

## **Creativity and psychosis vulnerability:**

**An examination of similarities and differences in factors associated with early psychosis, professional creative and non-creative populations.**

**Thesis by compilation**

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**University of Technology**

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**i) CERTIFICATE OF ORIGINAL AUTHORSHIP**

**I, Julie Crabtree declare that this thesis is submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Graduate School of Health at the University of Technology Sydney.**

**This thesis is wholly my own work unless otherwise reference or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.**

**This document has not been submitted for qualifications at any other academic institution.**

**This research is supported by the Australian Government Research Training Program.**

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## **ii) Thesis by compilation**

**This is a thesis by compilation, which is structured as a single manuscript that comprises a combination of chapters and four published/publishable works (i.e. papers). While the four papers are incorporated into the manuscript, PDF versions of the published manuscripts are also included as addendum.**

**The thesis is presented as seven chapters, incorporating the four papers and including linking text to establish the relationship between one chapter/paper and the next. There is a discussion chapter and conclusion to the research, which includes a comment on how the research contributes to the field.**

### iii) List of papers/publications included

#### Chapter Two (Paper 1)

Crabtree, J. M., & Green, M. J. (2016). Creative cognition and psychosis vulnerability: what's the difference? *Creativity Research Journal*, 28(1), 24-32.

*Submitted June 2015*

#### Chapter Four (Paper 2)

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#### Chapter Five (Paper 3)

Crabtree, J. M., Hudson, J. L., Brockman, R., & Newton-John, T. R. O. Spatial working memory rather than IQ or executive function discriminates early psychosis and 'at risk' creative individuals *Early Intervention in Psychiatry*, submitted for publication

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#### Chapter Six (Paper 4)

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*Submitted August 2019, resubmitted Psychiatry November 2019, currently under review.*

**iv) List of additional publications/presentations produced by the PhD candidate**

**2015**

**1. Crabtree, J. M. Managing creative employees; ANZ: presentation to ANZ digital and marketing team; Melbourne 15 April 2015**

**2. Crabtree, J. M., & Green, M. J. (2015). Creative Cognition offers fresh insights for early psychosis. *INPSYCH Bulletin of Australian Psychological Society, June*, 12-13.**

**2016**

**3. 'Understanding the creative artist', Crabtree, J.M.; Crabtree, J.R.**

Crabtree, J. M., & Crabtree, J. R. (2016). Understanding the creative artist. In M. Miner & M. Dowson (Eds.), *Creativity and Spirituality: A multidisciplinary perspective*. Charlotte, NC: Information Age Publishing.

**4. Crabtree, J.M. Panel on Mental Health and Music Bigsound: (Music Industry showcase) Judith Wright Centre Performance Space, Brisbane, 7 September 2016:**

**5. Crabtree, J.M. Surviving pilot season in LA: Understanding Mental Health issues for actors over pilot season. Media Entertainment and Arts Alliance, Sydney: July 8 2016**  
Melbourne: July 15 2016

**2017**

**6. Crabtree, J.M. Living with a Creative Mind; Developing a positive culture for creative arts Presentation to academic staff UCQ: Strategic Day University of Central Queensland School of Education and Arts, Brisbane Queensland, 14 August 2017.**

**2018**

7. Crabtree, J.M. Living with a creative mind: **Media Entertainment and Arts Alliance Graduation Day for Actors**, Eternity Theatre, Sydney, 24 August 2018.

8. Crabtree, J.M. 'Shared Vulnerability Between Creative and Psychosis Populations: How to Develop Resiliency' **19<sup>th</sup> International Mental Health Conference**, Gold Coast Queensland, 9 August 2018.

## 2019

9. Crabtree, J.M. Keynote address: Living with a Creative Mind: Equity Foundation: **Ways to Wellness Conference**: 4 March 2019, Victorian Arts Centre, Melbourne.

10. Crabtree, J.M. 'Spatial working memory rather than IQ or executive function discriminates early psychosis and 'at risk' creative individuals' **GSH Student Research Presentations**, UTS, 29 March 2019

11. Crabtree, J.M. Living with a creative mind: **Media Entertainment and Arts Alliance Graduation Day for Actors**, Eternity Theatre, Sydney, 16 August 2019

12. Crabtree, J.M. 'If studying artistic creativity is a risk factor for psychosis, how do we screen for vulnerability?' **Society for Mental Health Research conference**: Melbourne 28-29 November, abstract submitted.

## **v) Acknowledgements**

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## **Viii) List of abbreviations in alphabetical order**

### **A**

ARCC At risk creative control

ATTA Abbreviated Torrance Test for Adults

### **B**

BWAS Baron Welsh Art Scale

### **C**

CAARMS Comprehensive Assessment of At-risk Mental State

CANTAB Cambridge Neuropsychological Test Automated Battery

CAQ Creative Achievement Questionnaire

CC Creative control

### **D**

DASS Depression, Anxiety and Stress scale

DIP Diagnostic Interview for Psychiatry

### **E**

EP Early psychosis population

### **F**

FEP First episode psychosis

### **I**

IED Intra-extra dimensional shift

### **M**

MINI Plus Mini international neuropsychiatric interview

### **N**

NEO- FFI-R	Five factor personality inventory
NCC	Non creative control
<b>O</b>	
O-LIFE	Oxford-Liverpool Inventory of Feelings and Experiences
OPCRIT	algorithm (an electronic system used for psychiatric diagnosis)
<b>P</b>	
PANSS	Positive and Negative Syndrome Scale for Schizophrenia
PSQ	Paranoid and suspiciousness questionnaire
<b>S</b>	
SWM	Spatial Working Memory
<b>T</b>	
TEMPS A	Temperament Evaluation of the Memphis, Pisa, Paris, and San Diego Autoquestionnaire
TDF	Test of Divergent Feeling
<b>U</b>	
UHR	Ultra high risk
<b>V</b>	
VVIQ	Vividness of Mental imagery Questionnaire
<b>W</b>	
WASI	Wechsler Abbreviated Scale of Intelligence

## ix) Abstract

In a recent large case-control study, MacCabe and colleagues (2018) identified students studying creative subjects, as having significantly higher odds of developing schizophrenia and bipolar disorder than non-creative students. They assert that, it is this creativity that predates the onset of psychosis and advocate for further research. Given the aforementioned emerging research, the question of what enables an imaginative, sensitive, creative individual to continue on a productive path rather than a trajectory of delusions and psychosis is of increasing importance. Research into what distinguishes the clinical from creative and non-creative populations will be presented in this thesis. Research from a diverse sample of participants, including individuals with an experience of early psychosis (EP), creative professionals with subclinical psychotic symptoms (at-risk creative control ARCC), creative professionals with no psychotic symptoms (creative controls CC) and a non-creative control (NCC) population were examined. In three studies, measures of creativity, personality, schizotypy, cognition, anxiety and stressful life events were undertaken to determine what factors may differentiate the early psychosis (EP) from the creative population. On measures of creativity, personality, anxiety and schizotypy, the creative control (CC, ARCC) and early psychosis (EP) groups recorded significantly higher scores than those of the NCC group. In particular, the EP and ARCC groups were more closely aligned than expected. In terms of cognitive assessment the only difference recorded

between the ARCC and EP cohorts was significantly higher results on spatial working memory (SWM) (but not IQ, executive function or negative priming) recorded by the ARCC. A further differentiating factor was the EP's incidence of early childhood trauma and measures of perceived hardship compared to ARCC, CC and NCC. These results provide further evidence for the close association between creative professionals and those with psychosis. Furthermore it illustrates the need for careful mental health assessment and targeted psychological intervention for creative populations. A *prodrome model of vulnerability* is proposed to illustrate the differences between the two (ARCC and EP) populations. This model is suggested to form the basis for further longitudinal research and future assessment models. This research refines our understanding of the vulnerabilities and protective factors that differentiate early psychosis and creative individuals. Moreover it introduces innovative therapeutic approaches for intervention within clinical populations.