



**MACQUARIE**  
University  
SYDNEY · AUSTRALIA

## **CURRICULUM VITAE**

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**D.O.B:** 31/12/1982

### **RESEARCH EXPERIENCE**

#### **Cognition: 2016 – present**

***Logic bounds:** the boundary conditions of intuitive logic.*

This project aims to pinpoint where the human mind finds itself on the continuum between 100% logical and insensitive to any logical principle, through a series of theoretically motivated and methodologically rigorous experiments. Using mathematical modelling we will estimate whether implicit and explicit logic are two sides of the same coin or two independent latent constructs.

***Cognitive development:** examining the development of intuitive sensitivity to normative rules and logical structure.*

This body of work is a systematic investigation of the development of logical intuition, advancing the understanding of children's logical competence, which has a direct bearing on theories of children's reasoning, and a strong test for the dual process models of human thinking. Here we aim to provide an important test and extension of adult work mentioned above. The principle non-academic impact of this project is to inform the development of educational interventions designed to improve children's logical thinking.

***Moral judgement and gaming:** measuring morality.*

This project aims to design and validate a new psychological instrument for measuring intuitive moral sensitivity to six different moral foundations. This new instrument will then be employed in further experiments investigating the impact of gaming on moral judgement.

#### **Medical Education: Social, Educational and Policy based research: 2015 – 2016**

This national research focused on exploring the impact of medical revalidation with the aim of directly shaping regulatory practice in the UK. The international community was also interested in the outcomes from this research in the hope that it will help inform their own decisions on how to improve the regulation of doctors and other healthcare professionals. The role required accomplished project management skills in order to successfully contribute to the multiple work packages framing this high-

profile healthcare research. Specifically, my responsibilities involved facilitating both quantitative and qualitative analysis of a UK wide doctor's census survey for dissemination through policy reports, peer reviewed publications and conference presentations. Moreover, the role required collaboration on the development of interview schedules, conducting interviews and subsequent coding of the data, alongside an extensive literature review on professional decision making in order to inform clinical decision making of senior management in respect to evaluating a doctor's fitness to practise.

### **Cognitive Research - Belief Bias and Dual Processing: 2011 – 2015**

My thesis, entitled "Believe It or Not: Examining the Case for Intuitive Logic and Effortful Beliefs", examined dual processing accounts of belief-bias in human reasoning using a novel approach. This research focused on the view that belief based judgments also require effortful processing, challenging some of the original Dual Process accounts on reasoning. An additional aim of this research was to investigate the underlying executive processes necessary for belief and logic based reasoning; essentially determining whether their demand on executive resources differentiates. The studies employed novel experimental methods to evaluate the impact of secondary loads and problem complexity on belief and logic instructions. The studies also employed various individual difference measures and examined the role of inhibition and memory updating. Our research has laid the groundwork for continued experimentations using this novel methodology and the potential application to research in the area of neuropsychology and cognitive development in reasoning. The dissemination of these works includes a published article in Memory and Cognition and several in preparation.

### **fMRI Research: 2013**

This research was investigating Dual Processes in reasoning through neuropsychological examination of the working memory. My role involved administering the Wechsler Adult Intelligence Scale as well as some minor training on the MRI machine and Matlab programme.

### **Developmental research: 2011**

Here we were exploring mood and problem solving among typically developing children and children with autism. The role required the administration of the WISC IV and a reasoning questionnaire consisting of contrary to fact and counter factual statements and subsequent analysis for the preliminary data.

### **Placebo Research: 2011**

This research explored the response expectancy theory and investigated whether belief in the instructions given has any effect on the speed of the participant's reactions. The second part of the project investigated the theory that expectancy is mediated via a computational network which integrates information; this suggests that the placebo response should persevere for a second or more after the participants have been told they have been misled.

## **CLINICAL EXPERIENCE**

### **Self Employed Clinical Hypnotherapist : 2007 – 2011**

As a Clinical Hypnotherapist I treated in excess of 250 clients, managing conditions ranging from attentional disorders to phobias, stress and anxiety. Research and data collection was a fundamental part of the work which would enable me to create the most appropriate treatment programme for each individual case. I created a database to help with the thematic and comparative analysis that would feature highly in the evaluation and adaptation of each therapy programme.

## TEACHING and ACADEMIC ADMINISTRATION

### Supervisor: 2017

- Primary supervisor for 4<sup>th</sup> year Psychology Hons student. This will involve supervision and support throughout the design, administration, analysis and evaluation of their project.

### Marker: 2012 – 2014

- Stage 1 coursework on a Critical Thinking and Practical Psychological Research Case Studies.
- Stage 2 coursework on Biological and Cognitive Psychology.

### Demonstrator, Grade 6: 2011 – 2012

- Teaching on a first year undergraduate Critical Thinking course, where I assisted the module leader in each lecture, and acted as a facilitator during in-class problem-solving exercises.
- Teaching topics concerning case studies in Practical Psychological Research to several groups of up to 12 students at second year undergraduate level.

### Associate Lecturer, Grade 7: 2012 – 2014

- Lecturing to 250+ first year undergraduates on a module of Critical Thinking that addressed how prior expectations and beliefs can influence the evaluation of data.
- Delivering a series of Cognitive Psychology lectures to a group of postgraduate students, covering subjects on Decision Making, Episodic Memory, Forgetting & False Memories, Memory Strategies & Deductive Reasoning and Problem Solving. I also helped design relevant exam questions.
- Project supervisor for 4 final year undergraduate students which required supervision throughout their final dissertation.

### Post Graduate Student Representative: 2012 – 2013

- Organised the 4th Annual Plymouth University Department of Psychology Postgraduate and Staff Conference.
- Organised and hosted Postgraduate discussion groups and workshops.

## RESEARCH GRANTS

Type	Awarding body	Dates
PhD studentship	Social Science Doctoral Training Centre	10/11-10/14
Discovery Project	Australian Research Council	Under Review

## SELECTED PUBLICATIONS AND CONFERENCE PRESENTATIONS

- Howarth, S., Handley, S.J. (2016). Belief bias, Base rates and Moral judgment: Re-evaluating the Default Interventionist Dual Process Account. In N. Galbraith, E.Lucas & D.E. Over (Eds.), *The Thinking Mind*. Psychology Press.
- Howarth, S., Handley, S.J. & Walsh, C. (2015) The Logic-Bias Effect: The role of effortful processing in the resolution of belief-logic conflict. *Memory & Cognition* (DOI) 10.3758/s13421-015-0555-x.
- Zahra, D., Howarth, S., Neve, H. & Burr, S. (under review) Improving Clinical Decision-Making Education Through Simulation: What Can We Learn From Psychological Theories of Reasoning and Decision Making?
- Howarth, S., Bryce, M., Archer, J. & Zahra, D., (under review). Understanding Responsible Officers' recommendations for medical revalidation: an integrative narrative review of decision-making.
- Howarth, S., Handley, S.J. & Walsh, C. (in prep). The Logic Sense: Exploring the role of executive functioning in belief and logic based judgments.
- Ryan, M., Howarth, S. (in prep). Measuring morality: instruments of psychometric measurement of moral cognition.

## CONFERENCE PRESENTATIONS

- Howarth, S. (2017). The Logic Sense: Exploring the role of executive functioning in belief and logic based judgments. **Chairing and presenting at a symposium on memory and executive function** at 44<sup>th</sup> Experimental Psychology Conference, Newcastle University, Australia.
- Howarth, S. (2013). The effect of Random Number Generation and Complexity on Conditional Reasoning. *Poster Presented at CogSci Conference, Humboldt-Universität, Berlin, Germany.*
- Howarth, S. (2013). The effect of Random Number Generation and Complexity on Conditionals. *Poster Presented at BPS Cognitive and Developmental section conference. University of Reading, Reading.*
- Howarth, S. (2012). Secondary Loads and Conditional reasoning. *Talk presented at the Thinking and Reasoning seminar, Plymouth University, Plymouth.*
- Howarth, S. (2012). The Effect of Distinct Secondary Loads on Conditional reasoning. *Talk presented at the 4<sup>th</sup> School of Psychology Postgraduate & Staff Conference: "Beyond the Science of the Mind". Plymouth University, Plymouth.*
- Howarth, S. (2012). Are Belief Biased by Logic? The Effect of Distinct Secondary Loads on Conditional reasoning. *Talk presented at (ITC) International Conference on Thinking & Reasoning, Birkbeck University, London.*

Howarth, S. (2012). Are Belief Biased by Logic? The Effect of Distinct Secondary Loads on Conditional reasoning. *Talk presented at PsyPAG, Northumbria University, Newcastle.*

## EDUCATION AND PROFESSIONAL DEVELOPMENT QUALIFICATIONS

<b>Plymouth University: 10/2011-12/2014</b>	<b>PhD:</b> <i>"Believe it or not: Examining the case for intuitive logic and effortful beliefs"</i>
<b>Plymouth University: 11/2012-/02/2013</b>	PG Certificate in Academic Practice Stage 1-Level 6
<b>Plymouth University: 09/2011-09/2012</b>	PG Certificate Research Methods - 60 Credits
<b>Plymouth University: 09/2011-03/2012</b>	Certificate of Professional Development – Learning, Teaching and Assessment
<b>LCCH: 09/2005-09/2006</b>	PG Diploma Clinical Hypnotherapy
<b>LCCH: 09/2005-12/2005</b>	PG Certificate Clinical Hypnotherapy
<b>Plymouth University: 09/2001-07/2004</b>	BSc (Honours) Psychology

## OTHER PROFESSIONAL EXPERIENCE

<b>Managing Director:</b>	<i>Carpe Diem Bar &amp; Restaurant</i> – Plymouth: 2010 – 2011
<b>Clinical Hypnotherapist</b>	<i>Hyde Park Clinic</i> – Plymouth: 2007 – 2011
<b>Marketing Assistant &amp; PA to MD</b>	<i>Ikon Footwear Ltd</i> – Nuneaton: 2006 – 2007
<b>Assistant Property Manager</b>	<i>Island Developments</i> – Plymouth: 2005 – 2006
<b>Lettings Negotiator</b>	<i>Northwood Ltd</i> – Plymouth: 2004 – 2005

## PROFESSIONAL AND GROUP MEMBERSHIP

Associate Investigator for the Centre of Excellence in Cognition and its Disorders  
Member of the Belief Formation Group  
Member of the Language Acquisition Lab  
Associate Member of the Higher Education Academy

## OTHER RELEVANT EXPERIENCE AND SKILLS

Through my career prior to returning to academia I have developed many essential and transferable skills, including the dedication and organisational skills to run my own business, the aptitude for sensitivity toward vulnerable groups as well as the ability to support people in a therapeutic capacity. I have the motivation and tenacity to work independently, yet my time in a managing director's role has allowed me to manage, motivate and train a successful and productive team. I believe these skills are advantageous in my research career enabling productive relationships with colleagues and students, the creation and development of original research, and the effective management of my work load.

## TECHNICAL SKILLS

SPSS, SPSS Syntax, Microsoft Excel, Microsoft Word, PowerPoint, E-prime, Qualtrics, Dedoose, NVivo.

## OTHER INTERESTS

My extra curricula activities tend to revolve around sport and fitness. I enjoy strength training, running, spin and yoga. When I have the opportunity, I love to wakeboard and snow-board. I also aim to improve on my intermediate level Spanish skills and start a beginner's course in Afrikaans.

## REFEREES

*Current Supervisor*

**Professor Simon Handley**

Executive Dean

Faculty of Health and Human Sciences

Macquarie University

NSW,2109

Sydney

Australia

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*PhD Second Supervisor (2010-2014)*

**Dr Clare Walsh**

Lecturer in Psychology

School of Psychology

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