaire by clicking on a button that allows them to proceed with the survey. Consistent with the GDPR requirements, participants will provide explicit active consent via the online questionnaire (by clicking "I consent").

### **11. Will there be reimbursement of expenses or incentives to participate?**

A requirement of using Amazon MTurk is that participants are given a small payment for the time they take to complete a study.

Participants in the survey will be paid \$2.80 per 20 minute survey.

The reimbursement for the research project is not seen to be coercive. There is no perceived chance of participants being induced to take risks, primarily because potential participants voluntarily subscribe to MTurk. The payment itself is a token amount of money and simply acknowledges the amount of time participants will take to complete the study materials.

### **12. Pre-existing or unequal relationships**

It is anticipated that none of the participants will have a prior relationship with the researchers or Deakin University. Participants will also be clearly told within the Plain Language Statement that their participation in this research project is completely voluntary.

### **13. Does your project include children or young people under 18 years?**

N/A

#### **14. Language and communication issues**

Amazon MTurk dictate users be proficient in English to use the service. Therefore it is expected that potential respondents will have a satisfactory level of English proficiency.

#### **15. People in other countries**

Although the research team is based in Australia, due to the recruitment method participants will reside in the US. Therefore, to ensure all participants are able to contact the research team if needed, the Plain Language Statement will include the email and international phone contact number of the Principal Investigator Dr Mathew Ling. The final page of the study materials will also provide contact details of the Principal Investigator Dr Mathew Ling once more as well as the opportunity for participants to leave any feedback on the research project.

Consistent with GDPR requirements, the PLS will explicitly indicate that data provided by participants will be transferred outside of the EU.

### **CONFIDENTIALITY / PRIVACY**

#### **16. Will you be collecting data in identified form?**

Mturk will provide the researchers with 'Worker IDs' of all participants who have completed the study for the purposes of approving compensation.

While these IDs are not themselves identifiable, they are static across research studies and so could potentially be used to link participant responses between multiple studies. This could compromise anonymity of participants if a set of studies provide sufficient information about participants to identify them. For this reason

- MTurk IDs will not be shared with anyone outside of the research team.
- MTurk IDs will only be collected for the purposes of distributing study compensation.
- All MTurk IDs will be removed from the dataset at the conclusion of data collection. These IDs will be replaced with a randomly generated participant ID for each participant. It will not be possible to identify participants from this ID.

#### **17. Storage of data**

During data collection data will be stored securely on the School of Psychology Qualtrics instance. Only members of the research team will have access to this data.

Once data collection is complete data will be checked to ensure de-identified status, ensuring no private or sensitive information has been inadvertently disclosed and that participants have not identified themselves through combination of pseudo-identifiers. Data from this study will be published in an open access data repository; this will allow for verification of published results and secondary analysis by other researchers to maximise the outputs from the participants' contribution.

All de-identified data will be stored indefinitely, consistent with sections 15 and 16 of the Research Data and Primary Materials Management Procedure.

#### **18. Publication of results**

(See Section 4 of the [Australian Code for the Responsible Conduct of Research](#) for more information.)

Whose responsibility will it be to notify participants of the outcome of the research?

Participants will not be directly notified of the outcome of this research project. However the Principal Investigator Dr Mathew Ling will publish plain language summaries of results to a pre-specified open repository on the OSF, the details of which will be made available to participants on the end page of the survey and the Plain Language Statement.



How will you notify participants of the outcome of the research?

Participants will not be directly notified of the outcome of this research project. However the Principal Investigator Dr Mathew Ling will publish plain language summaries of results to a pre-specified open repository on the OSF, the details of which will be made available to participants on the end page of the survey and the Plain Language Statement.

How will your research be reported/published?

Results will be reported at relevant academic conferences and published in peer-reviewed journals. Raw (non-identifiable) data from the study will also be published and available for verification of published results and secondary analysis by other researchers.

How will you manage participant confidentiality?

All MTurk IDs will be removed from the dataset at the conclusion of data collection (and after all participants have been compensated). These IDs will be replaced with a randomly generated participant ID for each participant. It will not be possible to identify participants from this ID. Only this non-identifiable data will be available to other researchers. Individual participants will not be identifiable through any output of this research.

## PART D: Declarations

- 1 I/We, the undersigned declare that the information supplied in this application is true and accurate to the best of my/our knowledge.

I / We the undersigned have read the *National Statement on Ethical Conduct in Human Research* and accept responsibility for the conduct of the project detailed in this application in accordance with the principles contained in the Statement and any other conditions laid down by Deakin University or the Human Ethics Advisory Group.

I/We the undersigned, declare that where the research project may involve contact with a child or young person under the age of 18, I/we have a current Working with Children Check.

Where the project involves a student researcher, as the supervisor I accept responsibility for ensuring that ethics approval is obtained prior to commencing the research and for overseeing the ethical conduct of the project as detailed in the ethics application.

### Signatures:

Principal		Investigator/s	
Mathew		Ling	Date: 11/07/2018
Emily Kothe			Date: 11/07/2018
Associate Investigator/s			
Edward Clarke			Date: 11/07/2018
Anna Klas			Date: 11/07/2018
Student Investigator/s			
George Loram			Date: 11/07/2018
Andrew Head			Date: 11/07/2018

## 2 ACKNOWLEDGEMENT OF HEAD OF SCHOOL\*/DIRECTOR OF RESEARCH OR THEIR NOMINEE

I the undersigned acknowledge that the Faculty has considered and approved the academic worth of the project described in this application.

Name:

Title:

Signature:

Date:

\*If the Head of School (or similar) is also a member of the research or supervisory team, a more senior member of University staff e.g. Dean or Associate Dean (Research) must sign the project as authorising officer.

## Part E: Attachments

Have you attached the following?

- Yes** ☐ **No** ☐ **N/A** ☒ A copy of the email confirming successful completion of the online human ethics quiz (for first time applicants only)  
(For information about the quiz, cut and paste this address to your browser:  
<http://www.deakin.edu.au/students/research/research-support-and-scholarships/integrity-secure/human-ethics/human-research-ethics-training>)
- Yes** ☒ **No** ☐ **N/A** ☐ ☒ A copy of any advertisements/flyers or other recruitment materials
- Yes** ☒ **No** ☐ **N/A** ☐ A copy of the Plain Language Statement and Consent Form (PLSCF) or other consent materials to be used in the project
- Yes** ☒ **No** ☐ **N/A** ☐ A copy of any survey, list of questions/topics for interviews, or other materials to be used in this project
- Yes** ☐ **No** ☐ **N/A** ☒ Any other documents to be supplied to the participants or used in the conduct of the project
- Yes** ☐ **No** ☐ **N/A** ☒ If you are proposing to recruit participants through organisation(s), a letter of support from the organisation(s) involved or an organisational PLSC

**Please submit all documents via email to your faculty's HEAG:**

Faculty of Arts and Education	<a href="mailto:artsed-ethics@deakin.edu.au">artsed-ethics@deakin.edu.au</a>
Faculty of Business and Law	<a href="mailto:blethics@deakin.edu.au">blethics@deakin.edu.au</a>
Faculty of Health	<a href="mailto:health-ethics@deakin.edu.au">health-ethics@deakin.edu.au</a>
Faculty of Science, Engineering and Built Environment	<a href="mailto:sciethic@deakin.edu.au">sciethic@deakin.edu.au</a>

Please note: if the hyperlinks in this form result in an error message, return to the form and:

1. *right click on the hyperlink*
2. *click on Edit Hyperlink*
3. *copy the URL to your browser.*

## PLAIN LANGUAGE STATEMENT AND CONSENT FORM



### Plain Language Statement

**Date:** 7<sup>th</sup> July, 2018

**Full Project Title:** Improving the measurement of beliefs regarding contested science

**Principal Researchers:** Dr Mathew Ling, Dr Emily Kothe

**Student Researcher:** Mr Andrew Head, Mr George Loram

**Associate Researcher:** Dr Edward Clarke, Dr Anna Klas

You have been contacted via Amazon MTurk to invite you to participate in our study investigating how best to measure scientific beliefs.

Participation will involve answering some questions about your attitude towards scientific issues, about scientists and healthcare, and then about your views about politics and society that will allow us to contextualise your responses on the scientific issues. This should on average take 20 minutes to complete.

No identifying information will be collected as part of our research data, and while participation will involve the recording of your worker ID, this will be removed from the data immediately after download. So we will not be able to identify your particular responses in our data.

We do not anticipate any risks to you from participation, and benefits are likely to be limited to the \$2.80 paid via MTurk upon completion of the study. However, we anticipate the results of this study will help us understand community attitudes toward science, with implications for policy, and public health.

Participation is voluntary and you have the right to withdraw from further participation at any stage up to the submission of your data. Submission of the final results will be taken as an indication of your consent. If you should wish to withdraw immediately after submitting your results, please contact the Principal Researcher Dr Mathew Ling ([m.ling@deakin.edu.au](mailto:m.ling@deakin.edu.au)) with your Worker ID. As your data will be de-identified, it will be impossible to withdraw consent after results are extracted from the server.

If you have questions relating to this research project, you can contact the lead researcher, Dr Mathew Ling via email ([m.ling@deakin.edu.au](mailto:m.ling@deakin.edu.au)) or telephone +61 3 9244 6475.

### **Declarations and Conflicts of interests**

All funding for this research is provided by Deakin's School of Psychology.

### **Communication of results and data**

Plain Language Statement & Consent Form to [\[add if Participants or Parent etc.\]](#)  
[project ID]: version n: [\[date\]](#)

Results of this study will be used as part of the 4<sup>th</sup> year theses for the Student researchers, but will also be published in academic journals and via social media to maximize accessibility and benefit of your participation to the public; Results may also be presented at conferences. If you wish to view the results from this study, manuscripts will be released at this following address (<https://osf.io/t9w2x/>).

After ensuring you cannot be identified by your responses, and removing your Worker ID or any other identifying features from the dataset, this de-identified data will be published in a public, online data-store at the Open Science Foundation (<https://osf.io/t9w2x/>). Your identity will never be exposed by this, but this will ensure that your responses cannot be misrepresented and can also allow for unanticipated research findings through secondary analysis.

### **Complaints**

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact:

The Manager, Ethics and Biosafety, Deakin University, 221 Burwood Highway, Burwood Victoria 3125, Telephone: +61 3 9251 7129, [research-ethics@deakin.edu.au](mailto:research-ethics@deakin.edu.au)

Please quote project number HEAG-H xxx\_2018

***To download a copy of this Participant Information Statement <click here>***  
<https://osf.io/xxxxxx/>

I have read the Information above, and I understand that submitting the survey will indicate my consent to participate.

Notice to MTurk workers:

**Study on contested science beliefs**

This study is looking at improving measures of beliefs regarding contested science. You'll need to answer some questions about yourself, your beliefs on two issues, and then some measures to contextualise those responses. The survey should take no more than 20 minutes.

We are looking for US residents aged 18+.

We'd like you to tell us a bit about yourself, so we can describe the total group of people who participated in our study. We won't be able to identify you from your responses here.

1. How old are you (in years)?
2. What Gender do you identify as?
  - Male
  - Female
  - Not Listed (Please specify)
  - Prefer not to answer
3. Using this slider below, how would you describe where you live?  
Within a Major city (1) ----- In a rural area (10)
4. What is the highest level of education you have completed?
  - Less than high school
  - High school graduate
  - Technical school diploma
  - Associate Degree
  - Bachelors degree
  - Masters degree
  - Doctorate

We'd like to ask you some questions about Vaccinations. Please respond to each question with a yes or no.

1. Immunizations are getting better and safer all the time as a result of medical research
2. Vaccines are harmful, and this fact is covered up.
3. Authorities promote vaccination for financial gain, not for people's health.
4. Vaccination programs are a big con.
5. Tiny devices are placed in vaccines to track people.
6. The information I receive about vaccines from the vaccine program is reliable and trustworthy.
7. Immunizations are always proven to be very safe before they are approved for use
8. New vaccines carry more risks than older vaccines
9. Vaccines can cause unforeseen problems in children.
10. I worry about the unknown effects of vaccines in the future.
11. Children get more shots than are good for them
12. It is better for children to get fewer vaccines at the same time
13. Vaccines may cause learning disabilities (such as autism)
14. The ingredients in vaccines (what vaccines are made of) are unsafe
15. Vaccines may cause chronic disease (such as diabetes, asthma, or immune system problems)
16. Vaccines are not tested enough for safety
17. Immunizations are one of the safest forms of medicine ever developed
18. Childhood vaccines are effective
19. I can rely on vaccines to stop serious infectious diseases
20. I believe that many of the illnesses shots prevent are severe
21. My child could get a serious disease if he or she were not vaccinated

**Commented [ML1]:** The next two scales will be presented in randomised order

**Commented [ML2]:** Items in this scale will be presented in randomised order per participant

22. The benefits of vaccines outweigh the risks of vaccines
23. Do you think that most parents like you have their children vaccinated with all the recommended vaccines?
24. Have you ever refused a vaccination for your child?
25. It is better for my child to develop immunity by getting sick than to get a shot
26. I have no concerns about childhood vaccines
27. Have you ever delayed a vaccination?

We'd like to ask you some questions about Climate Change. Please respond to each question with a yes or **no**.

1. I am uncertain that climate change is really happening
2. It is too early to say whether climate change is really a problem
3. Climate change is just a natural fluctuation in earth's temperatures
4. I do not believe climate change is a real problem
5. I am certain that climate change is really happening
6. Claims that human activities are changing the climate are exaggerated
7. The seriousness of climate change is exaggerated
8. Floods and heat-waves are not increasing, there is just more reporting of it in the media these days
9. The seriousness of climate change is exaggerated in the media.
10. Over the past 12 months, have you punished companies that are opposing steps to reduce global warming by NOT buying their products?
11. Do you think global warming should be a high priority for the government?
12. Scientists have in the past changed their results to make climate change appear worse than it is
13. Climate change is a scam
14. The risks associated with climate change are understated
15. Climate change is entirely caused by human-activity
16. Climate change is just a result of natural variation in the climate.
17. The so-called "climate threat" is exaggerated.
18. The climate is not really changing

**Commented [ML3]:** Items in this scale will be presented in randomised order per participant

Think about the types of scientists who conduct research in the areas we have previously asked you about. How would you describe them on the following pairs of **terms**? (1-7)

1. competent–incompetent
2. intelligent–unintelligent
3. well educated–poorly educated
4. professional–unprofessional
5. experienced–inexperienced
6. qualified–unqualified
7. sincere–insincere
8. honest–dishonest
9. just–unjust

**Commented [ML4]:** Muenster Epistemic Trustworthiness Inventory  
<http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0139309&type=printable>



10. fair–unfair
11. moral–immoral
12. ethical–unethical
13. responsible–irresponsible
14. considerate–inconsiderate

Next, we'd like to ask you about your experiences with medication

1 (Strongly Disagree) – 5 (Strongly Agree)

1. My body is very sensitive to medicines
2. My body overreacts to medicines
3. I usually have stronger reactions to medicines than most people
4. I have had a bad reaction to medicines in the past
5. Even very small amounts of medicines can upset my body.

Now we'd like to ask you about your beliefs regarding society, there are no right or wrong answers, so please answer honestly.

Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
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Please indicate the extent to which you agree with each statement below.

1	We should believe what our leaders tell us.
2	Our leaders know what is best for us.
3	People should be critical of statements made by those in positions of authority. *
4	People in positions of authority generally tell the truth.
5	People should be skeptical of all statements made by those in positions of authority. *
6	Questioning the motives of those in power is healthy for society. *
7	People emphasize tradition too much. *
8	Traditions are the foundation of a healthy society and should be respected.
9	It would be better for society if more people followed social norms.
10	Traditions interfere with progress. *
11	People should challenge social traditions in order to advance society. *
12	People should respect social norms.
13	Strong force is necessary against threatening groups.
14	It is necessary to use force against people who are a threat to authority.
15	Police should avoid using violence against suspects. *
16	People should avoid using violence against others even when ordered to do so by the proper authorities. *

**Commented [ML5]:** Sensitivity to medicines (PSM) scale  
<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.2044-8287.2012.02071.x>

**Commented [ML6]:** Dunwoody, P. T., & Funke, F. (2016). The aggression-submission-conventionalism scale: Testing a new three factor measure of authoritarianism. *Journal of Social and Political Psychology*, 4(2), 571-600. doi: 10.5964/jpspp.v4i2.168

17	Using force against people is wrong even if done so by those in authority. *
18	Strong punishments are necessary in order to send a message.

<b>1</b> Strongly Oppose	<b>2</b> Somewhat Oppose	<b>3</b> Slightly Oppose	<b>4</b> Neutral	<b>5</b> Slightly Favor	<b>6</b> Somewhat Favor	<b>7</b> Strongly Favor
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Show how much you favor or oppose each idea below by selecting a number from 1 to 7 on the scale below. You can work quickly; your first feeling is generally best.

1	An ideal society requires some groups to be on top and others to be on the bottom.
2	Some groups of people are simply inferior to other groups.
3	No one group should dominate in society.*
4	Groups at the bottom are just as deserving as groups at the top.*
5	Group equality should not be our primary goal.
6	It is unjust to try to make groups equal.
7	We should do what we can to equalize conditions for different groups.
8	We should work to give all groups an equal chance to succeed.

**Commented [ML7]:** Ho, A. K., Sidanius, J., Kteily, N., Sheehy-Skeffington, J., Pratto, F., Henkel, K. E., . . . Stewart, A. L. (2015). The nature of social dominance orientation: Theorizing and measuring preferences for intergroup inequality using the new SDO<sub>7</sub> scale. *Journal of Personality and Social Psychology*, 109(6), 1003-1028.  
<http://dx.doi.org/10.1037/pspi0000033>

In politics, people sometimes talk of **liberals and conservatives**. Where would you place yourself?

- Very liberal
- Liberal
- A little bit liberal
- Neither
- A little bit conservative
- Conservative
- Very conservative

There is often debate about whether or not the public is told the whole truth about various important issues. This brief survey is designed to assess your beliefs about some of these subjects. Please indicate the degree to which you believe each statement is likely to be true on the following scale:

**Definitely not true; Probably not true; Not sure/cannot decide; Probably true; Definitely true**

1. The government is involved in the murder of innocent citizens and/or well-known public figures, and keeps this a secret
2. The power held by heads of state is second to that of small unknown groups who really control world politics
3. Secret organizations communicate with extraterrestrials, but keep this fact from the public
4. The spread of certain viruses and/or diseases is the result of the deliberate, concealed efforts of some organization

**Commented [ML8]:** Brotherton, R., French, C. C., & Pickering, A. D. (2013). Measuring belief in conspiracy theories: The generic conspiracist beliefs scale. *Frontiers in psychology*, 4, 279.

5. Groups of scientists manipulate, fabricate, or suppress evidence in order to deceive the public
6. The government permits or perpetrates acts of terrorism on its own soil, disguising its involvement
7. A small, secret group of people is responsible for making all major world decisions, such as going to war
8. Evidence of alien contact is being concealed from the public
9. Technology with mind-control capacities is used on people without their knowledge
10. New and advanced technology which would harm current industry is being suppressed
11. The government uses people as patsies to hide its involvement in criminal activity
12. Certain significant events have been the result of the activity of a small group who secretly manipulate world events
13. Some UFO sightings and rumors are planned or staged in order to distract the public from real alien contact
14. Experiments involving new drugs or technologies are routinely carried out on the public without their knowledge or consent
15. A lot of important information is deliberately concealed from the public out of self-interest

Thank you for completing the survey. We greatly value your participation within this study. If you wish to provide us some comments or feedback on the study, please use the textbox below.