SUPERVISOR/S: Maryanne Garry and Mevagh Sanson
PROJECT TITLE: Anomalous mental experiences: bug or feature?
FIELD: Psychology / Cognitive psychology
DIVISION/SCHOOL: ALPSS - School of Psychology
PROJECT LOCATION: Hamilton

PROJECT ABSTRACT:
All of us have, to varying degrees, “anomalous mental experiences” from time to time, such as being mentally transported into books, movies, and TV shows; losing track of time; and infusing perceptual and cognitive information with extra meaning and significance. Most people think these experiences are a kind of “bug” or failure of their cognitive functioning. But recent research suggests these anomalous experiences might actually be a beneficial “feature” of normal cognition. These anomalous mental experiences may be useful precisely because they go against people’s assumptions about the way the world works. When people have experiences that fly in the face of their assumptions or expectations, they are pushed to discover new patterns and learn new knowledge. Discovery and learning are the very mechanisms associated with myriad benefits, such as increased creativity, positive feelings of wonder (“awe”), and even interest in science. But no research has directly addressed the extent to which anomalous mental experiences cause these end benefits. To fill this gap, psychological scientists need to first generate anomalous mental experiences under laboratory control, and then measure the resulting positive outcomes. In this project, we will establish a “proof of concept” to do just that. We will use well-established paradigms to produce short-term anomalous mental experiences in which people: (a) gaze into a mirror and begin to see strange faces looking back, or (b) detect sensations in a nearby rubber hand as though it were their own hand. Then, in randomised order, we will measure their creativity (including measures of mental flexibility, fluency, and originality), their feelings of awe, and their interest in science. Once this proof of concept is established, our subsequent line of work stands to demonstrate that, as we hypothesise, people’s anomalous mental experiences are not a bug, but a feature. This project will accomplish other aims of the Summer Scholarship scheme. My lab has long enjoyed a national and international reputation as a place where emerging scholars have terrific experiences doing excellent publishable work, learning new skills, and forging new relationships. In the past 20 years, I’ve worked with 68 undergraduates, 46 Honours students, and 24 PhD/Masters students. Many of them started out as summer scholars in my lab. In addition, this project will lay the groundwork for external funding (highly-related Marsden proposal in second round - outcome pending). What is more, this project will help establish links with external collaborators. For example, Distinguished Professor Steven Jay Lynn of SUNY Binghamton, one of the world’s experts on anomalous mental experiences, is keenly interested in this project.

STUDENT SKILLS:
- Hardworking, dedicated, focused, careful, responsible
- Decent stats background
- Not afraid of numbers nor learning new analytical techniques
- Comfortable with technology and learning new technology
- Enthusiastic about breaking out of comfort zone
- Enthusiasm for the scientific method
- Skill on a Macintosh desirable
- Good background in cognitive psychology desirable

PROJECT TASKS:
- Working seriously, consistently, and enthusiastically, on an international team
- Helping develop experimental materials and/or data-coding materials
- Helping to collect data, enter data and manage a database
- Helping to analyse and interpret data
- Presenting findings in project meetings
- Conducting literature searches
- Extracting and quantifying methods/data from scientific articles
- Reading scientific literature critically and discussing it at project meetings
EXPECTED OUTCOMES:

- Student’s Research Poster (as per clause 6 of the Scholarship regulations)
- Student learns a bucket of important, transferable skills’ many essential for advanced study: finding and critically reviewing scientific papers, data coding, data entry, statistical data analysis, presentation/communication of scientific results, public
- Groundwork for least one high-impact publication
- Groundwork for external funding (i.e. Marsden)
- Forming new relationships and strengthening existing relationships with external collaborators