Project Title: Threat Perception and Mental Health in NI Veterans

Supervisors: Dr. Cherie Armour
(Personal website with links to relevant reading: http://tinyurl.com/l8qsxv6)
Dr. David Shaw

Project contact details: Dr. Cherie Armour Tel: 02870123374
c.armour1@ulster.ac.uk or armour.cherie@gmail.com

Level: PhD

Background to the project

Veteran mental health is a frequently debated topic both in the media and in government circles. Currently there exists a substantial population of veterans in Northern Ireland, to date however very little psychological investigation has been conducted with this group. It is vitally important to ascertain whether or not the rates of mental illness in UK based veteran studies are generalizable and so comparable to those in NI veterans. It is also important to investigate if Northern Ireland as a society holds certain additional risk factors for adverse mental health outcomes in the veteran population. One aspect of this may relate to threat perception (cf. Holbrook, Hoyt, Stein, & Sieber, 2001). Currently there exists a heightened level of threat to veterans and in service military personnel within Northern Ireland compared to other regions of the UK. Perceiving oneself to be under threat has been shown to have an adverse impact on mental health outcomes (Holbrook, Hoyt, Stein, & Sieber, 2001; Schmid, & Muldoon, 2013). Research investigating the perception of life threat during deployment has concluded that veterans' reports of perceived threat were associated with a wide range of Axis 1 diagnoses (Mott, Graham, & Teng, 2012). A number of important questions prevail, for example, do veterans in NI perceive themselves to be under threat and to what extent? Is this threat perception more prevalent in those reporting distress in the form of Axis 1 disorders? Thus the interplay between threat appraisals and mental health in veterans living in Northern Ireland is an interesting line of enquiry. One way of approaching this would be by using experimental designs which examine physiological responses in the general population compared to those in veterans who are not suffering from mental illness and veterans who are suffering from mental illness in Northern Ireland. Facial expressions are important for threat perception in humans, and physiological research has shown the existence of facial expressions for emotion (Ekman et al., 1983). Research has also shown that mental illness will interfere with people’s ability to respond correctly to emotion conveyed through facial expressions (Gur et al., 1992; Bradley et al., 1999). This can be investigated using visual techniques including the eye tracker and facial electromyography (fEMG) alongside physiological measures of heart rate, skin temperature, and galvanic skin response (GSR).

Methods to be used:
This will be a mixed methods project including the use of focus groups, questionnaires, and experimental design to identify differences across and within groups. Physiological measures more traditionally associated with experimental and biopsychology will be utilized. For example, Galvanic Skin Response (GSR) has long
been established as an effective means to test physiological arousal and anxiety. In addition, eye tracking methodology has been used to investigate visual attention to anxiety provoking cues.

The physiological data will be recorded by the NeXus 10 and the Biopac. These are units designed to monitor and feedback physiological parameters. Eye tracking equipment will be used to examine visual attention to anxiety provoking cues.

**The successful candidate will:**

- Be required to work with veteran groups
- Be willing to attend various courses related to focus group design and delivery, survey development, and experimental design.
- Be willing to attend courses related to the analyses of data achieved through the mixed methods approach.
- Conduct appropriate data analyses and translate the findings to their thesis, conference presentations, and publications.

**Objectives of the research:**
The research project aims to

- investigate threat perception within Northern Ireland veterans as compared to non-veterans
- study how threat perception relates to and differs across mental health outcomes

**Skills required of applicant:**
The applicant should

- Have an interest in trauma, mental health, physiology, and visual attention
- Be able to demonstrate knowledge and understanding of trauma exposure and mental health outcomes in veteran populations.
- Have a broad understanding of the above noted psychological methods.

**Further Reading**


Fear et al. (2010). What are the consequences of deployment to Iraq and Afghanistan on the mental health of the UK armed forces? A cohort study. The Lancet, 375, 1783–1797


