

**TACKLING ECO-ANXIETY IN YOUNG
PEOPLE THROUGH TREE PLANTING
AND EDUCATION**

PRELIMINARY REPORT

15 FEBRUARY 2023

ANNE NOLAN

CQUNIVERSITY DOCTORAL CANDIDATE

Version History

Version No	Issue Date	Nature of Amendment	By
1.0	15/2/2023	Create	A.Nolan

Approval

Approvals are subject to University Governance requirements. Refer to the ITD Project Management Office for guidance.


Name	Signature	Role	Date
Dr Susan Rockloff		Principal Supervisor	15/2/2023

Table of Contents

1	Purpose	1
2	Achievement of Project Objectives	1
3	Preliminary Findings	1
3.1	Data Collection - Tranche 2	1
3.1.1	Recruitment.....	1
3.1.2	Participation.....	2
3.2	Data Analysis - Tranche 1.....	2
3.3	Quantitative Analysis	2
3.4	Qualitative Analysis	2
3.5	Australia – wide eco-anxiety survey.....	4
4	Performance Against Schedule & Budget	4
4.1	Performance Against Time	4
4.2	Performance Against Cost.....	4
5	Operational Risks	5
6	Other Activities associated with the project	5
7	Future Activities	5
8	References	5

1 Purpose

The purpose of this report is to provide an overview of the Preliminary Findings as required for Milestone 4 by February 15th 2023.

2 Achievement of Project Objectives

	Project Objective	Level of Achievement and Evidence
1	Data Analysis: 1 July to 31 December 2022	<p>The quantitative analysis of the pre and post-planting surveys conducted in March and April 2022. identified that to improve the statistical significance of the data, further data collection was required.</p> <p>With the assistance of the Noosa Council. Two further tree planting days were organised on November 6th and 13th at Cooran</p> <p>There were 13 and 19 people who attended the tree planting days on November 6th and 13th respectively.</p> <p>Qualitative and quantitative data analysis is continuing on this second tranche of data collection.</p>

3 Preliminary Findings

3.1 Data Collection - Tranche 2

3.1.1 Recruitment

To improve the statistical significance of the pre-and post-tree planting data, two further tree planting days were organised with the assistance of the Noosa Council Natural Areas Teams. Tree planting days were organised for the 6th and 13th of November 2022. Recruitment for these days was again via social media, primarily through Facebook local community groups, the University of the Sunshine Coast, Bushcare groups, NBRF and other environment focussed groups, plus personal networks.

The number of participants for this second tranche of participants was lower than the previous group. This is likely to be a result of the time of the year – end-of-year school, university examination period, warmer weather, and a number of competing community events on the same day. This was also the start of the first summer without COVID restrictions which increased the number of event options that potential participants could attend.

3.1.2 Participation

Notwithstanding the challenges of recruitment discussed above, 13 participants attended the tree planting on the 6th November and 19 attended the tree planting on 13th November (Tranche 2). There were also several returning participants who volunteered time to help plant trees on these days from the earlier tree planting days (Tranche 1).

As per the first tranche of the study, participants at the 6th November tree planting completed the pre- and post-eco-anxiety surveys. Participants attending on the 13th November acted as the 'control' group and completed an additional pre-survey to compare with the initial pre-planting surveys of the previous group. Statistical analysis of this data is in progress.

3.2 Data Analysis - Tranche 1

3.3 Quantitative Analysis

Preliminary analysis shows there is a small effect on participants' eco-anxiety, however further data is required to improve the statistical power of this preliminary finding. Quantitative analysis of pre-and post-tree planting surveys is continuing and will include the Tranche 2 data described above.

Paired T tests will be used to determine if there are changes in participant's eco-anxiety scores across the two time periods, namely before partaking in the tree planting and after tree planting. The significance of these results will be compared to the 'control group', who completed the pre- tree planting eco-anxiety survey across two the time periods but had not participated in the tree planting program.

3.4 Qualitative Analysis

Ten semi-structured interviews have been conducted with participants who attended the March/April tree planting days. The objective of these interviews is to provide a more detailed and personal experience of participants' eco-anxiety, their involvement in the tree planting days and the pro-environmental activities before and after the planting. Five semi-structured interviews were conducted online via the Teams Platform and five interviews were conducted in person. All interviews were recorded with the permission of the interviewee and then transcribed. NVIVO software was used to code each interview and identify recurring themes. Some of these themes are discussed briefly below.

Feelings about Climate Change

Participants experienced several emotions when considering climate change. Participants noted their feelings of fear, despair and feeling overwhelmed and hopelessness. Notably, participants experienced a sense of loss.

"I guess I have this sense of like we're losing lots of things so like being able to explore different kinds of forests or coral reefs" [Participant J]

Several participants expressed sadness, related to a sense of loss related to ecosystems and the change, but also how it will impact their future decisions.

"But like, I'm like, sad, because, at this rate, we're going like, I'm never going to have kids, but I want to have kids." [Participant M]

Other participants also reported feeling frustrated at the lack of government action and where others are not taking adequate action.

Experience of climate change

Participants had already experienced climate change impacts, most notably the recent flooding in the summer of 2022 in South East Queensland. One participant had become displaced as a result of a landslide impacting their house to the point where it was no longer safe for them to remain in the house until it was rectified.

Mr. H and myself not living at home anymore, where we recently experienced a landslide as a result of climate, the extreme weather events as a result of climate variability. So, it's impacting our everyday life. We've not only lost the use of a house or garage home offices, our gardens, so we are now displaced. [Participant H]

Other participants described bushfires, excessive heat and coastal erosion as impacts of climate change that they had experienced in their personal and professional lives.

Several participants recognised that they were lucky to live in a relatively safe place, a rich country where we can reduce the impacts of climate change. However, there was a notable concern for other countries and for those not so well off.

Engaging in action

Overwhelmingly, participants' response to participating in the tree planting days was positive. There were numerous comments about engaging in actions that result in a positive impact and taking collective steps towards achieving a common goal. Participants commented that they liked being out in nature and doing something positive. One participant thought that tree planting had a more positive impact than protecting or working at the political level.

"So definitely made me feel better...yeah, because I loved also how it like offset my carbon emissions. That was really good. OK. I really liked it". Participant M

"it did provide a positive feedback, like a positive feeling that, you know, these things are occurring. Therefore, there's like chances that are hopeful or whatever that things can get better. Everybody is doing this, you know, as like a general, I had a general positive feeling from doing tree planting."
Participant H.

A few people also commented on the importance of collective action, working together to achieve a positive outcome.

Although participants enjoyed their experience of tree planting, some noted that the tree planting experience did not make any changes to their thoughts about climate change.

"So I'd say without the tree planting, I would still be a considered person to you to assess what I do and don't do in ways to improve that through an environment. So I don't feel that this specific activity had changed behaviour." Participant R

Following their participation in the tree planting, some participants re-energised their pro-environmental behaviour. Some participants had joined local environmental groups such as Landcare and others had participated in other tree-planting groups. One participant stated that following the tree planting

"I've been a bit more motivated to rather do the extra effort to clean the things up and put them in the recycling." Participant P

The qualitative analysis is an iterative process and will continue to be refined over time as more themes and patterns emerge and a greater depth of understanding of the data is obtained.

3.5 Australia – wide eco-anxiety survey

As part of this study, CQUniversity researcher (Principal supervisor) funds were provided to complete an Australia-wide eco-anxiety and wellbeing survey in the latter part of 2022. The survey was distributed by Qualtrics across Australia. The survey was completed by 1407 participants.

The Australia-wide survey comprised a number of scales to measure people’s eco-anxiety (HEAS-13 HEAS-13 (Hogg et al., 2021) eco-anxiety scale.), their overall personal wellbeing (PWI-A International Wellbeing Group (2013)), how they relate to nature, using the Nature Relatedness Scale (Nisbet & Zelenski, 2013) and an assessment of participants’ environmental values using the Environmental Concerns Scale (Schultz, 2001). Participants were asked to identify their current pro-environmental behaviours using questions based on Ballman’s (2020) survey. These scales were also used in the tree planting surveys.

Data analysis is currently underway. Correlation analysis will be conducted to identify the strength of and direction of the relationship between eco-anxiety and the other variables including demographics (age, sex, location), personal wellbeing, nature relatedness and environmental values.

These analyses will provide insights into the prevalence of eco-anxiety in the wider Australian population and will be compared with the results of the pre-and post-tree planting surveys conducted within Noosa Shire. Comparing the prevalence of eco-anxiety in Australia with that of Noosa and with participants of the tree planting program will be informative in determining any significant differences.

4 Performance Against Schedule & Budget

4.1 Performance Against Time

The project is currently on time. However, it should be noted that I am a part-time student and the timeframe for the completion of this project is very short relative to the duration of my candidature (CQUniversity maximum completion date is September 2028 based on part-time enrolment).

The data design of the pre-and post-tree planting surveys has resulted in complex statistical analyses, which have taken longer than initially planned. This has been compounded by the need to undertake two further tree-planting days to provide further data to improve the power of the statistical analysis.

4.2 Performance Against Cost

The project is currently on budget. Expenses to date are shown in the table below.

Item	Cost
Food for participants of the 5 tree planting programs	\$799
Gift vouchers to first 15 participants	\$1500
Advertising for participant recruitment	\$820
Trees for tree planting	\$720
Total to date	\$3839

Future Expenses

- \$1500 tranche 2 gift certificates

5 Operational Risks

The operational risks to the project are minimal.

6 Other Activities associated with the project.

This project has required me to participate in several training programs/online learning. I continue to improve my skills in the platforms required to complete this project which include:

- Qualtrics Survey Platform
- Investigative interviewing techniques
- Qualitative Analysis
- SPSS Statistical Package
- NVIVO Qualitative Analysis
- Human ethics research training to comply with National Health and Medical Research Council standard and guidelines

I continue to keep up to date with current academic literature in the field of eco-anxiety which is gaining more prominence within the research domain.

I presented the project at the CQU Research Higher Degree Symposium on October 27th 2022

I presented the project to the Noosa Council Climate Talks at the Cooroy Library on 22nd November 2022 which resulted in some very engaged discussions and very positive feedback.

7 Future Activities

The main focus of the project for the next few months is to complete the qualitative and quantitative analyses of the data across both tranches of the tree planting program and the Australia-wide survey. After conducting a thematic analysis of the qualitative interview data from Tranche 1, additional interviews with participants from Tranche 2 may be conducted to further investigate any emerging patterns of themes.

I also intend presenting the findings of this research to at least one relevant conference in the next 18 months for example the International Association for Society and Natural Resources Conference June 2024.

8 References

Ballman, C. J. (2020). Emotions and Actions: Eco-anxiety and Pro-environmental Behaviours. University Regina. <https://ourspace.uregina.ca/handle/10294/10016>

Hogg, T., Stanley, S., O'Brien, L., Wilson, M., & Watsford, C. (2021). The Hogg Eco-Anxiety Scale: Development and Validation of a Multidimensional Scale. *Global Environmental Change*, 71, 1-10. <https://doi.org/10.31219/osf.io/rxudb>

International Wellbeing Group (2013). *Personal Wellbeing Index*, 5th edn. Australian Centre on Quality of Life, Deakin University. <https://www.acqol.com.au/uploads/pwi-a/pwi-a-english.pdf>

Nisbet, E., & Zelenski, J. (2013). The NR-6: a new brief measure of nature relatedness. *Frontiers in Psychology*, 4(813). <http://doi.org/10.3389/fpsyg.2013.00813>

Schultz, W. P. (2001). The structure of environmental concern: concern for self, other people and the biosphere.. *Journal of Environmental Psychology*, 21(4), 327-339. <https://doi.org/10.1006/jevp.2001.0227>