

Laidlaw Scholarship Reflective Report

A reflective report is required after each summer period (by 20th September). Once submitted we will ask you to post onto the Laidlaw Network (without your supervisor comments if you wish).

This should be supplied as a Word document. Interesting photographs directly related to your research project or scholarship are encouraged and should be inserted into the body of the word document, not supplied separately.

There are six questions for you to complete. You are expected to write a detailed and thorough report; each section should be around 200-300 words.

Please note: This is NOT a technical research report. Scientific reports with a covering note cannot be accepted.

This report will need comments from your supervisor and is to be signed off by both you and your supervisor before submission.

If you have any problems or queries please contact the Laidlaw Scholarship Administrator, laidlaw@leeds.ac.uk.

Scholar

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Title of Scholarship Project:	<i>Does Climate Change Threat lead to increasing Authoritarianism? (Pilot Study)</i>

Research Experience

During this research period, I investigated whether the presence of climate change threat does or does not lead to increasing levels of authoritarianism in the UK population. The research itself was a pilot study as the link between elements of authoritarian values and attitudes, and climate change threat had not been investigated prior to the start of this research. Once the ethical approval for the pilot study was provided by the AREA Research Ethics Committee to conduct the research, 570 participants were recruited via the platform, Prolific. The participants were divided into two conditions: threat and non-threat. Those in the threat condition watched a video about the impacts of climate change on some UK coastal towns that are going to be decommissioned as a result of climate change (5:55 mins). In the non-threat condition, participants were instructed to watch a video showcasing the scientific evidence for climate change (5:29 mins).

All participants answered the same 30 questions, prior to and after the video, based on topics including their attitude to climate change, values linked to parenting, and their political views. Questions were also asked regarding the salary, age, number of children, postcode, and religion of each participant, however the identities of the participants remained confidential as they were each allocated a number. After the survey was completed by the 570 respondents, all the quantitative data was analysed via the data analysis platform, Stata. From this analysis, it was found that there was no link between climate change threat and increasing authoritarianism. Despite the hypothesis being disproven, it was clear that there was some variation between the answers for the question in the survey; "In your own words, how do you feel about climate change after having watched the video?".

I conducted several qualitative analyses on all of the responses to the question above to examine the differences between respondents in the threat and non-threat condition as well as authoritarians, libertarians, and neutral respondents.

The authoritarian predisposition scale ranges from -5 to +5. Authoritarians were identified by a score greater than +1, libertarians were identified by any score less than -1 and neutral respondents were identified by any score between -1 to +1. These scores were generated via Stata and informed the other researchers and I which group each respondent belonged to.

Firstly, I coded all the responses by analysing the word choice and the tone of the responses. There was no limit to the number of codes allocated to each response as this was dependent on the level of detail and type of vocabulary within the response. The code used was 1. Frightened, 2. Sad, 3. Angry, 4. Anxious, 5. More informed/ aware of climate change, 6. Action should be taken to prevent climate change, 7. Worried, 8. Frustrated, and 9. No change in view towards climate change.

One of my findings from this analysis was that responses from libertarians in the threat condition score have a higher frequency of codes 1, 2, 3, 4, 6, and 8 than responses in the non-threat condition, with a total of 167 codes used by libertarians in the threat condition and 126 codes used by libertarians in the non-threat condition. Responses for authoritarians did not vary significantly between the threat and non-threat condition, however there were no responses for authoritarians in the non-threat condition that were coded with 2, 3 or 4. Therefore, this emphasises that there is a differing emotional response from respondents when exposed to climate change threat. However, when these codes were uploaded to Stata, there was no link found between climate change threat and a rise in authoritarian attitudes.

Next, I performed a further analysis of all the responses by recording the wording choices of each respondent. I cross-referenced the emotive vocabulary used by respondents in their answers to the question "In your own words, how do you feel about climate change after having watched the video?" against the words included in the Senti-Strength Sentiment Dictionary in order to produce a list of vocabulary that I could use to provide each respondent with an emotion score. In total, the list included 52 words (Appendix 1). This analysis would inform me of any overall variations in the emotional responses between those in the threat and non-threat conditions of the research and identify any differences between authoritarians, libertarians and neutral respondents between both the threat and non-threat condition.

One of the key findings from this analysis was that the three words used most frequently by all respondents were 'Concern*', 'Sad', and 'Worr*'. For authoritarians, the three most frequently used words were 'Concern*', 'Scary', and 'Worr*' but for neutral and libertarian respondents, the most frequently used words were 'Concern*', 'Sad', and 'Worr*'. In the threat condition, there were 114 uses of wording from the list of 52 words in the SentiStrength Sentiment Dictionary by libertarian respondents in direct contrast to the 71 recordings of the SentiStrength words in the libertarian responses from the non-threat condition.

Overall, I found that a more extreme emotional response is produced when threat exposure is present. However, there is no link between climate change

threat and rising authoritarian attitudes and values. On the other hand, exposure to climate change threat was only present for under 10 minutes, therefore looking at the longitudinal effects of the presence of climate change threat and the increase in authoritarianism should be explored in further research.

Furthermore, the research enabled me to understand public opinion towards climate change. The majority of the sample respondents were neutral in their response to climate change, meaning they were neither libertarian, nor authoritarian. The fact that the data showed that climate change threat did not increase authoritarian attitudes is a positive outcome from the experiment as Jackson et al. (2019) proposed that there is a correlation between ecological threat and prejudiced views and political nationalism, which we evidently did not find during the pilot study.

It is evident that people, whether they are libertarian, neutral or authoritarian, feel very worried and concerned about climate change. A lot of responses commented on the fact that action needed to be taken either individually or by governments. Although people are well-educated about what climate change is, they are often left with the weight of the information and a sense of helplessness, hence I believe people are currently resorting to the Extinction Rebellion or School Strike for Climate protests due to the desperation and lack of guidance with what they can do as individuals to create change. Media campaigns need to inform people on the immediate actions they can take instead of provoking fear that can lead to rising authoritarianism.

Yet, I also believe it is the responsibility of governments to introduce legislation that promotes companies globally to take action to protect the environment and future generations. The climate change policies that are needed are those that motivate and unite the people rather than breed the worry and concern that has been identified in this research project. What is needed is a precise roadmap of how we will meet net zero by 2030. In future, I think research should also be conducted about what types of media are most effective, at both educating and providing examples of how people can actively make a difference whether this be using a TV advert, a video, a radio message, or a poster. I would like to explore this further in the research.

How is the research work you have been undertaking impactful or important?

One of the key reasons that I originally applied to undertake this particular research project was due to the expansive benefits that the findings of the project would have for the UK population. Even though the pilot study did not prove the main hypothesis, it can already be concluded that the impact of a singular video regarding climate change threat does not lead to an increase in authoritarian attitudes/ values in the UK population.

When the research for other hypotheses is completed, it will inform governments and policy makers on how to make effective climate policies that will incur a positive response from the general public and unite nations globally to respond effectively to climate change. Fritsche et al (2012) found that across multiple studies, authoritarian attitudes have increased due to exposure to climate

change threat, thus climate policies and media materials going forward must ensure that they do not encourage the adoption of authoritarian values and attitudes.

I believe that this research is highly impactful as action from individuals is a key part of preventing further climate change, thus it is vital that this research is conducted to fully understand the impact of how climate change is communicated. It is a priority to make sure that people feel compelled to act to prevent climate change and ultimately ensure that they can use their knowledge to decrease their impact on the environment. Overall, investing time in researching the best ways to communicate to the general public about climate change is paramount to the survival of the human race.

What impact has conducting research had on your degree course and university experience?

The education of all students was heavily impacted by the COVID-19 pandemic. Having my first year at the University of Leeds taught entirely online, it was incredibly fulfilling to know that I have made a positive contribution with my research as well as developed on an individual level. It was a useful opportunity to revise my research skills, speak directly to lecturers at the University, perfect my academic writing, and engage in group work to prepare me for the rest of my degree studies. It has instilled in me that I have a passion for data and wish to make a positive difference with the work that I do. Thus, this research project confirmed to me at an early stage that I should change my degree programme from BA Geography to BA Geography with Quantitative Methods. Since, I have successfully enrolled onto this course and I look forward to expanding my skills in data analysis, demonstrating that the Laidlaw research project has had a major influence on the rest of my academic journey.

In terms of my experience at University, I am incredibly grateful for such a fulfilling experience as the Laidlaw research project has provided me with the chance to challenge myself and push the boundaries of my comfort zone to develop as a leader and researcher. Furthermore, I was required to complete my research and group tasks remotely, so this enabled me to gain further experience of working in a virtual setting, thus strengthening my adaptability as well as team working skills. This is especially useful as the University has recently adopted a hybrid approach to learning.

In addition, my growth in self-confidence has made me feel more equipped to set up the Leeds Rotaract Club, based at Devonshire Hall and open to all Leeds residents aged 18-30. Through strengthening my communication and organisation skills, I feel that conducting the research project has better prepared me for this role. Hopefully, I will be able to establish Leeds Rotaract as a University society, which would be a major accomplishment for me during my time at the University of Leeds.

The skills that I have learnt from the research project will assist me during my second year at university and guide me during the completion of my dissertation in my final year at the University of Leeds. I feel that I now have a more defined

and structured approach to completing pre-reading and research around a topic before writing an academic paper which makes me confident about completing my assignments to a higher standard than I did in my first year. As well as this, I believe the knowledge that I have gained about authoritarianism and climate change threat will be useful when completing my module in 'Sustainability: Living within Limits' and enable me to share new insights particularly in my written assignments and seminars.

Being able to conduct a research project with another school at the University has been very rewarding and it has provided me with a new breadth of knowledge as I embark on my second year at the University of Leeds. It has been very interesting to engage with the various research processes behind the papers and studies that I have been using to support my essays in my first year. In addition, it was insightful to see the depth of research that is conducted to make accurate predictions and inform policy making.

What leadership skills do you believe you have gained from the research period?

During this research period, I have developed both my academic and leadership skills. Going forward, I think the unpredictability of the research has made me more resilient and adaptable which will help me to be more effective in leadership positions, no matter the situation. Below I have detailed three key leadership skills that I believe I have developed due to embarking on the Laidlaw scholarship programme.

Turns ideas into action.

During the research period, I encouraged myself to be more curious as well as immerse myself in a research topic that was unfamiliar to me to develop my knowledge as well as my skills as a researcher. Due to this, if I found something during my analysis that I wanted to clarify or a relationship between variables that I wanted to investigate, I acted on this, and as a result I improved my independent research ability and highlighted areas for future research. I appreciate the many opportunities that Dr Spaiser and Dr Dunn provided me throughout the project to feedback on what I thought could be done differently whilst conducting the research. I felt valued and involved as a member of the research team as it was clear that Dr Spaiser and Dr Dunn trusted and valued my opinions and views. I remained engaged and actively contributed to the research project, and I am eager to gain more knowledge within this area of study. I hope that I can use my insights from my qualitative analysis to determine the next stage of the research project.

Learns continually.

Before the start of the Laidlaw research period, I completed further background research to ensure that I was able to grasp the key concepts of the pilot study, demonstrating my proactive approach to the research. I was able to learn continually as I not only strengthened my understanding of authoritarianism and

the political attitudes towards climate change, but I was able to strengthen by data analysis skills, particularly in Microsoft Excel. At an early stage, I recognised my own personal limitations as I have not yet developed many quantitative analysis skills due to being at university for just over a year. Therefore, I was able to specialise in analysing the qualitative data as a result of my self-awareness for my skillset and strengths. I created a range of spreadsheets to analyse the qualitative data collected during the research period and learnt the most effective methods to analyse data quickly using the software.

Being introduced to new platforms such as Stata and Prolific will benefit me greatly during my studies as I will be able to analyse data and interpret results more proficiently in my new degree course, BA Geography with Quantitative Methods. I arranged further meetings with my supervisors to clarify my understanding and discuss the outcomes of the research throughout the project. I am pleased that after completing the initial research phase of the pilot study, I now feel more confident when navigating new and unknown situations, which has been particularly useful when starting my position as a Residence Life Assistant at the University of Leeds. The political elements of the project were completely new for me however I enjoyed being challenged, having taken a discovery module in Philosophy in my first year. This demonstrates that I thrive when learning new concepts that I can use to strengthen my awareness and understanding of the world.

Makes things happen.

Being someone that favours structure and routine, this project encouraged me to adapt more easily, particularly during delays to the project and unforeseen circumstances. My research project has taught me to plan for every eventuality and set out a clear roadmap well in advance. However, I have also learnt to embrace the research process and I believe I am a more tenacious person now because of the Laidlaw Scholarship programme.

Going into my second year at University, I feel more comfortable with engaging in group tasks and taking the lead if I am required to. I think that I will also plan my assignments to a better standard, and the research has highlighted to me the importance of time management. Since the end of the research period, I feel that I am less likely to panic in situations where something does not go to plan, which I believe has improved my leadership style because I understand that reacting in a positive and optimistic manner improves the team dynamic and ensures that every member meets their targets. If my future research projects do not prove my hypothesis, I now accept that this is the organic and unexpected nature of academic research. I understand that to make things happen, both in research and in day-to-day life, you must have the ability to persevere and redirect oneself when there is a setback.

Please talk about activities you've been involved in to disseminate your research, including but not limited to attending conferences, producing research posters, and promotion of the scholarship

Since the research project is ongoing due to the unexpected findings from the pilot study, I plan to disseminate my research mainly throughout 2022. By then, the findings of the next stage of the research will have undergone analysis and have been finalised.

I plan to attend the British Conference of Undergraduate Research to present the findings of my research. Previously, I have been involved in hosting some research presentations for the British Conference of Undergraduate Research. As a host, I was responsible for chairing the research presentations, introducing each student, facilitating questions, and ensuring that the meetings were clearly organised. Furthermore, this strengthened by digital skillset as I had to learn how to upload the presentations, share my screen, and ensure that all the participants were familiar with how to use the technology. Due to this experience, I am now looking forward to presenting my own research at the conference and I feel confident with what is expected of me as a scholar. In the near future, I shall begin to create a research presentation that effectively portrays the key messages from my research.

As well as this, I will be attending an education day in 2022 at Little London Primary School in Leeds to inform primary school students about my research and share with them how they can become global citizens and future leaders. I hope to demonstrate to them the importance of research in whatever area they are passionate about and share with them the importance of the Laidlaw Foundation to inspire them to become a scholar one day, if they choose to.

I have also created a research poster to share on the Laidlaw Scholars Network to demonstrate the findings from the first stage of research in the pilot study. Once uploaded to the Laidlaw Scholars Network, this will enable me to share my findings to a wider audience. Creating the poster vastly improved my digital skills too as I had to use a new programme called Canva to create my poster demonstrating that my skillset has broadened in many aspects as a result of becoming a Laidlaw scholar.

My involvement with the research project motivated me to become a member of the Climate Challenge College Steering Group for a climate education course based in Todmorden. I will continue to champion climate awareness and educate myself on the political implications of climate policy and climate change threat on the UK general public. I can also use my knowledge of climate change threat to inform the types of modules that could be included on the Green Futures course. This free six-month course supported by the National Lottery Community Fund aims to provide individuals with practical skills such as natural building in order that they can embark on careers in the green economy after the course.

I hope to continue to keep my Laidlaw profile updated on the network and engage with other scholars who have a similar interest in climate awareness. I would like to be able to regularly update my profile with the ongoing findings of the research with Dr Dunn and Dr Spaiser throughout the year. Hopefully, I will be able to attend some research conferences in the next year to demonstrate the findings of the research and contribute to a real-world media and policy campaign to both educate people on climate change and give them the ability to use their environmental awareness to meet climate targets.

What are your future career or educational plans?

In terms of my educational plans, I have recently transferred onto the Geography BA with Quantitative Methods degree pathway, so I will be able to implement the skills that I learn in my modules to further the research project. Furthermore, I am hoping to complete a Year in Industry in the third year of my degree. Currently, I am considering placements with Network Rail, Unilever, and Aecom. Within my Year in Industry, I aim to increase my commercial awareness within a company that offers lots of opportunity, career progression, and the ability to travel to different countries. I am researching different professions and using virtual internship opportunities in a range of industries to inform me of the type of industry that I would like to work within and find companies that have a team-oriented company culture and champion the same values as me.

Due to working as a Saturday Sales Assistant from the age of 14, I believe a career in management or consultancy would suit my strengths and skillset, as I would be working directly with others, and developing close working relationships with a varied customer base. After completing the Laidlaw leadership training days, I have learnt that I thrive in a fast-paced environment, and I feel empowered when my team and I create positive results and deliver on tasks. Furthermore, I am pleased that the feedback I received as a leader solidified that I can utilise the strengths of my team members, which I believe is an important skill to have.

Although I have found that conducting the research this summer has been very varied and rewarding, I am better suited to communicating the findings and making change in response to research conclusions. The scholarship has also made me consider another career path in policy making, which will allow me to improve the lives of others which is a key priority for me. I have clearly identified that I now need to gain some real-world experience of working within an industry that interests me and making connections with people using the alumni networks at the University of Leeds.

Despite this, I am preparing for the eventuality that I decide that I would like to grow my expertise in a field that I am intrigued and fascinated by such as policy, city planning or sustainable transport. Thus, I have been researching post-graduate degrees offered at the University of Leeds, and I am most interested in pursuing Sustainable Cities MSc or Sustainability and Transport MSc. I believe that these would provide me with the skills to specialise in either urban planning, transport planning, or a consultancy role.

Acknowledgements

To conclude, I would like to say a huge thank you to Lord Laidlaw for establishing the Laidlaw Foundation and providing both myself and all the other Laidlaw scholars with such a broad and beneficial leadership programme. I look forward to the Leadership in Action project in 2022. I would also like to say thank you to the University of Leeds, and in particular to Rebecca Shaw, and Lorna Sealy for facilitating the Laidlaw scholarship and supporting me with my academic and personal development.

Furthermore, I would like to thank Joseph Moore for his input on the research project and Dr Dunn and Dr Spaiser for being brilliant supervisors and always being willing to provide me with guidance on the research topic and the research process. I feel very prepared for the next stage of my academic career. I am really honoured to have contributed to this pilot study and to have had the chance to work with such a passionate and motivated team. Thank you.

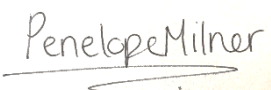
Supervisor Comments

Please comment on your scholar's research period, what you consider to be your scholars' strengths and which leadership attributes (please refer to the leadership attributes below) you feel your scholar has demonstrated and is particularly skilled in. You could also identify areas which your scholar can develop further.

Penelope Milner was a great and reliable support for our pilot study. Throughout her work with us she has demonstrated her intellectual capabilities, her abilities to effectively organize her time, her cooperative and accommodating team-work style and her leadership. Penelope was always highly motivated and enthusiastic, always keen to "run the extra mile" to make this research a success and was constantly developing ideas for further analyses of the data. Indeed, herein her leadership shone through most clearly, as she did not wait for us to assign her tasks, rather she would come up with her ideas, pitch them to us and then work on them. Parallel to Penelope we had a Q-Step summer placement student (2nd year) working with us on the project as well. Both were required to coordinate their research support activities and complement each other's work and Penelope demonstrated in this context her ability to work in a team. Penelope did not have prior experience/training in statistical analysis, and she was clearly aware of this limitation and worked accordingly on the qualitative input from the survey, while the Q-step summer placement student, who did some of the statistical analyses. Penelope did express the wish to learn statistics during her studies and indeed we would strongly encourage her to develop her skills in this important area. Penelope has been very reflexive of her own knowledge, identifying gaps in understanding, which she immediately would try to fill by doing further literature research, and reflecting on her preferences e.g. in terms of working remotely.

Penelope writes and speaks clearly and confidently but she is also able to listen with understanding. Given the circumstances she necessarily had to use digital tools for connectivity, which she used seamlessly. Penelope has also demonstrated clear empathy and emotional intelligence on the one hand when dealing with the fact that our Q-step summer placement student got sick with COVID-19 and on the other hand when analysis the data on the emotions our study participants expressed with respect to climate change.

Overall, Penelope always delivered on any task she was assigned, beyond this Penelope's analyses of the emotional qualitative data from the survey experiment were extremely valuable and went beyond what we hoped for or expected. She showed here her ability to work and think independently and develop original ideas and then generate insights from these. She is an excellent and very promising scholar, and we hope she will continue to build on this scholarship to realise the potential we see in her.

Signature of Scholar  Date: 18/09/2021

Signature of Project Leader  Date: 17/09/2021

Appendix 1

List of 52 words from SentiStrength Dictionary with values. Source: SentiStrength.

1. Against	-2
2. Alarm*	-3
3. Ambivalent	-2
4. Angr*	-4
5. Anxi*	-3
6. Apath*	-2
7. Apprehens*	-3
8. Ashamed	-2
9. Bad	-2
10. Broken-hearted*	-5
11. Concern*	-2
12. Danger*	-2
13. Depress*	-4
14. Devastat*	-5
15. Disappoint*	-2
16. Disgust*	-4
17. Dishearten*	-2
18. Disturb*	-2
19. Emotional	-2
20. Fail*	-3
21. Fearful*	-3
22. Fine	3
23. Fright*	-4
24. Frustrat*	-3
25. Guilt*	-4
26. Helpless*	-2
27. Hopeless*	-4
28. Horr*	-4
29. Indifferent	-2
30. Interest*	2
31. Negativ*	-2
32. Ok	1
33. Positiv*	3
34. Powerless*	-2
35. Problem*	-2
36. Sad	-4
37. Scare*	-4
38. Scary	-4
39. Serious	-2
40. Shock*	-3
41. Sorry	-2
42. Stress*	-2
43. Surpris*	1

44. Tears	-4
45. Terribl*	-4
46. Terrified	-4
47. Terrify*	-4
48. Uncertain*	-1
49. Unsure*	-1
50. Upset*	-3
51. Worr*	-4
52. Worse*	-3

Reference List

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