

The University of Queensland - IIT Delhi Academy of Research Joint PhD Project

Project title	Examining stress, and Cognitive-Affective Processing in Emotion Disorders
Project code	UQIDAR 00212
Project description	<p>The hormones-behaviour is critical to our understanding of stress and emotion disorders. Oxytocin (intranasal) lowers stress response and improves trust “ however, such findings warrant investigation across different populations (e.g., Asian & Australian). Further, females over-representation in emotion disorder, or sex-specific effects of oxytocin on stress physiology, and cognitive-affect processing remains unclear. Indo-Australian comparison of these effects provides insight in the universality of hormone-behavior link in the context of cognitive affective processing in emotion disorder. Aims: To test effects of oxytocin on stress, and reward-related decision making in trust and uncertainty in emotion disorder (depression & anxiety) Study 1: Placebo-controlled double-blind study of intranasal oxytocin on stress (salivary cortisol), cognitive [trust game], uncertainty [gambling task] and affect response [IAPS valence] in anxiety/depression patients Study 2: Sex-differences in placebo-controlled double-blind study of intranasal oxytocin (see protocol, Heinrichs et al., 2003) on stress (salivary cortisol), cognitive [trust (two-person game), uncertainty (gambling task)] and affect response (IAPS valence) in normal healthy participants Methodology Sample: Power analysis suggested sample size of 176 for effect size of .50 at .05 level (Study 1: treatment group n = 88; Study 2: Males =88) Material: Iowa Gambling Task, international affect database (IAPS), and Trust Game (Gneezy, 2005) Intranasal oxytocin/placebo spray: As per the protocol of Heinrichs et al. (2003) Tests: Saliva sample for cortisol (stress), serotonin-dopamine balance, testosterone-estradiol balance using immunoassays Procedure: Participants provide informed consent, demographics, followed by salivary sample (T1), random assignment to treatment group (Nasal spray of oxytocin/placebo-saline), nasal spray protocol, Tasks (Order: IGT, IAPS, Trust Game), followed by salivary sample (T2). Analysis: Between-group comparison of cortisol levels (ug/dl), net scores in uncertainty trials of IGT, and binary choices in Trust game: (a) treatment groups (b) healthy males and females</p>
Project outcomes	<p>Expected results: It is expected that effects of oxytocin in emotion disorder will help identify therapeutic usage of oxytocin, examine sex-specificity of these effects, and thereby improve our understanding of sex-specific vulnerability due to hormone-behavior link across two distinct sociocultural environments (i.e., India and Australia). Grants targeted: Wellcome DBT India Alliance Journal papers: 2, impact factor > 2 Clinical trial: CTRI for effect of intranasal oxytocin on emotion disorder patients</p>
Advisory team	<p>UQ Principal Supervisor Dr Alan Pegna Psychology a.pegna@uq.edu.au https://psychology.uq.edu.au/profile/2656/alan-pegna</p> <p>IITD Principal Supervisor Associate Professor Varsha Singh Humanities & Social Sciences Psychology vsingh@hss.iitd.ac.in http://hss.iitd.ac.in/faculty/varsha-singh</p>

<p>Type of student</p>	<p>Additional Supervisor(s) Associate Professor Rohit Verma</p> <p>, ,</p> <p>Applications are open to: I or q students who meet eligibility criteria. note: i-studentss must have own scholarship to apply (CSIR, UCG-NET, etc)</p>
<p>Discipline background of student</p>	<p>Ideally, this project requires students with a background in: Clinical Psychology/Clinical Neuropsychology Psychiatry/Rehabilitation (Focus: Neuropsychology) Cognitive & Affective Neuroscience</p>
<p>Ideal candidate</p>	<p>Essential Capabilities: Neuropsychological assessment, Research Design, and Statistical Analysis (e.g., using SPSS)</p> <p>Desirable Capabilities: Programming skill (e.g., Python, Open sesame)</p> <p>Expected qualifications (Courses/Degrees etc.): Masters Degree (MA/MSc, MPhil.) with relevant specialization (Clinical Psychology, Psychiatry, Neuropsychology), Cognitive Science, Neuroscience</p>
<p>Application process</p>	<p>Apply online by the due date: https://www.uqidar.org/students/how-to-apply/</p>