

**AN EXPLORATION OF THE LEARNING STRATEGIES USED BY
WOMEN WHO DISCLOSE WITH A
FORMAL DIAGNOSIS OF ATTENTION DEFICIT HYPERACTIVITY
DISORDER (ADHD) IN THE CONTEXT OF HIGHER EDUCATION**

by

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ABSTRACT

Institutions of higher education (HE) need to take into account the increasing number of enrolling students diagnosed with attention deficit hyperactivity disorder (ADHD) and research to further investigate the academic needs of these students is required (Weyandt & DuPaul, 2008). Although underachievement is a prominent feature associated with ADHD (DuPaul et al., 2009), the literature on academic support for these students in HE is limited. Specifically, understanding the particular needs of women learners with ADHD is a priority so that issues impeding their academic success might be prevented (Hinckley & Alden, 2005; Quinn, 2005; Waite, 2010). The aim of this study was to develop understandings of the strategies used by women with ADHD to support their learning within the contexts of HE. In this study the lived experiences of four female university students who identified with a formal diagnosis of ADHD were explored using Narrative Methodology. Documentation of a medical diagnosis from a treating psychiatrist or a general practitioner was required for participation. Semi-structured, in-depth, narrative one-on-one interviews and photography were the methods chosen to understand the learning strategies used by these women, what support they needed in order to achieve academic success, and how well they were able to function in the HE environment. The recorded interview data were transcribed and analysed thematically to gain insights into the key strategies for learning used by this group of women.

This research reveals that the women participating in the study used a range of strategies to support their learning. These included visual-spatial strategies, time management strategies, strategies to aid concentration and support people to promote engagement with higher education studies. The research highlights the ways these strategies are not isolated or fixed in time but are interrelated and developed through a complex interplay of contextual factors such as diagnosis, medication, greater self-awareness, stability and external support. This is important information that could be used to contribute to better educational outcomes

for individuals with ADHD, as ADHD is on the edge of recognition by law as a cognitive difference due to emerging evidence of its genetic underpinning (Arnold et al., 2010). The thesis argues for an approach to supporting students with ADHD in HE that is grounded in a dynamic cluster of learning strategies. Continued research is needed with an expanded group of female students with ADHD to further develop understandings of the array of strategies that may support both learning and teaching.

Keywords: ADHD, learning strategies, women, higher education

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STATEMENT OF CANDIDATURE

I certify that the work in this thesis entitled “Learning strategies of women who disclose with a formal diagnosis of ADHD in the context of higher education” has not been previously submitted for a degree, nor has it been submitted in part for the requirements of a degree to a university or any institution other than Macquarie University.

I also certify that the thesis is an original piece of research and it has been written by me. Any help and assistance that I have received in my research work and the preparation of the thesis itself have been appropriately acknowledged.

In addition, I certify that all information sources and literature used are indicated in the thesis itself and have been appropriately acknowledged.

The research presented in this thesis was approved by Macquarie University Ethics Review Committee, Reference No: 5201400307 on 28/3/14.

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CHAPTER 1: INTRODUCTION

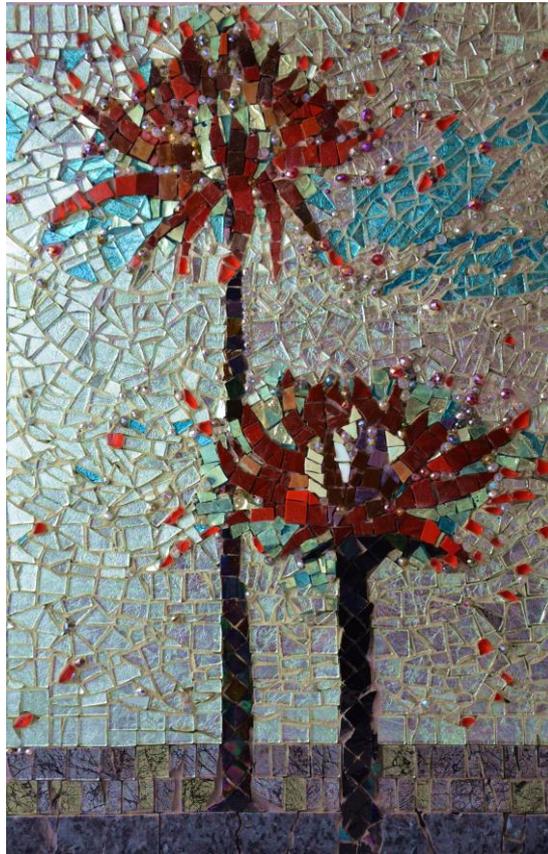


Figure 1, GyMEA Lilies.¹

1.0 Background

There are very few human beings who receive the truth, complete and staggering, by instant illumination. Most of them acquire it fragment by fragment, on a small scale, by successive developments, cellularly, like a laborious mosaic (Anais Nin, Fall, 1943).²

The metaphor of a mosaic (Anais, 1943) is used here to describe human experience, a process of bringing fragments of knowledge and understandings together, by successive developments over a period of time. This study explores the ‘fragments’ of lived experience,

¹ Young, C. (2014). *GyMEA Lilies*, detail, triptych [Mexican Smalti, Swarovski crystal, glass and granite on substrate]. 90 cm (h) x 110 (w). Collection of the artist (author), on loan to Macquarie University.

² Nin, A. (1943). Stuhlmann, G. (Ed.) *The Diary of Anais Nin*. Vol. 3 (1939-1944). Harcourt Brace Jovanovich Publishers: Orlando Florida. ISBN: 0-15-626027-1
<https://www.goodreads.com/work/quotes/6342328-the-diary-of-ana-s-nin-1939-1944> retrieved 21/9/14

developed and accumulated successively over time of four female university students living in Australia who identify with a medical diagnosis of attention deficit hyperactivity disorder (ADHD). Specifically, the study examines their experiences in order to understand the strategies they used to support their learning during their studies at university. Based on an exploration of these experiences this thesis argues for an approach to supporting students with ADHD in HE that is grounded in a dynamic cluster of learning strategies. The strategies used to support learning were not isolated or fixed in time but were interrelated and developed through a complex interplay of contextual factors such as diagnosis, medication, greater self-awareness, and the stability provided by external support.

1.1 Research Aim and Objectives

The aim of this research was to explore and reveal what strategies female students with ADHD used in their studies to support learning. I was interested to know more about how women with ADHD who study at university manage to be successful in their learning and complete their work and ultimately graduate. The main objectives were to:

- (a) Determine what aids students' capacity to get started; stay on task and sustain attention on their study; regulate their emotions; manage their ability to retain information; and complete study tasks.
- (b) Identify and cluster strategies to assist with students' attitude towards learning, motivation and successful completion of their studies.
- (c) Develop a hierarchy and sequence of strategies that support students with organisation and time management issues.

1.2 The Research Question

The main question for exploration in this study was what strategies do female students studying in HE who have disclosed with a medical diagnosis of ADHD use to support their

learning?³ What was helpful to the students and how did the strategies they used enable them to navigate any challenges in their learning?

1.3 Need for the Research

Research exploring how students with ADHD in HE manage and complete their studies is an area that still requires investigation, as little is known about what contributes to their success. As DuPaul et al. (2009, p. 245) comment, the empirical study of ADHD in higher education is still “in its infancy” and “research is sorely needed to further investigate the academic, social and psychological” needs of students diagnosed with this disorder (Weyandt & DuPaul, 2008, p. 312). Institutions of HE need to be aware of the potential legal implications that could occur as a consequence of discrimination against students with ADHD if their learning needs are not professionally addressed (Arnold et al. 2010). Legal scholars, Arnold, Eastal and Rice (2010) propose that ADHD should be recognised as an innate cognitive difference, and mention universities to be at risk of breaking Workplace Discrimination law when people with ADHD find it difficult or impossible to function and conform in context of certain administrative functions (Arnold et al., 2010). A recent Australian Federal Parliamentary Inquiry (2012) also recommended that educational institutions provide training for educators and coaching for students with mental health needs (House Standing Committee, 2012). These factors augur the need for special consideration for learners with ADHD in HE.

For women with ADHD studying in HE there is precious little knowledge and research about their unique needs, educational patterns, and the career obstacles they may face (Kelley et al., 2007). Women with ADHD are an “under recognised, under studied and insufficiently treated” (Quinn, 2005, p. 585) sub-group of the ADHD population. Although coping with increasing life demands is acknowledged to be particularly difficult for women with ADHD who are “in postsecondary and graduate or professional level academic settings”

³ For the purpose of this study a medical diagnosis of ADHD will be regarded as evident if the student has documentation from a treating Psychiatrist or a GP that states they have been diagnosed with ADHD.

(Quinn, 2005, p.580), only one study by Hinckley and Alden (2005) has addressed what supports academic success for women. Added to feelings of internal restlessness and organisational difficulties, women with ADHD also face gender focused societal expectations, which increase their burden and sometimes cause a silent struggle (Waite, 2010). It may not be recognised that ADHD is present in a student, therefore institutions of higher education need to be alert to the symptoms of ADHD (Waite, 2010).

1.4 Methodology

Narrative inquiry is acknowledged to be a valuable approach to researching people's experiences of learning (Clandinin, 2006) as appropriate for exploring the lived experiences of women with ADHD. The aim was to explore and reveal what strategies female students with ADHD used in their studies to support learning. Narrative construction is an ideal approach with which to capture experience and extend that experience to others (Clandinin & Rosiek, 2006).

Stories are recognised as a valuable medium for research participants to structure their experiences. However sometimes words alone are not sufficient to communicate experience. Therefore photo narrative was also included to provide another method for sharing experiences. Volunteer female university students aged over 18 years who met the research requirement for documented evidence of a formal diagnosis of ADHD were invited to participate in an in depth, one-on-one interview where they talked about the strategies they used to support their learning.⁴ The students were asked to talk about their experiences of learning at university, and invited to contribute photographs that represented and explained further the learning strategies they used.

⁴ See Appendix E for interview questions.

1.5 Reasons for the selection of women for investigation

It was evident from the literature review that historically, criteria for the identification of ADHD was focused exclusively on hyperactive boys (Arnold et al., 2010; Faigel, 1995; Mahone & Wodka, 2008). Only recently has any research focused on adult ADHD and the adult experience of higher education (DuPaul et al., 2009; Frazier et al., 2007; Reaser et al., 2007; Shaw-Zirt et al., 2005; Swartz et al., 2005; Toner, 2009). Recognition of females with this disorder has lagged even further behind. Research articles that address specific gender differences for women with ADHD underscore societal expectations of gender role norms as an added burden to women with attention disorders (Hinckley & Alden, 2005; Waite, 2010). Being in danger of not completing a college education has “serious consequences for later academic and psychosocial functioning” of women with ADHD (Nussbaum, 2012, p. 95). Nussbaum’s work (2012) identified an important gap in the literature and highlighted an opportunity for research to understand what had helped women be successful in their education, specifically the strategies they had used to support them with their studies at university.

1.6 Organisation of the Thesis

The thesis is organised into five chapters. Chapter 1, the introductory chapter outlines the study and the need for this research. Chapter 2 then provides a review of the literature which is organised into; the historical background to the recognition of ADHD, the prevalence of ADHD in the population, some of the issues experienced by individuals diagnosed with ADHD that can impact on learning, and the strategies already identified in the literature that support learning for students with ADHD. A cornerstone in this literature review is the article by Arnold et al. (2010) as it used HE as an example of the need for ADHD to be recognised in law to ensure equal access to education and employment for individuals with ADHD. The methodology chosen to meet the aims of the research is discussed in Chapter 3 and Chapter 4 presents the findings that emerged from the collection

of data. In Chapter 5 the findings are discussed in relation to the literature reviewed in Chapter 2 and this is followed by the conclusion and recommendations for future research.

CHAPTER 2: REVIEW OF THE LITERATURE ON ADHD

2.0 Overview

In this chapter the review of literature for the study is organised into three key areas: (a) the historical context for ADHD, the definition of ADHD and learning strategies as they are used for the purpose of this study (b) the prevalence of ADHD in the population and some of the issues experienced by individuals diagnosed with ADHD and (c) existing strategies drawn upon to support learning by students in higher education who have a diagnosis of ADHD.

For the purpose of this study the acronym ADHD describes both Attention Deficit Hyperactivity Disorder and Attention Deficit Disorder (ADD).⁵ The search strategies for this literature review included using the following databases: BioMed Central, PsychInfo, Ovid, Proquest, Jstor, Education Resources Information Centre (Eric), Academic Search Primer, Google Scholar and MQ Multisearch. The Booleans used for the search included: ADHD, university, college, executive dysfunction, visual spatial, women, gender, sex differences, accommodations, coaching, learning strategies and learning difficulties. Extended searches were then conducted through similar auto-generated articles and their reference lists. Searches included material published between 1994 and 2014.

2.1 Historical Background

There have been reports of ADHD in existence prior to the characterisation of ADHD in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM).⁶ Uneasy children have been given recognition in tradition and folklore and in historical reports as follows.

Hyperactivity became the subject of a medical document in 1798 when Alexander Crichton wrote *An inquiry into the nature and origin of mental derangement*, a perceptive description

⁵ ADHD will be used throughout the study except where the acronyms ADD, AD(H)D and ADD/ADHD appear in a direct quote, in which case the authors' usage will be followed.

⁶ The *Diagnostic and Statistical Manual of Mental Disorders* (DSM), published by the American Psychiatric Association, offers a common language and standard criteria for the classification of mental disorders. http://en.wikipedia.org/wiki/Classification_of_mental_disorders retrieved 30/9/14

of attentional disorders (Palmer & Finger, 2001). In a lecture series in 1902 George Still 1902 discussed hyperactive behaviour as a moral defect. Worldwide epidemics of encephalitis from 1917-1923 resulted in the first neurasthenic and psychiatric clinics for the observation and treatment of children with disease-induced ADHD symptoms, one in America and one in Europe. In 1923 Kramer and Pollnow published *Über eine hyperkinetische Erkrankung im Kindesalter*; followed by Kahn and Cohen describing “hyperkinesis” in 1937. In the same year, Bradley noticed test-taking improvements for children taking the *New Stanford Achievement Test*, as reported in *The Behaviour of children receiving Benzedrine*. In the 1950s researchers further characterised Hyperkinetic Behavior Syndrome in children and Hyperkinetic Impulse Disorder.

Douglas conducted the first research investigating specific disabilities of hyperactive children in 1970, concluding that a “core group of symptoms involving inability to sustain attention and to control impulsivity can account for most of the deficits” (World Federation of ADHD, CPO Hanser Service, 2013).⁷ In 1994, Shaywitz et al. described a “unitary, empirically derived classification for ADD [for] consistency and generalizability of findings across investigation and across disciplines” (Shaywitz et al., 1994, p. 1), which was endorsed by world health classification systems delimiting mental health disorders.

2.2 Definition of ADHD

Historical evidence alludes to the existence of ADHD and definitions of ADHD are currently still evolving. Scientific and medical discourse has identified ADHD as a bio-psycho-social aetiology involving complex gene-environment interactions (Arnold et al., 2010; Barkley, 1997, 2006; Colley, 2010; Dawson, 2012; Faraone et al. 2005; Morgan, 2012). This scientific/medical literature uses terminology such as a neuro-psychiatric disorder, neuro-diversity, “neurocognitive behavioural developmental disorder” (Antshel et.al. 2011, p. 10) and “cognitive difference” (Arnold et al., 2010, p. 359) to characterise ADHD. Some

⁷ <http://www.adhd-federation.org/world-federation-of-adhd/short-history-on-adhd.html> retrieved 5/5/14

interpretations of ADHD offer another view suggesting that it is a “culturally constructed” phenomenon (Timimi & Taylor, 2004, p. 8). Within the educational literature about ADHD the exploration of education, social and political questions concerned with ADHD is apparent (Hattam & Prosser, 2008). To date, Australian educational research concerned with children predominantly presents the argument that schools, parents and psychiatry have socially constructed ADHD (Dillon & Harker, 2006; Graham, 2010, 2008a, 2008b, 2007a, 2007b). In response to constructionist interpretations of ADHD Prosser comments, that whilst “there is ongoing debate about the reality and construction of the disorder, it is a phenomenon that it is real in its consequence” (Prosser, 2009, p. 607).

In Australia, the statutory document *Clinical Practice Points on the Diagnosis, Assessment and Management of Attention Deficit Hyperactivity Disorder in Children and Adolescents* defines ADHD as a “bio-social phenomena with an array of symptoms that interplay with learning, social and physical environments” (National Medical and Health Research Council [NMHRC], 2012, p. 10).⁸ This thesis considers ADHD to be a cognitive disorder of genetic origin that is manifested in thoughts and behaviour that can be helped or hindered by environmental factors.

2.3 ADHD in the Context of HE

The study of adult ADHD is still “in its infancy” (DuPaul et al. 2009, p. 245), thus there is little information available in the literature on adults with ADHD and their experience of HE (DuPaul et al., 2009; Frazier et al., 2007; Reaser et al., 2007; Toner, 2009; Swartz et al., 2005). Shaw-Zirt et al., (2005, p. 111) support this view and suggest there is a “dearth of information” that specifically addresses the learning needs of students with ADHD in HE. The research is generally limited because studies are considered to be “few, preliminary in nature, or methodologically weak” (Weyandt & DuPaul, 2008, p. 316). Of the available

⁸ Of note is that this policy document does not mention adults, although ADHD can “persist into adulthood in up to 70% of cases, [which] means there will be a significant number of students with AD(H)D at university – recognised or unrecognised” (Colley, 2009, p. 170).

literature in the context of HE there was some evidence found that recognised a specific pattern of academic impairment combined with inconsistent performance that is particular to students with ADHD (Barkley, 1997; Brown, 2006, 2008; Castellanos et al., 2006; Heiligenstein et al., 1999; Parker & Boutelle, 2009; Shaywitz, 1994). Studies on ADHD have relied on small samples, on-line surveys and self-reports (Burlinson & O'Dwyer, 2013). No studies have been found researching formally diagnosed students (Green & Rabiner, 2012), longitudinal studies are lacking, as is research into gender differences in the area of ADHD (DuPaul et al., 2009). It is not known what coping strategies successful students in HE use or whether academic strategies such as coaching improve academic grades. However, recent publications on coaching do herald developments in methods used to explore ADHD (Prevatt & Yelland, 2013; Prevatt & Young, 2014).

Only eight articles written in English were located that refer to women with ADHD, with just one being on women with ADHD in the context of HE. This related to a study on women with ADHD at a special needs college (Hinckley & Alden, 2005). No research on women affected by adult ADHD in Australia was found. Females who have ADHD are acknowledged to be an “under recognized, understudied, and insufficiently treated subgroup who need closer examination” (Quinn, 2005, p. 585). There are complex reasons for the scant attention given to women with ADHD, one being that diagnostic scales were developed on the basis of the symptoms displayed by hyperactive male children, which fail to identify females with ADHD. Reasons for the under-identification of women with ADHD relate to female social conditioning where women are socialised to be quiet (Faigel, 1994). Boys with ADHD are not socialised to repress their actions and verbal expressions to the same extent as females, making it more likely they will be diagnosed with ADHD, resulting in the likelihood that they are the subject of the majority of research investigations (Mahone & Wodka, 2008).

The research on women with ADHD in post-secondary education by Hinkley and Alden (2005) noted that regardless of academic potential or accomplishment, the women with

ADHD fear that “achievements on one day won’t translate to the next” (Hinckley & Aiden, 2005, p. 16). Under-identification of the attentional differences in female children has “serious consequences for later academic and psychosocial functioning” of women with ADHD (Nussbaum, 2012, p. 95). Research articles that address specific gender differences for women with ADHD underscore societal expectations of gender role norms as an added burden to women with attention disorders (Hinckley & Aiden, 2005; Waite, 2010).

It is clear that as increasing numbers of students both male and female having a diagnosis of ADHD are entering university (DuPaul et al., 2009; Frazier, 2007; Kane et al., 2011; Shmulsky et al., 2007; Toner, 2009). Hence “research is sorely needed to further investigate the academic, social and psychological” needs of students with this disorder (Weyandt & DuPaul, 2008, p. 312).

2.4 Prevalence of ADHD in the Population

The quality and severity of ADHD within the population is recognised across the literature, which estimates the prevalence to be 2% to 8% in the general population across the range of socio-economic, ethnic, gender and age differences (Arnold et. al., 2010; DuPaul et. al., 2009; Faraone et. al., 2005; Moffit & Melchoir, 2012; NMHRC, 2012; Norvilitis et.al. 2010; Rodriguez et al., 2007; Toner, 2009). According to DuPaul et al. “approximately 2% to 8% of students in higher education self-report clinically significant symptoms associated with ADHD and [face] considerable difficulties” in the pursuit of higher education (DuPaul et al., 2009, p. 236-7).

2.5 Issues Experienced by Individuals Diagnosed with ADHD

In reviewing the literature for the study it became clear that the research revealed a range of issues that can be experienced by people with a diagnosis of ADHD. This section of the review outlines some of these issues as they offer some helpful information when considering the needs of students with ADHD. The issues identified that can impact on

student learning include: the impact of educational environments, co-occurring health conditions, procrastination, giftedness and the stigma sometimes attached to the disorder.

2.5.1 Educational environments.

The potential inspiration and opportunity for students with ADHD to shine in their studies can be restricted in some education environments (Arnold et al., 2010), where movement and conversation are constrained, frustrating the relational and contextual learning pattern of the individual with ADHD whose cognitive strengths lie outside an institutional setting (Du Paul et al., 2009, p. 49). Insufficient mental stimulation may cause neurological diffusion that blocks concentration, resulting in inattention and in problems processing information with accompanying mental and physical distress, causing poor educational performance (Reaser et al., 2007).

Dependent on the environment for mental stimulation, inattention and/or hyperactivity may be exacerbated for students by tensions with particular academics and/or the intellectual, social, technological and administrative environment (Arnold et al., 2010; DuPaul et al., 2009; Toner et al., 2009). On-line learning environments are one of many institutional obligations that can restrict people with ADHD from thriving in HE (Toner, 2009, p. 137). Arnold et al. (2010) discuss the antipathy between the cognitive strengths of students with ADHD and weaknesses in attending to organisational or technical details that can be paralysing for individuals, using bureaucracy in the university setting as an example of workplace discrimination against ADHD (Arnold et al., 2010, p. 368). Following *The Parliamentary Inquiry into Mental Health and Workplace Participation* (House Standing Committee, 2012), the NSW Mental Health Commissioner quoted “intimidating campuses and inflexible course structures as barriers to participation” in HE (Feneley, 2013). It has been recommended that parents and physicians “counsel university-bound students with ADHD to

contact the university accessibility services to provide them with academic guidance” in respect of course and campus challenges (Gropper & Tannock, 2008, p. 574).

2.5.2 ADHD and co-occurring conditions.

ADHD can create a susceptibility to disruptions in personal and professional life (Harpin 2005), which can be devastating (Arnold et al., 2010; Barkley et al., 2002). Co-occurring conditions have been identified in the literature and include issues such as anxiety, depression, sleep disturbances, relationship difficulties, divorce, job failure, substance abuse, job failure and incarceration (Adamou et al., 2011; Arnold et al., 2010; Gordon et al., 2012; Green & Rabiner, 2012; Mordre, 2012). The rate of ADHD in suicidal populations is “consistently high in completion, attempts and ideation” (Impey & Heun, 2011, p. 1), irrespective of ethnicity or gender (Park et al., 2011; Manor et al., 2010; Cho et al., 2007). A complication for individuals is that these issues can mask ADHD, increasing the risk that it is unidentified and undiagnosed, or misdiagnosed (Arnold et al., 2010; Asherson et al., 2012; Currie & Stabile, 2006; Kooij et al., 2010; Remschmidt, 2005; Taylor in Timimi & Taylor, 2004).

Co-occurring conditions in students with ADHD can lead to lifelong difficulties with learning, organisational and administrative tasks as a result of internal chaos, which may result in the emergence of a “double life” (Toner et al., 2006, p. 251).⁹ Scholastic underachievement caused by ADHD has been linked to delinquency. Sometimes people with ADHD who do not complete an education and gain satisfactory employment can become an “economic burden to society in terms of medical treatment and indirect costs related to high

⁹ Toner et al. theorise the social–psychological process of how adults with ADHD deal with the problem of ADHD as “The Double Life”. The theory demonstrates that adults with ADHD live in a state of chaos while striving for control. When the state of control is achieved it is never permanent, and loss of control is inevitable. The lives of these adults are constantly cycling through chaos and control, and this results in their leading a “double life” (Toner et al., 2006).

risk behaviours and their consequences” (Rodriguez et al., 2007, p. 2). DuPaul et al. (2009) qualify the arid academic prospects for students with ADHD; in comparison to their peers who do not have it, postsecondary students with ADHD suffer “greater levels of psychological distress, lower GPA, less likelihood of graduating, inadequate academic coping strategies, poor organisational and study skills, time management difficulties, cognitive impairments such as inattention, intrusive thoughts [and] internal restlessness” (DuPaul et al., 2009, p. 49).

2.5.3 Stigma attached to ADHD.

There is frequently a stigma attached to mental illness in general (Horton, 2013b, p. 1309), however, an additional stigma is sometimes conferred on people with ADHD as a result of inaccurate, sensationalist representations in the media.¹⁰ Historical and socio-cultural factors have given rise to disputes over causation, diagnosis and treatment of ADHD, enabling a small, political and media-savvy sector within the professional domain to dispute ADHD. Negative portrayals of ADHD present it as being, at worst, a fraud (Clarke, 2011; Colley, 2010; Henson et al., 2010; Horton-Salway, 2010; Prosser, 2009a, 2009b, 2006a, 2006b; Ray & Hinnant, 2009; Symonds, 2006). In the face of medical and scientific evidence, it appears that debates that question the validity of ADHD are ideological and authors who believe ADHD is a social construction (Breggin, Conrad, Shrag, Divosky & Walker in Rafalovich, 2001; Rafalovich, 2009; Timimi in Timimi & Taylor, 2004) are inclined to reproduce myths and misinformation (Colley, 2010), which can prevent people with ADHD from accessing help and treatment (Taylor, 2011; Timimi & Taylor, 2004).

The socio-cultural view considers that parenting practices and the contemporary social expectations of children produce ADHD behaviours. A critique of ADHD as the

¹⁰ The extent of influence on the media from critiques of ADHD can be found in 16 separate meta-studies on the subject in different continents. Each meta-analysis finds that the media does not accurately convey the lived experience of ADHD (Clarke, 2011; Colley, 2010; Henson et al., 2010; Horton-Salway, 2010; Prosser, 2009, 2006; Ray and Hinnant, 2009; Symonds, 2006). Negative portrayals of ADHD increase the likelihood of stigmatisation, impacting treatment, symptom aggravation, life satisfaction and mental well-being, not only for those people with ADHD, but also for those associated with them (Mueller et al., 2012; Ray and Hinnant, 2009).

medicalisation of childhood (Timimi, 2004, 2002) gained widespread influence in the literature, media and popular opinion, and this is evident amongst educational researchers in Australia (Dillon & Harker, 2006; Graham, 2007, 2009; Tait, 2006). The social-constructivist proponents of ADHD (Graham, 2010, 2006; Rafalovich 2004, 2001; Timimi 2004, 2002; Timimi and Taylor 2004) reproduce a notion that the recognition of ADHD only benefits “the needs of pharmaceutical companies, doctors, some parents and teachers” (Dillon & Harker, 2006, p. 10). Graham (2010, p. ix) describes ADHD as having “celebrity status”, and questions the “‘truth’ of ADHD”, and claims that, “despite considerable effort to prove its existence, ADHD still suffers from a crisis of legitimacy”. Timimi and Moncrieff (2011, p. 334) “suggest that adult ADHD represents one of the latest attempts to medicalise ordinary human difficulties, and that its popularity is partly dependent on marketing and the reinforcing effects of stimulants”. Comments such as this can be unhelpful and only add to the stigma experienced by those with a diagnosis of ADHD.

2.5.4 Executive function (EF) and procrastination.

A difference between people who do have ADHD and those who do not has been identified as differential executive function (EF) (Arnold et al., 2010; Barkley, 1999; Brown, 2005, 2006, 2008; Selikowitz, 2012; Toner, 2009).¹¹ Poor executive dysfunction is considered to be a predictor of academic procrastination due to the cumulative inability of individuals for self-regulation, decision-making, initiation, planning and organisation, self-monitoring,

¹¹ Executive Function operations:

- *Activation*: organisational difficulties with routine procedures like form filling
- *Focusing*: problems with distraction – noises, sights, smells are experienced as if without barriers. Long meetings are difficult for people who need interaction, communication and movement, and for tasks to be fluid and unstructured in order to function.
- *Alertness, sustaining effort and processing speed* – when disengaged, people with ADHD become “overwhelmingly tired”.
- *Managing frustration and modulating emotions*: behaviours that “violate workplace rules of etiquette” can also make people with ADHD “persuasive in their communication”.
- *Utilising working memory and accessing recall*, an example being poor time estimation skills and delays in processing information – in contrast to possible outstanding long-term memory
- *Monitoring and self-regulating behaviour*: endemic problems with impulsivity, interrupting others (Arnold et al., 2010, p. 364-5).

working memory and task monitoring (Rabin et al., 2010). According to Colley (2009, p. 172), EF can “undermine the management system of the brain” and there is considerable evidence of the need to support EF for students with ADHD (Alderson et al., 2013; Barkley, 1997; Brown, 2006; Castellanos et al., 2006; Gropper & Tannock, 2007; Hallelund et al., 2012; Langberg et al., 2008; Parker & Boutelle, 2009; Rohlf et al., 2012; Shaywitz, 1994). Procrastination is cited as a common feature of poor EF and it can be an obstacle to academic success in students with ADHD, due to low ability in the areas of time management, organisation and study skills (Schaffer, 2013, p. 90). Students’ perception is that procrastination is the *cause* of time management difficulties and blame themselves for a failure of willpower, whereas it may be more helpful to understand how such procrastination can be a neurological effect which results in an inability to maintain alertness, increase focus or sustain thought, effort, and motivation (Hunt, 2006).

Chronic procrastination or inattention can occur when those with ADHD are required “to stay focused and perform routine tasks when they have no control” yet they have the ability to become engrossed in the kinds of tasks that capture their attention (Arnold et al., 2010, p. 367-368). The “situational variability” (Brown, 2008, p. 408) of this attention paradox is considered to be a major source of misunderstanding about ADHD. Prolonged periods of concentration that can be demonstrated by people with ADHD have been coined as “hyper-focus” (Arnold et al., 2010, p. 361), which can be misinterpreted as wilful selective attention.¹²

Relational expectations highlight that women with ADHD in HE may become overwhelmed by competing demands on their attention, which they are unable to prioritise, and this too can lead to procrastination. To help with inattention, organising and taking tasks through to completion, as well as motivational challenges that are specific to women, Waite

¹² An illustration of this contradiction can be seen in “lecturers who can be brilliant at times, delivering inspiring lectures that affect individual students in a life-changing way, but at other times, they may appear disorganised, unprepared and confusing” (Arnold et al., 2010, p. 368).

recommended coaching for its “functional pragmatics” (Waite, 2010, p. 191). Procrastination and lack of focus is not a problem of willpower, it is more usually a problem of neurological *activation* and difficulty with concentration.

2.5.5 Giftedness and ADHD.

There are “unique problem solving capabilities [through] insight and self-transcendence” in high functioning people with ADHD (Honos-Webb, 2008, in Arnold et al., 2010, p. 371). Barkley, Skrownoek, Gollmar and White cited in Hua et al. (2014, p. 3) elaborate on the association between giftedness and ADHD using the following phrases: a) “remarkably imaginative, resourceful, and curious”; b) “average to above average intelligence, divergent thinking, and increased long-term, episodic memory”; and c) “demonstrating strengths in the fluency, originality, and elaboration of their ideas”. ADHD traits such as “high tolerance for chaos and ambiguity, can lead to imaginative and novel perspectives” (Hallowell and Ratey, 1995 in Arnold et al. 2010, p. 370) and gifted students with ADHD “can produce remarkable results in short periods of time” (Flint in Hua et al., 2014, p. 76). However, despite their abilities and efforts to achieve, Arnold et al. (2010) identify a lack of tolerance for differences in the behaviour of people with ADHD due to expectations that they conform to the restrictions of standardised workplace or learning environments. Gifted ADHD people can have difficulty “organising their creative ideas into products, and sustaining enough interest and motivation to finish a project once they had gotten past the novelty of the initial idea” (Lovecky in Hua et al., 2014, p. 76). Hua et al. (2014) recommend an important factor in the accommodation of students with ADHD is enabling their strengths and addressing their weaknesses.

Motivation, drive and the ability to surmount considerable obstacles to gain a university education (Holmes et al., 2010) are demonstrated in both high functioning and low achieving students with ADHD, who work longer and harder than their peers (Schaffer,

2013), demonstrating remarkable perseverance to overcome disadvantage (Hinkley & Alden, 2005).

2.6 Strategies that Promote Learning

Advances in understanding the dynamics of ADHD have helped identify strategies that promote learning for students with ADHD. In this study learning strategies are considered to be thoughts and behaviours (Weinstein & Meyer, 1991) that are “reflectively adapted” by individuals “to fit situations” (Klassen et al., ND, p. 1). Weinstein and Meyer (1991) suggest that there are three broad types of learning strategy; strategies for learning about content; planning and organisation strategies; and resource management of time materials and people strategies. This framework helped to guide the identification of strategies used to support learning in the literature for this chapter and also in the analysis of the research data described in chapter 3. New learning situations change the “patterns of relations” in the dynamic between learning strategies, with a result that the conception and orientation of learning strategies need to be reviewed (Duncan & McKeachie, 2005, p. 371). The review of literature for this study revealed a range of strategies found to support learning for students with ADHD, these are inquiry based learning, coaching, support people, self-advocacy and self-knowledge.

2.6.1 Inquiry based learning in a community of practice.

With the right project and the right people, gifted-ADHD learners can thrive and excel (Hua et al., 2014; Aditomo, 2013). Gains have been reported “in writing, communication and personal skills, academic functioning, critical thinking, problem solving, reflective judgement, intrinsic motivation and enthusiasm” (Hua et al., 2014, p. 78) through the use of inquiry based learning (IBL), with an emphasis on student engagement through the community of practice (COP). IBL satisfies the problem-solution curiosity seen in gifted-ADHD students. When scaffolded by a COP, a professional framework that is addressing problems in context, IBL offers the greatest yield for gifted-ADHD learners and those who

can benefit from their project work. IBL “has been resoundingly recommended for gifted students in the literature on best practice because it satisfies their need to pursue questions they pose themselves, at a deeper level” (Robinson & Shore, 2009 in Hua et al., 2014, p. 78).

2.6.2 Coaching.

Training for elite athletes was recognised as a suitable model for coaching people with ADHD (Murphy et al., 2010; Jaska & Ratey, 1999) in a “goal-driven, structured, focused relationship between a coach and client to help the client create practical strategies to be effective in daily life” (Goldstein, 2005, p. 380). Coaching is recommended as a key learning strategy for students with ADHD in educational environments to compensate for difficulties in organising, prioritising, sequencing, starting, maintaining, changing and completing tasks (Field et al., 2013; Green & Rabiner, 2012; Parker et al., 2013; Prevatt & Young, 2014; Rabin et al., 2011; Toner, 2009; Waite, 2010). Coaching scaffolds time and task-management, makes a positive contribution to the sense of purpose, self-talk, self-perception and self-regulation of students, who became more adept at identifying and accessing resources (Reaser, 2007; Parker et al., 2011, 2013).

Research into retention in higher education suggests that between 23% and 25% of Australian counterparts may drop out, interrupt, or fail to complete their programs of study, the highest level of dropout occurring in the first year (Krause et al., 2005, in Toner, 2009). As dropout rates among students with ADHD is higher than for students who are not afflicted (Quinn, 2013), preparation and ongoing coaching is recommended (Kubik, 2010) with two levels of support. A plan is developed with the student to identify their individual learning needs before delivering course-specific strategy instruction based on those needs (Allsopp, Minskoff & Bolt, 2005, in DuPaul et al., 2009, p. 245). Research is yet to be conducted on whether coaching improves Grade Point Average (GPA), but on all counts, empirical results indicate the moral support from one-to-one contact with a trusted person in the role of a coach has statistically significant improvements on learning and study skills, organisational skills

and self-esteem (Prevatt & Yelland, 2013).

Australian educational institutions have been advised to provide coaching for students with mental health needs in federal inquiry findings on employment and education (House Standing Committee Report, Parliamentary Inquiry, 2012). As the evidence-based benefits of coaching is limited to findings only recently published (Prevatt & Yelland, 2013), it may be the students with ADHD who can bring this knowledge to the attention of disability support services on campus, and ask for the help they need.

2.6.3 Self-knowledge and self-advocacy.

Students who are insightful and articulate about ADHD describe more success in implementing strategies to manage their symptoms and student life (Meaux et al., 2009, p. 254). Knowledge of “one’s own strengths and weaknesses as a learner”, prior knowledge and insight into one’s memory and behaviours can assist in the selection of appropriate learning strategies (Weinstein & Meyer, 1991, p. 18). Individuals with ADHD may “learn” about their problems and compensate by checking their work, rereading passages, or seeking additional instruction (Frazier et al., 2007, p. 60).

2.6.4 Support people.

Emotional support and encouragement for students with ADHD is invaluable (Faigel, 1995; Hinkley & Alden, 2005; Nussbaum, 2012; Schaffer 2013; Wilmshurst et al., 2011). However, if support for ADHD is available on campus, students have to independently initiate and continue to access support if they seek it through disability services (Toner, 2009). Advisors to students with ADHD could assist students manage the transition from high school to postsecondary education, a chief factor being the need to become adept at self-advocacy (Quinn, 2013; Toner, 2009).

2.7 Summary of the Chapter

This chapter provided a brief history and background to definitions of ADHD. The impact and issues experienced by individuals with ADHD was then presented and finally

some of the strategies known to support learning for students with ADHD were identified. This review of the literature confirms that only recently has it been recognised that ADHD can extend beyond childhood, and research into the learning needs of adults with ADHD in HE is emerging and requires further development. Only one article on the gender-specific needs of women with ADHD in HE was located (Hinkely & Alden, 2005) and articles by Quinn (2005, 2010) and Waite (2010) highlight the gender-specific challenges experienced by women with ADHD.

Australian authors (Arnold et al. 2010) and the Parliamentary Inquiry into Employment and Education (House Standing Committee, 2012) recommend the use of coaching as a learning strategy for individuals with ADHD. Empirical findings to confirm whether coaching improves retention or GPA are yet to be established. However, research being conducted in America on the benefits of coaching for learners with ADHD is promising (Prevatt & Young, 2014; Prevatt & Yelland, 2013), but this nevertheless is an area where further research is still required.

This study should contribute to research focused around ADHD by adding to the literature on women with a formal diagnosis of ADHD and also by developing understandings of students with ADHD in the context of HE and the strategies that might be used to support learning for these students.

CHAPTER 3: METHODOLOGY

3.0 Overview

The methodology for exploring the learning strategies used by women with a formal diagnosis of ADHD studying in higher education is presented in this chapter. I explain the theoretical framework, which guided the selection of methods used for the research, including in-depth interviews and photo narrative. The participants who volunteered to be involved in the study are described and the data collection and data analysis process are presented.

3.1 Theoretical Framework

For this research the theoretical framework is formed from Dewey's (1981) seminal and pragmatic view of experience that every-day, continual and relational knowledge is "a source of insight useful not only to the person himself or herself, but also to the wider field of social science scholarship" (Dewey, 1981b, p. 175, in Clandinin & Rosiek, 2006, p. 39). Everyday experiences of how people live their lives (Connelly & Clandinin, 1990) can be explored using the methodology known as narrative inquiry (Grumet, 1990; Huber et al., 2013; Huber & Clandinin, 2002, 2007; Larson, 1997; Lewis, 2014; McNiff, 2007; Polkinghorne, 1995; Reismann, 2008), which extends to visual narrative inquiry through the use of images to provide additional meaning to experience (Bach, 2006; Lemon, 2006, 2007; Loeffler, 2004; Rose, 2001). Exploration of experience through narrative can capture insights, which also makes it possible to deal with those experiences in a different way, to learn and for those experiences to be more manageable and less overwhelming. This research takes the immediacy of lived experiences, specifically its narrative qualities, as a "fundamental reality to be examined and acted upon" (Clandinin & Rosiek, 2006, p. 49). The life experiences explored in this research are concerned with students' experiences of learning in HE and the strategies that have supported their learning. These experiences are constructed in narrative, which is considered to be a phenomena for creating meaning and also for understanding the

learning and teaching context (Connelly & Clandinin 1990; Clandinin 2006, Clandinin et al., 2009, 2007; Scutt et al., 2013).

3.2 Narrative Inquiry

For millennia stories have been a universal and universally effective mode of communication and persuasion. We are introduced to them in childhood. They transcend time, culture, and geography. We use them to derive meaning from experience and to pass along knowledge, values, and wisdom (Aronson, 2014, p. 1456).

Using stories and images is a recognised research approach to understand human behaviour and values (Aronson, 2014). As so little is known about women's lived experience of ADHD, narrative inquiry was chosen as the methodology for this study because it is recognised as a valuable approach for researching people's experiences of learning (Clandinin, 2007). "Narrative" is both the name of the research methodology "the inquiry", and the method used to investigate students' experiences of ADHD (Connelly & Clandinin, 1990, p. 2). The subtleties, the nuances and details of the lived experience of research participants can be captured and explored through narrative. By carefully listening to personal stories that capture experiences of learning and eliciting rich detail from interviews, this approach aims to shine an inquiring light onto the specific day-to-day (Moss et al., 2009) learning strategies used by female students with ADHD in HE. In addition to learning gained from people's experience, an embedded value within the narrative method is empowerment for research participants. The opportunity provided by the research process for them to share their experiences can allow for reflection and learning for the participants (Bach, 2007). Considering research participants as people for whom there should be benefits from the process supports a democratising approach to the research project.

3.3 Visual Narrative Inquiry

Visual narrative inquiry interprets meanings from the associated story provided by the research participant, and visual representation (Bach, 2006) has been found to be an empirically robust methodology (Auken et al., 2010; Grady, 2008; Gullemin, 2010; Lapenta,

2011; Penn, 2000; Rose, 2001). “When used instrumentally, photographs can deliberate learning, reflection and growth” (Lemon, 2007, p. 183), “reinforcing concepts and having the capacity to extend learning to teaching others” (Lemon, 2006, p. 7).

Photography is a powerful research method due to its unique capacity to capture “details, memories, emotions, and meanings” (Loeffler, 2004, p. 2). The potential for photography to make learning strategies visible is noteworthy. It can assist information processing, working memory and emotional regulation. It captures the moment and can act as a “memory trigger” and serve as an “integral bridge” to transfer learning from one environment to another (Loeffler, 2004, p. 6-8). Recall and information processing, two areas of potential challenge for people with ADHD, are reported in the response to research conducted by Bach (2007) whereby the participant describes her ongoing use of photography as representing her mental processes. A further example of the benefits of photography to help to capture and analyse learning and attentional difficulties is told in a research story about a young boy called Stan (Lemon, 2006). At the beginning of the project, Stan was demonstrating low self-esteem, difficulties with focusing, sitting still and maintaining friendships. Photography in the classroom led to two changes for Sam. Firstly, his skill as a photographer was recognised. Secondly, as behaviours were directed and captured in the photographs, which were then discussed in the classroom, he became aware of the impact his own behaviour was having on others. Stan’s skill and insight, leading to changes in his behaviour, led his classmates to honour him as “Stan the Cameraman”, who “became a valued member of the learning community where previously he had been excluded” (Lemon, 2006, p. 13). This example reinforces the value of photography to the lives of research participants and supports visual narrative as an appropriate choice of method for inclusion in this study because it has the potential to consolidate teaching and learning (Lemon, 2006).

3.4 The Participants in this Study

The research participants who volunteered to be involved in this study were a mix of internal and external, female, undergraduate and post-graduate university students from opposite sides of the Australian continent (see Table 1). The participants in this study are identified with a number so their identity could remain anonymous.

Participant Code	Personal data	Internal/external student	Location	Diagnostic data	Support
Participant 1	Early 30s, married Honours student with no children.	External	Regional NSW	Misdiagnosed until withdrawing from all units at an American university in 1 st Year and seeking medical help.	Supportive husband, but largely self-reliant due to a) limited family support and social network, and b) isolation due to being an external student and without peer support through the university culture during residential schools.
Participant 2	19 year old unmarried undergraduate student in Year 2.	Internal	Large metropolitan university in New South Wales	Early identification due to prevalence in the family history and a knowledgeable mother, who is a mental health nurse. Medication was accessed and continued from Higher School Certificate years	Close and supportive relationships with identical twin and mother who is a mental health nurse; rich range of extra-curricular activities provides external support. Self-referred to disability services and receiving quality support from the disability support officer.
Participant 3	Age unidentified. Post-graduate, married student in transition and reassessing studies following an ethical/social justice issue. This has prompted a review of her career path. Participant 3 has two children.	Limbo	Western Australia	As a result of diagnosis of one of her children, Participant 3 identified with ADHD and sought medical confirmation.	Supportive husband. Unsupportive educational experiences for herself and her children. Access to specialist ADHD coach.
Participant 4	Approximately early 30s married undergraduate student in Year 3, with no	Internal	Small metropolitan university, Western	ADHD was identified when concentration problems in the first year of university	Supportive husband. By the third year at university a network of peers had been

	children.		Australia	caused reduced performance.	established. Accessing specific coaching for ADHD, which was outsourced by the university and paid for by the disability service.
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Table 1, Research Participant

3.5 Data Collection

The Macquarie University Ethics Review Committee approved the research presented in this thesis (Reference No: 5201400307, 28 March, 2014). To be eligible, participants needed to be female, studying at university who were aged over 18 year and be able to provide documentation of a medical diagnosis of ADHD. Participants who volunteered to be involved in the study were offered a \$20 gift voucher as a gesture for their time, which they received after the completion of the interviews. A small number of applicants who wished to participate were excluded because they did not have a medical diagnosis, they were not enrolled in university or transitioning to another university degree, or they were unable to commit to interview during the time allocated for field-work. One of the participants withdrew from the research after the transcript was returned. Participants were recruited to the study by advertising through flyers posted on the host university campus, and through a specialist ADHD / HE consultant in Western Australia. Four women meeting the research criteria participated in semi-structured one on one indepth interviews to talk about their experiences of learning at university. The interviews were conducted by Skype. Participants' experiences were documented or digitally recorded by the researcher at the time of the interview, transcribed verbatim by the researcher, then returned to participants to check for accuracy. Additionally, some participants included photographic images of the strategies they used to support their learning. This added further evidence that confirmed their experiences of how they approached their learning.

The purpose of this qualitative approach to research is to understand students' experiences of higher education and offer information that might be useful to others who are supporting learning for students in higher education with ADHD. The study revealed that the participants all used quite individual strategies to support their learning, and the research found that standardised approaches did not consistently work for individuals and could not be generalised. However, there were some areas of communality that emerged as themes through the data that warrant further investigation.

The role of researcher in collecting data in the field involves both observation and interpretation (Goffman, 1959; Emerson, Fretz & Shaw, 2001). Reflexivity is the practice of identifying additional roles in the research context, and it acknowledges how the experiences of the researcher may influence the way data is collected, interpreted and reported. This information can become additional data for interpretation through self-analysis on the part of the researcher (Tedlock, 2000, Charmanz, 2000). This is particularly relevant to this study because in my role as researcher I found I came to reflect more fully on my own experience of ADHD. In the interview situation I recognised my own experiences of ADHD to be present. On several occasions when one of the women in the study appeared to be having trouble organising her thoughts, I offered an example from my own experience. When I observed that something was upsetting the participant, I was alert to the situation and brought the interview back to the purpose of the study.

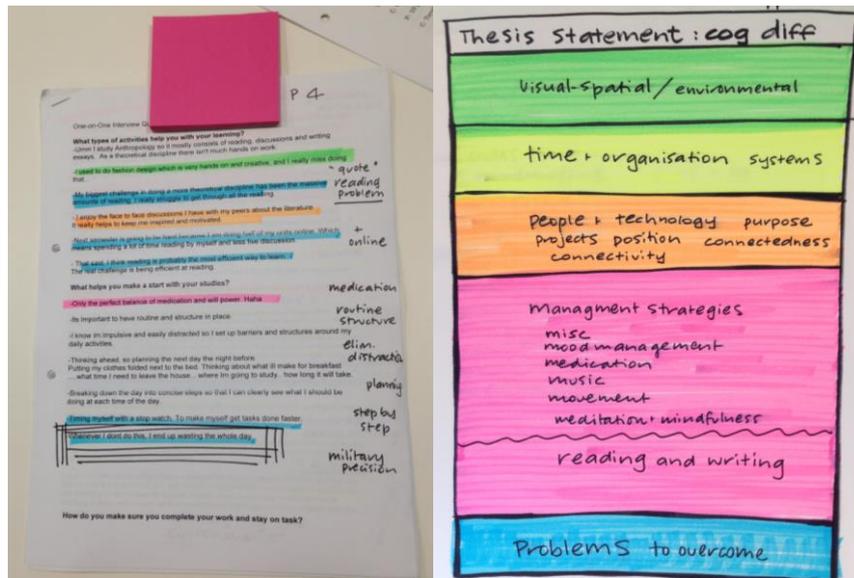
3.6 Data Analysis

The relevance of working with a small sample is supported by Yin, Crouch and McKenzie who suggests that "a small number of cases" (Yin 2001, p. 7), or even "just one 'case' can lead to new insights" (Crouch & McKenzie p. 485). Interviews were audio recorded and extensive notes were also taken. After the interview the recordings were transcribed by the researcher then returned to the participants to check for the accuracy of the

information provided. In one case the interview transcript was expanded with the participant adding to the text to further elaborate on her learning strategies.

The transcripts from the interviews were read and reread until the content was familiar. The four types of narrative analysis presented by Reismann (2008) were then used to guide the analysis of data: (a) thematic, *what* was said, (b) structural, *how* it was said, (c) dialogic/performative, the *social interaction* between the interviewees and researcher in a context, and (d) *visual narratives*. The data was analysed for content (what was said) in the first place, and presented in four thematic groups, two of which were supported by the visual narrative in the photographs. The *structure* of the narratives, how the women talked about their experience of ADHD in HE, influenced the interpretation of the data and contributed to the weight that was given to the strategies to hear which ones emerged as key. The way I *interacted* during the interviews, along with clues about how participants interacted with learning and social environments then illuminated parts of the data.

I coded the texts line-by-line, looking for clues as to the thoughts and learning strategies used by the participants. Through the process of analysis the main research question guided my thinking. As themes emerged through the data, I started a journal. Felt-tip markers and highlighters gave me direct contact with a process of pattern recognition. The derivation of themes can be seen in the following photograph:



Figures 2, 3, Thematising.

Thematic analysis of the learning strategies focused on the content of the narratives, *what* the women said during the interviews. Initially, similarities in strategic behaviour and help seeking were grouped in tentative themes, according to “content and essence” (Saldana, 2009, p. 3). This process was reviewed in a journal and photographed. Colour blocks acted as a visual prompt to stimulate non-linear thinking over four weeks. Summaries of the process were documented in a research log document, which acted as a focus tool and tracking device to trace the development of the research process (Saldana, 2009; Strauss & Corbin, 1990; Tong et al., 2007). The analysis of the data evolved further through the process of writing the thesis. Reflections on the pattern of learning strategies led to the conclusion that strategies were clustered and dynamic, occurring in the context of particular needs, with support people.

Questions about medication were not listed in the ethics application, and no information was directly solicited during interviews. However, the women all volunteered their experiences about the effect of medication on their concentration. For two research participants, the difference between achievement, underachievement or withdrawal from university was emphatically stated to be diagnosis and medication. This information may not have been as accessible had the women not been comfortable in the research environment

talking to a female interviewer with ADHD, who let this be known to the research participants.

3.7 Learning from the Research Process

To make my learning more transparent as it occurred during the process of conducting research, I documented my thoughts in a research journal kept throughout the study. I have used these notes to create an autobiographical vignette (Ambler, 2012) to convey the intensity of my experience. I have also included some reflections about the first interview and how some of the data was lost.

3.7.1 The lost connection.

In the research I developed a strong rapport with one participant who sent vivid photographs that brought the story of her learning to life, but she decided to withdraw from the research after I sent the transcript of the interview back to her to check for the accuracy of information. I reflected that reading the transcript may have been confronting for her and so respected her right to withdraw. This was an important learning experience for me. I had over-identified, over analysed and over prepared for the interview. Reflection, discussion and reading on ethical problems showed me how I built up a range of expectations that were out of kilter with the time and scope of this study. The next interviews were more bounded and productive in terms of findings. I came to see how “the lost connection” was almost a necessary experience to clarify that I am not merely looking for resemblances to my own academic experience, but insights from the experiences of others that can inform research.

3.7.2 Drawing makes my thinking visible.

Drawing makes my own thinking visible. As a learning strategy for this study, it allowed me to “develop reflexive and dialogical tools” (Agee, 2009, p. 41) using symbols and metaphors to conceptualise the framework and construction of the thesis.

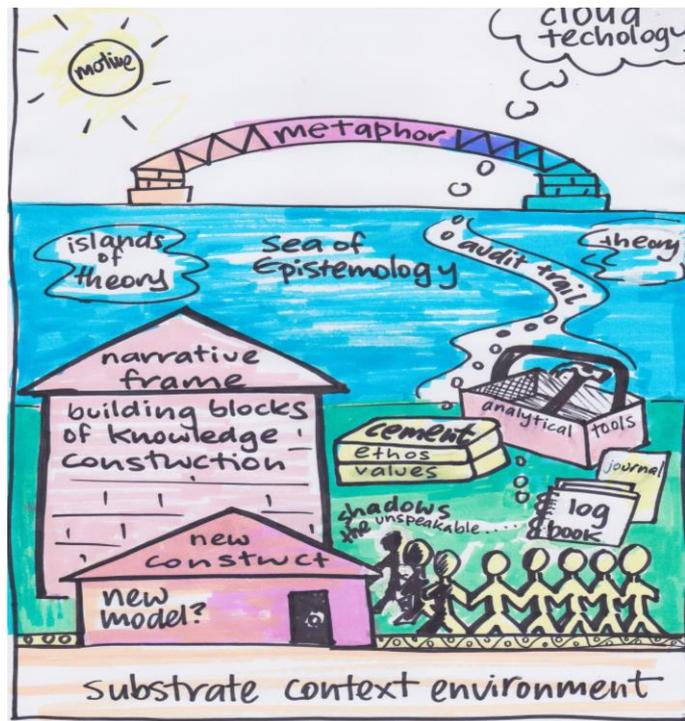


Figure 4, Composing a research design.

I drew the Sydney Harbour Bridge to span the “Sea of Epistemology”, and cement to bond the thesis (Figure 4). The building blocks as methods, stakeholders and context were put in a visual logic. Eisner has said that “metaphoric precision is the central vehicle for revealing the qualitative aspects of life” (Eisner in Janesick, 1998, p. 36). Metaphor can coin terms for learning experiences (Janesick, 1998; Hughes & Tight, 2013) and “serve as a bridge from experience to mediation, representation and symbolism, which in turn allow us to understand experience in new and deeper ways” (Oldfather & West, 1994, p. 23).

3.7.3 Portrait of my father.

Thinking how I was going to cement together the elements of the research into one construction reminded me of my father. An owner-driver, year after year he lifted bags of cement off the tray of his flattop truck, most days 3,000 times per day, then came home to maintain the truck. When he ruptured a disc in his back from the force of exertion in an attempt to release a bolt on his truck with a wheel brace he was hospitalised, in traction for six weeks. In the height of a Sydney summer, he returned to work by shuffling on his knees wearing knee protection and a weightlifter’s belt, eyes closed and sweat pouring down his

face as if a tap had been turned on over his head. What had been routine lift of the 94lb bags of cement now required enormous concentration. He would bite down on his tongue in a trance-like state. He would not, or could not stop working. I see myself in my father, a driving and driven force. This research has helped me reflect on the aftermath of intense focus, prompted by seeing the “prepare to stop” sign (Figure 5) when walking to the university campus in 2013. I taped a print of this photograph on my research notes folder, and now use post-it notes to remind me to think about stopping instead of working continually and driving myself past the point of exhaustion.



Figure 5, I have trouble stopping work.

3.8 Summary of the Chapter

The theoretical framework I used for this study, based on the role of experience in learning and research was explained in this chapter. I also described the narrative methodology and the choice of methods and the research process, including personal reflections on my own experience that unfurled and were aligned with the focus for the study. The next chapter presents the findings that emerged through the data that was collected from the interviews with the participants and the photographs they shared.

CHAPTER 4: FINDINGS

REVEALING LEARNING STRATEGIES

4.0 Overview

The following chapter presents the findings from the research, the strategies which emerged through the interview conversations that support their learning. I begin by identifying the key themes that emerged through the interview conversations with the participants. I also include a selection of photographs that are aligned with the themes and the comments made about learning strategies by the participants.

The interpretation and analysis of the findings from the research revealed that the learning strategies used by university students with a formal diagnosis of ADHD have an idiosyncratic flavour. Learning strategies are unique to individual circumstances, learning needs and preferences. However, for the purpose of making meaning regarding the learning strategies used by the participants they are grouped into four themes with flexible overlaps as follows: visual and spatial strategies; time and organisational strategies; support people; and managing concentration.

4.1 Visual-spatial Strategies

Using a variety of visual and spatial strategies such as mind-maps, post-it notes and indexing tabs to organise thoughts and help with their memory were mentioned by the research participants.

4.1.1 Visual sign-posting.

Mind maps made it possible for the participants to organise thoughts and resources and explore relationships between concepts and tasks by making their learning processes visible. The chance to organise documents and day-to-day thoughts is expressed by one participant. She stated:

I wouldn't sit down and say "I'm going to do a mind map"...it emerges. Say I'm here making the lunch, or whatever, and it just emerges. The organisation of it, and this is what I see the mind maps doing, is doing, yeah, on the run...things just keep popping into my mind (*Participant 3*).

While occupied in the rhythm of every day activities like "making lunch", this participant used the mind map to record her thoughts as they emerged. The function of the mind map was to help with "the organisation" of thoughts and capture then connect all the ideas that "keep popping into [her] mind." The mind map is then a physical thing to look at, and relevant documents and notes can be added "on the run" whenever a thought emerges. By organising her thoughts on the mind map, this participant was able to group, rehearse, analyse and then integrate her learning.

Participant 1 said she "goes through indexing tabs like nobody's business", and uses colour coding to help her construct a visual memory of texts she is studying. Her visual learning strategies for reading and writing are expanded below.

4.1.2 Scene setting.

Organising their personal space through a process of scene setting and changing location were spatial strategies used to support learning. Scene setting involved planning

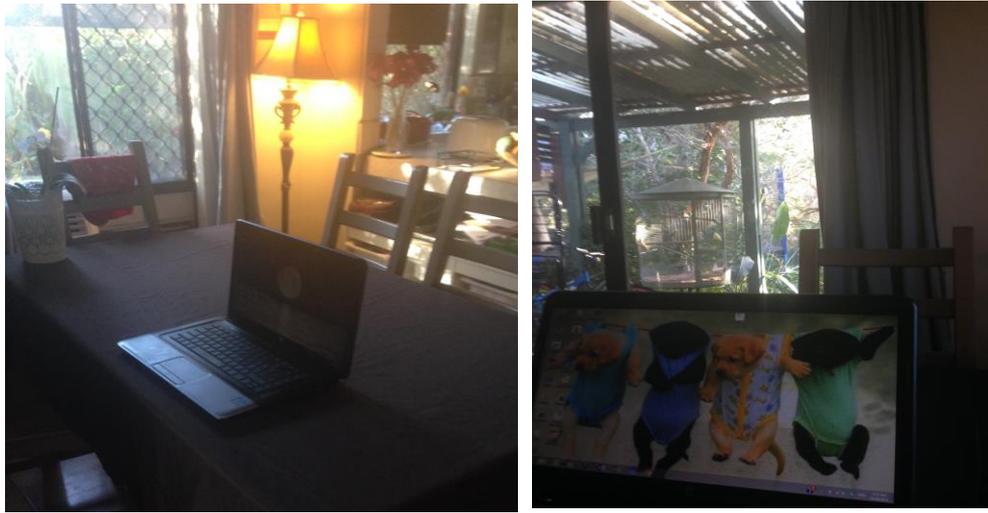
activities that included setting up workstations, systematic organisation of study materials into piles, eliminating sensory distractions in the space and changing locations. Creating order and perfection to begin study was evident: “The setting (for study) must be tweaked perfectly. I’m talking perfect lighting, temperature, the angle and height of furniture. I’m really fussy like that” (*Participant 4*). In contrast to attempts to control every aspect of the environment Participant 2, a teenager living at home, commented:

I have a system of piles (laughs); it’s on the floor...I am making a bit of an effort to keep my room clean. Before, it was just like a bomb had gone off – everywhere...I find if my room is really cluttered, then my head is cluttered. So, I’ve got little piles near my bed (voice goes up, sing-song) I’ve got one pile for each subject, and I have a little rummage, and go through it all (*Participant 2*).

In this quote she makes the association between a cluttered room and a cluttered head almost as if the physical space is echoed in the internal personal space. Keeping subjects in “little piles” and being able to “have a little rummage” keeps her focused on what material belongs with which subject. This helps her assess what tasks need attention so she can “go through it all” each night.

The need for a de-cluttered work-space is also described by the mother to two primary school aged children who studied at the kitchen table: “I have to have the full table cleared off, everything gone. Then I can sit down and work” (*Participant 3*). Clearing the table is the first stage in scene setting for Participant 3. Then she makes choices about where to work and movement helps her to manage restlessness. She stated:

I know it sounds ridiculous, but I actually change positions around this table. Being on the move is the thing, nothing conscious; it’s restlessness. I shift chairs, and can spend an afternoon going around all six chairs. It might be light orientation (*Participant 3 see figures 6 and 7*).



Figures 6, 7, Scene setting.

Changing setting temporarily contains restlessness. As a way of managing the ability to concentrate it was a strategy that could work to improve concentration when it was important to start work. Participant 4 explained:

Switching settings helps me concentrate. My mind can get really stagnant if I've spent the whole week inside reading. So one day at home, one day in the park, one day in the coffee shop, one day in the library, but always with my headphones to block out external noises...I will usually scour the whole library until I've found a window seat with natural light...I think being outdoors to study is really very relaxing too. I always feel better when I am outdoors.

Movement, changing locations and fresh air so that she didn't become "really stagnant" helped check distractibility and inattention for Participant 4.

Visual spatial learning strategies interrelated with other strategies. Mind mapping captured and externalised thoughts, enabling "headspace" for further organisation of thoughts that helped concentration and eliminated distractions. The way personal space and materials were ordered facilitated the participant's learning. The flexibility laptops offer supported the flow of learning as participants were able to change location to seek out light and fresh air. Location changes were used to help the participants to monitor stagnation and restlessness.

4.2 Managing Time

The use of approaches and resources for managing time was common among the strategies used. Pre-arranged systems such as deadlines, exam timetables, lectures, tutorials and residential schools all supported the participants' learning. Looming deadlines provided the impetus that honed the motivation, concentration and effort to finish work. Participants noted that they found it challenging to estimate the time it would take to complete a task for their studies, and found routines and resources such as calendars and electronic alerts were useful in helping them make better use of time.

4.2.1 Time estimation.

Time estimation, being able to predict how long a task will take to complete, and having a realistic sense of how much time is available in which to complete the task, was reported as being a source of frustration and disappointment by Participant 4:

I'm terrible with under estimating time, and if there's no time for myself, no time for my husband, and no time for my friends I get really unhappy. It's always disappointing because everything I do takes much longer than I imagine it will and in the end there is no 'me time' or no time for the people I love. If only I could stop myself from daydreaming throughout the day I could have time to do the things I love as well as complete my tasks on time.

For this participant the difficulties of managing time means that everything she does seems to "take so much longer" and an inability to stop "daydreaming" takes up time during the day. A reduced sense of time made an impact on the quality of the emotional life for this participant. It made her feel "really unhappy" and disappointed because she did not have time for herself or her family. A cluster of strategies and resources are required to estimate and manage time. Intentions need to be planned and the time taken to prepare and execute tasks, including breaks, needs consideration in order for tasks to be completed on time.

Smartphones can help keep track of time, events and people, Participant 3 used her phone for keeping notes, reminders and instituting “Quiet Time”. She said:

My working memory is shocking. I lose track of what I’m doing all the time. The key for me is to have reminders on my phone...from getting up in the morning to picking the kids up from school. I get involved in something and I forget everything...That’s the other thing about the phone I can write notes that go straight through to the email. So, I’ll write a note. I want to do this, I’ll write a note. And then I can go back and then go, ‘I’ve done that’ (laughs heartily).

Participant 3’s use of the phone is akin to a Swiss Army Knife for ADHD and she described how she has conceptualised a diary as an ADHD application for her phone. Instead of electronic notes, Participant 1 has developed self-talk to cope with time and tasks:

I try not to be too hard on myself if I don’t meet my goals, because I get depressed about it. I am my worst critic. Say I didn’t get as much done as I would have liked, I’ll go, “well, alright, let’s fix it up and try again another day and see what we can get done’. Even if it’s menial, like ‘what did I have planned for tomorrow?’ and see if I can get that done, try and amend it...Yeah, I talk to myself a lot! Yep...I’m very self-aware (laughing) (*Participant 1*).

A benefit of self-education is that it creates the ability to recognise and be realistic about ADHD pitfalls, as well as the ability to talk back to the inner “critic”.

4.2.2 Procrastination.

Procrastination appears to be pervasive for the women interviewed for this study, compounded by difficulties with focus and distractibility. The problem of starting work is described by Participant 2:

I’m battling with trying to stay focused. It’s more starting, that’s the problem... I’m trying to put in things that I can do to stop myself from getting distracted. I often drag my sister into my room, and I’m like ‘hit me if I stop doing something’... I procrastinate so much. I’ve had a lot of late assessments, and I’ve gone over a day, maybe two days. I misjudge my abilities to estimate time.

Reflecting on her experience of procrastination, Participant 4 states:

Lately I've been realising the root of procrastination is anxiety – when deadlines creep up, and I'm anxious, I get stuck. This stifles my imagination and takes away all inspiration...so when I'm working I try to stay relaxed and focused. Procrastination makes me miserable. I need to learn how to get over that threshold. I think it means being able to let go of all those little background things and just be present in my work.

These are examples of how determined the women interviewed were to start studying. By trial and error, they persisted in attempts to find strategies so that they could manage their time to complete tasks and meet deadlines.

4.2.3 Calendars and chunking.

The use of calendars and “chunking” of work were used to create order through allocating time and attention on tasks. Participant 2 described how important it was for her to do this in order to overcome the feeling of being overwhelmed by assignments and exams:

Often I find I've got all this work, I've got to do all this too, but, but I've split it up in to calendars for each day, so that's really helping having everything in smaller chunks...I don't have to remember everything all at once, and this has really helped...Otherwise, I'd probably be an emotional mess.

This student disclosed that she was not able to meet deadlines and this was affecting her academic performance. The youngest of the research participants, and therefore the least experienced in HE, this participant talked about problems with the adjustment from high school to university, problems with time management and completing tasks within deadlines. At the same time, she learned that breaking tasks down and documenting them on calendars enabled her to see if she was working on the right task at the right time, and this was making a difference to both her studies and her emotional life.

Time-based organisational strategies supported learning for the participants. When the women could see the whole picture with the semester's work represented on a calendar, they could “chunk down” tasks, and then organise time and tasks into routines. Stopwatches and

smartphones also provided useful prompts for focusing attention on the timing of tasks. As participant 3, who is studying, responsible for two primary school aged children and the management of the family business stated: “for me the key [to survival] is having the reminders on my phone”.

4.2.4 Routines.

Routines helped the participants focus their attention and change activities. The external organisation and the people contact that interactive university course work provides helped motivate the women. They were activated by the routine, which helped them sustain concentration, whereas independent routines required more effort. As Participant 1 stated, “it’s just really hard to maintain that routine because I’m not going to lectures and I really enjoy going to lectures”. The following comment from Participant 4 describes the experience of how she used a timetable and a stopwatch in preparation for study:

I timetable all aspects of the day, and plan a break for lunch. It’s a really big challenge, even choosing what to wear for the next day and get out the clothes, choosing what I’m going to have for breakfast, and having food in the house. This all helps me get out of the house, otherwise I spend half the day getting out of the house and the rest of the day getting to the study...I set up barriers and structures around my daily activities...Timing myself with a stop watch to make myself get tasks done faster...If I start the day by rushing out the house with no breakfast, forgetting something I need, missing the bus, then there’s no recovering the day. I will make mistakes and be distracted the whole day long (*Participant 4*).

When multiple demands on attention emerge, regaining concentration on study can be difficult. Participant 1 explained that this is when a particular routine can be helpful:

I do much better at getting started if I have a routine, which is one of the reasons I love going to Armidale because I stay on campus...I’m up at 6 o’clock, showered, dressed, and I’ve taken medication, go to the common room to have breakfast, come back to my

room, brush my teeth pack my bag, and then I get to class, or whatever, and those five days every six months kind of just kick starts me into something (*Participant 1*).

For Participant 3, there was “chaos from the time the kids came home until the time the kids went to bed” until her husband insisted on “quiet time” at 5.30 pm each day. She states that the transformation was “brilliant...it’s much much easier, that transition into dinner, and through after dinner to bed.” Quiet time for the children created order in the household. An assertive husband offered a practical solution. The Smartphone sets off an alarm at 5.30 pm. Children are familiarised with expectations, which become routine.

4.2.5 The deadline.

A requirement of higher education is meeting deadlines. The deadline provided a specific focus for students, and each had their own experience of how they get work completed on time and these are explained in this collection of quotes:

Some days I’m just really muddled, I’m sure everyone has those days. But the ADHD makes it worse. You just can’t get in the zone. You’re at your desk and think, I’m not going to do anything else, I’m just going to stare at this essay and get it done. And the gears just aren’t turning. So when that happens it’s just pretty hard. Usually, you know, when it happens, I’ll just do something else and hope for that spark of imagination. Which is usually *The Deadline* - I’ve got two hours to finish this...I’ll just do anything, ummm, just to get it for this deadline, and I’ll fix it up after that (*Participant 2*).

Before [diagnosis and taking medication] I was spending too long [on the] “masterpiece”. I wanted to savour my learning, but then I would have to get doctor’s certificates because I couldn’t manage deadlines...I can rearrange deadlines at the beginning of semester [so] not bombarded with assignments all at once (*Participant 4*).

I remember the best assignment when I was doing my masters was the one I started at 9 o'clock in the morning that I had to hand in at 3 o'clock that day. I dropped the kids at school, I came home, I wrote it while the kids were at school, I dropped it off, picked the kids up and got an HD for it (*Participant 3*).

Deadline stories ranged from procrastination and late assessments, to being able to deliver excellent work in a short period of time. By asking for help from the university's disability service, Participant 4 was able to rearrange the deadlines for assessments at the beginning of the semester on medical grounds.

4.2.6 Goal Setting and Reward systems.

Reward systems and setting goals helped with motivation and enabled participants to complete study tasks such as reading. They also have the advantage of encouraging self-determination. Participants 1 and 4 recalled rewards and goals:

If I attain a goal, I can reward myself. I can play five levels of Candy Crush Saga if I get through all my readings for the day. It's ridiculous, but it's like "I will get through *this*", because I really want *that* (*Participant 1*).

I stay focused by thinking I must finish this before my husband gets home from work so that I can watch a movie with him and spend some quality time with him (*Participant 4*).

Being able to identify what is rewarding to the individual and adding a social dimension to the learning experience, such as playing a computer game or watching a movie, were seen to be helpful. This involved the ability of individuals to be clear on what is an appropriate workload and to use goals and rewards to motivate learning. However, there is a fine line between motivation and being driven by goals. Participant 4 commented that "life can get a bit joyless mid semester when everything is hectic and uni just consumes me...when I'm done with it all, I'm even more restless". During this part of the interview, I sensed a

change in her tone of voice when she talked of being “even more restless.” The tension was palpable when I heard her breathing change as she communicated the distress that prolonged sitting and concentrating causes her, even with medication to mitigate hyperactivity.

4.3 Support People

Support people gave a sense of purpose and anchoring that enabled the participants to progress with their studies. Two women in the study had the advantage of access to specialist ADHD coaching, and at least two participants received support from a Disability Support Officer. All the women in the study talked about their preference for relational learning, which they found motivating.

Good support was found in disability support officers, but it was certainly not something that could not be taken for granted and it is not always successful. Participant 2 stated:

It was only towards the end of the second semester that I realised that I had depression, and I think that I just refused to admit it. I didn't want anyone to help me because I thought it was a weakness... So I went to disabilities and the lady I saw, was a bit, um...not very facilitating, and didn't quite get what I came for, and it was a bit of a terrifying experience, and I never went back. I have gone back now, in the beginning of my second year, and the lady I saw there is wonderful, she's so much better, and it's definitely on the right track, compared to the first year.

Before approaching the disability support services, conflict about the stigma of ADHD must be overcome. Difficulties around the decision to accept the label of ADHD and disability was expressed by Participant 4:

I went to the disability service, I don't like that, it's not good that you have to be identified as disabled, but they were really helpful. I didn't want lecturers to know about the ADHD, they might have a subconscious bias, and if I'm trying to make an argument, then they might think that I'm eccentric or something. But they don't have to

know, they are just informed that [accommodations such as staggered deadlines] are for medical reasons.

These research participants have accepted a diagnosis, educated themselves about ADHD and made the decision to overcome the stigma and ask for help. If a medical diagnosis of ADHD is provided, disability support offers can help with changes to deadlines if several assignments are due at the same time, and also arrange for organisational coaching.

4.3.2 Coaching.

Training in the timing of tasks by an ADHD coach was recognised as beneficial to overcome underachievement and maintain progress. Participant 3 said, “the coach has been great” in helping her manage time and procrastination, making it “easier to even *want* to start.” This participant demonstrated that skills can be learnt, and like car maintenance, ongoing support is useful “to be sure you’re driving optimal”.

4.3.3 Relational learning.

Relational learning refers to face-to-face learning opportunities, discussion and peer-support. All the women in this study indicated a preference for engaged learning that involved relating with people. Participant 1 expressed her enjoyment in making contact with like minds:

I really enjoy going to lectures because I get to engage with my peers, and I know where I fit into it all. But at the moment I am an external student so ...there are no lectures and there is no guidance and it is just, “here’s your syllabus, here’s a bunch of books or papers, and here, just do this task”, so there’s a lot of self motivation required.

Tutorials that involved discussion were motivating and helped Participant 2 understand concepts more than reading. She commented:

There is a lot of academic pressure to just get all the information in your head, especially the biology units. I did international communications. That was a bit more

interactive, we'd discuss ideas and concepts. That was a bit less note taking and a bit more exploration. But all my subjects now, they're just learn the concepts. Put it in your head. Do a test.

Participants 4 and 2 explained the contrast between the joy of learning with peers and the depression that can arise from working in isolation. Participant 4 stated:

I enjoy the face-to-face discussions I have with my peers about the literature. It really helps to keep me inspired and motivated...I have a small group of friends at uni now who are also passionate about what they do and love to talk about real world issues, but it has taken me three years at uni to find these people...Next semester is going to be hard because I am doing half of my units online, which means spending a lot of time reading by myself and less live discussion...For me, learning takes more time. So there's lots of time by myself. I miss contact with other students. It's lonely studying all the time (*Participant 4*).

Participant 2 was also clear about her preference for relational learning:

I did find that the discussion thing really did help, it was kind of more to figure out your [own] understanding and then build on it, and I was quite happy...But the dynamic of Uni, being always split up when I was not able to create a solid unified friend group made me spiral down into a depression of sorts (*Participant 2*).

The dynamic interaction of lectures and face-to-face discussion, making friends and sharing ideas is motivating and supportive of learning at university. As a learning strategy, continual people contact was a valued resource for the women with ADHD in this study and helped them to regulate their emotions by being stimulated and inspired by sharing their areas of interest.

4.3.4 Significant others.

In each interview, the women openly acknowledged and expressed appreciation for the help gained from loved ones and how important these people were to balance the

undertone of the restlessness and anxiety that is often a constant in their lives. Participant 2 explained the importance of her mum:

If it was just up to me, I'd probably be sitting around watching TV all day, going 'Awwwwwww, I'm just useless'. My mum is a mental health nurse, she was the one who [helped me get] the diagnosis. If I didn't have her behind me, I would have just let it all slip (*Participant 2*).

The role of a caring partner was also acknowledged and Participant 4 was grateful for the continuing patience showed by her husband:

Sometimes I get mad at [my husband] and blame him for distracting me. But I'm really just distracting myself and being angry at myself. He is a patient man [who] gives me a lot of emotional and moral support as well as helps with the household chores when I'm overwhelmed with it all.

For Participant 3 the help from her husband contributed to an ability to get herself organised:

I often fall off the wagon, and my husband will have a big blow up because I'm so chaotic and disorganised, and he will say, "why don't you do this?" and I'll go, "oh, ok," I'd never thought about it. The thing is he'll come up with some fantastic ideas.

And for Participant 1 the ability to bounce ideas around so she could understand things was again facilitated by a husband:

I do try bouncing ideas off my husband, but he doesn't always understand what I'm talking about all the time... *Interviewer: Hmmmm. And you can't really burn up your support can you, like, I want you to make me breakfast, and listen to my research problems...(laughter) ...and also do the laundry! (Participant 1).*

Husbands and a parent provided emotional, moral and practical support for these women to provide relief when they felt overwhelmed and unable to concentrate. Support people help them feel cared for and relieved them of some practical duties. The women can re-engage with their learning when significant others are available to bounce ideas off. There is also

evidence that support people can help moderate disappointments by helping them evaluate what is achievable.

4.4 Managing Concentration

Managing concentration is a serious challenge for women with ADHD studying in HE, as they are required to read and write complex papers within strict time frames. They need to monitor their internal and external environment to eliminate distractions. Noise cancelling headphones, music and other sounds not only block out distractions, they are reported as regulating distracting thoughts and create a favourable “headspace” in order to employ the strategies they use for reading. Two participants mentioned how they timed medication to coincide with reading tasks that required prolonged attention.

4.4.1 Dealing with distractions.

People with ADHD can have difficulty with fidgeting and filtering out distractions, which they can experience as disturbances. A portrait of distractibility provided by Participant 1 showed how she needed to monitor her hair, nails and clothing in order to settle down to study effectively:

When I’m studying, my hair has to be up. If it’s down, it annoys me, it’s getting in my way. I can’t really wear any jewellery other than my watch and engagement ring. Um, as ridiculous as it is, it’s better when I manicure my nails, otherwise I’ll sit and pick my cuticles if I feel something rough. Clothing that is comfortable and not too restrictive, warm enough or cool enough, nothing that I’m going to fiddle with. Shoes that I’m not going to fiddle with. If I wear things, I sit there and I flick them, so even though I’m not consciously flicking them, I’m not paying attention to the task. [When] I’m needing to work, so, Ugh boots or sneakers, feet flat on the floor. Nothing I can fiddle with. Sometimes I have to sit on my hands so I’m not fidgeting with everything around me.

Another strategy for dealing with distractions was offered by Participant 1 who talked about the importance of been able to go off to the park or the library:

I think computers are like a black hole for ADD people because they offer the world at your fingertips. The best thing for me is to go to the park or library with my texts books and leave the lappy at home. Or if I need to work on my computer, I sometimes need to just close the hundred windows and tabs I have open, archive them, get them out of sight (*Participant 4*).

These women were acutely aware of the need for removing things like jewellery that can “annoy” and computers that can distract them from their studies. The process of predicting self-distractions is a learning strategy. As preparation for study, the contingency procedure against distractibility is a mental rehearsal for the work that is about to commence.

4.4.2 Music and MP3 technology.

Noise cancelling headphones, specific music and/or background sounds that are repetitive or rhythmic that can quieten the mind and filter out sensory distractions and mind chatter all helped. Participant 3 described that she likes to “listen to audio-books while I’m studying...It’s something that keeps everything else away.” Noise isolating headphones were an anti-distraction strategy to help used by Participant 4 who stated:

I don’t like people whispering or talking in the library. I used to say to them to ‘shut the hell up this is a quiet zone’, but now I have started wearing noise isolation headphones and listening to nature sounds such as insects, water noises and rainforest noises. Blocking outside noise helps me to be comfortably inside my own headspace and find ‘the zone’...I find electronic music (minimal tribal tech house) good for writing, but for reading I prefer water noises or insect noises, as long as it’s repetitive.

For Participant 1 the ability to listen to classical music focused her time for learning, she stated:

I put on classical music for study. When I put on a song that comes on that I really enjoy, I’m no longer on the page. I’m singing it in my head, or I’m tapping the rhythm, or something else. So I can’t have anything that is too recognisable or that I really like,

it's too distracting, I'm otherwise "Oh God, I love this song". I love it when it's raining, because then it's quiet, my white noise (*Participant 1*).

Being distracted by thoughts can interfere with getting to sleep, and/or waking up for people with ADHD, which can impact on academic function. Participant 3 described the way her thinking would keep her awake and how she found a way of sleeping:

I would like, there, and there would be a thousand things that would all come into my head, and every single one of them, no matter how irrelevant, you know, 'you've got to acknowledge me you've got to acknowledge me' kind of thing. So one day, out of desperation, I just put Harry Potter on, and I found that I went to sleep very quickly. So that's what I do every night now. ...the fact that it's just a voice talking and the only way I can describe it is that it's giving me something to concentrate on as I fall asleep. When I'm working or studying, it's a case of just putting [the earphones] in and blocking.

Headphones and MP3 technology helped participants with "blocking" out constant trains of thought in order to get to sleep. In addition to the use of music, Participant 4 reported light therapy and melatonin helped her sleep.

4.4.3 Medication.

All the participants in this study with a formal diagnosis of ADHD had used prescription medication. Participant 2 reported that medication helped with her ability to focus:

I tune out all the time. I have a little world in my head that I just go off to all the time. I've been taking Ritalin, which has helped - it really has helped keep the focus. But it has been difficult with the ADHD, just trying to keep [focused]. It's the big demands. And it has been difficult to concentrate" (*Participant 2*).

There was a poignant moment in this interview when this participant talked about the time her friend noticed Ritalin in her pencil case. She felt judged, saying in a tiny voice, "But I'm still the same person".

Participant 1 was diagnosed with ADHD in America and attributed her high academic achievement to a specific medication unavailable on the Pharmaceutical Benefits Scheme in Australia. An indicator of how helpful it was to her concentration is seen in this narrative:

I've never been so organised or focused or capable of doing anything. I would almost kill for this medication. I've said to my psychiatrist, 'how can I get this medication?' With the Adderall, for every semester I was on it, my marks were getting better and better. The first semester I withdraw from everything. And that was like 10 subjects. The second semester, I took five subjects; I got three passes and one credit (in the equivalent of grades in Australia). Then the next semester, I got mostly credits with one distinction. The semester after that were mostly distinctions, with one credit. And the semester after that I made dean's honours list for four semesters in a row, and by the end of it, it was high distinctions – like five high distinctions and one distinction. Yeah, here the dexamphetamine just doesn't work as well...I've tried Ritalin and Concerta and all the other medications and nothing quite worked like Adderall works (*Participant 1*).

In answer to the question, "what helps you make a start with your study?" Participant 4 answered:

Only the perfect balance of medication and will power, ha ha! I did half a degree without taking medication, now I'm excelling and loving it. I take dexamphetamine, and that brings out the OCD hyper-focus but I can easily waste that on the wrong things. I have to time the medication.

The experience of these women is that prescription medication assists their ability to focus, concentrate, organise, perform and complete academic tasks. Participants 1 and 4 provided "before and after" narratives about medication and both reported very high achievement as a result of the effect of medication on their academic function.

4.4.4 Strategies for reading and writing.

A range of strategies was used to bring the women in this study to the task of reading. By the time they sit down and can read effectively, all participants explained that they

modified their environment to eliminate distractions and created a situation of expectancy to bind them to the task. Participants 1 and 3 scheduled time in their diary or phone leaving clear spaces so they can visualise how much time they needed to allow for reading or writing.

Participant 4 stated:

Reading is very tricky for me, I stop every few paragraphs and spend 15 minutes daydreaming before I continue. If I take my meds right before I start and try to read continuously without stopping, I can get on a roll and the whole extent will come together and form a bigger picture. But if I'm already distracted and stopping and starting a lot, I will probably have to go back and read the whole thing again.

To start the reading process Participant 1 reads aloud: "I read what's in front of me and I point with my finger and I say it out loud. I read it and I read and reread and read read read until I know it off by heart". The ubiquitous use of eye-catching highlighters helped to keep eyes focused on the text. Participant 4 needed to read the whole text quickly so that she could remember what it is about, then reread for understanding:

I use the tip of my highlighter pen to guide my eyes across the words highlighting quickly as I go. That said, I have to read things thoroughly. I am not a skim reader, both because I am a perfectionist and because anthropology is not like reading a lab report. If you tried to skim over it, it just wouldn't make sense."

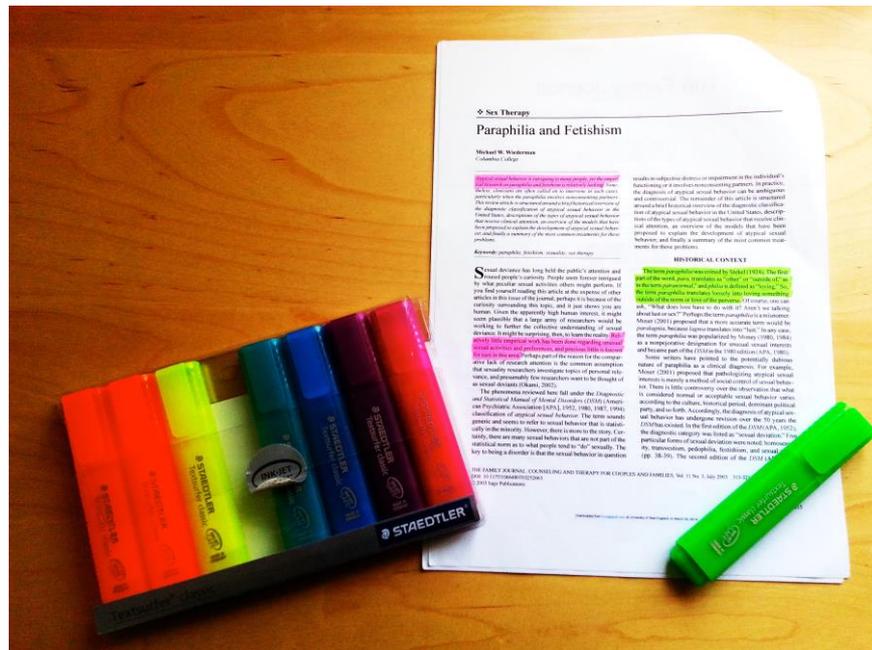


Figure 8, Thinking in colour.

Strategic reading and writing is crucial for academic learning, and the remainder of this section is used to capture the nuances and details in the learning strategies Participant 1 used to achieve high distinctions for her academic work, as she had developed a systematic approach to her studies. She supplied me with a sequence of photographs with a narrative to demonstrate the steps she had mastered. In the first place, she used highlighters and notes to emphasise ideas and concepts when she is reading (Figure 8). Secondly, Participant 1 differentiates reference texts by colour, and then indexes them (Figures 9, 10).

I have to read an article a few times before I, you know, you can use it. So I'll go OK, I just do a read through to find what it's all about. Then I go through with the highlighter, and I'll go OK I want to find out everything to do with the thing that is pertinent to this one body paragraph. So I'll go through and highlight it. Then I'll read through for the next body paragraph with a different coloured highlighter and if I see something especially important that needs more focus than just when I skim through (Figure 8).

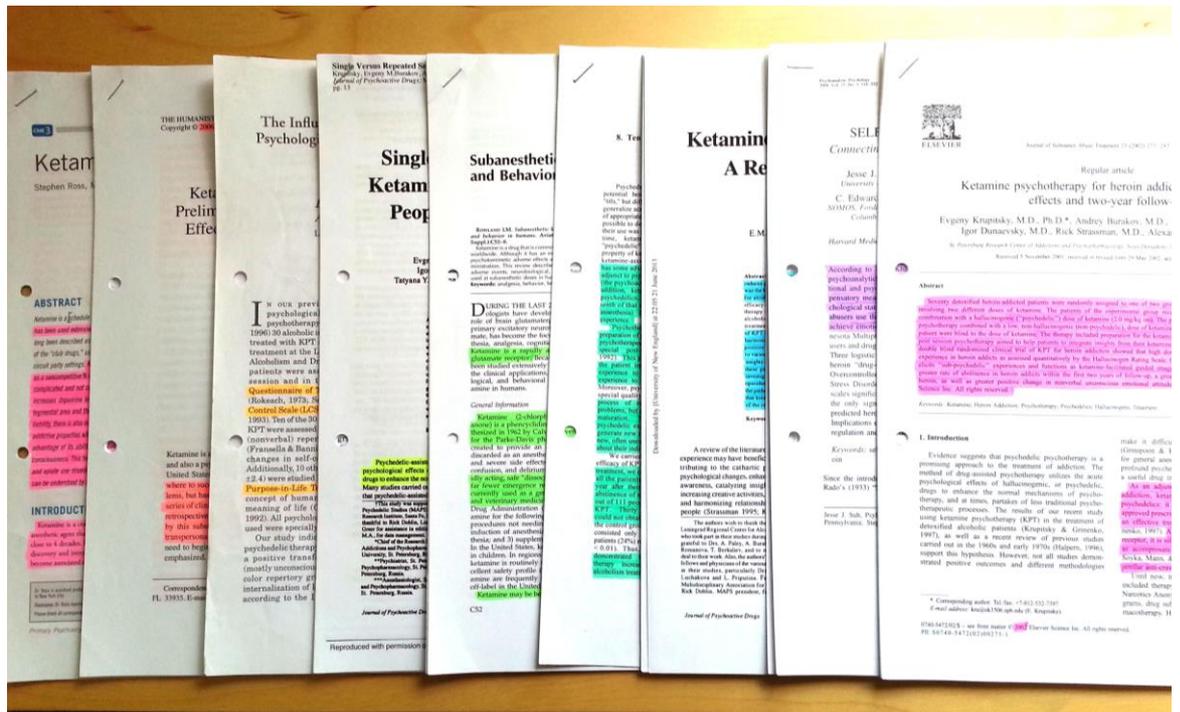


Figure 9, Colour coded papers.

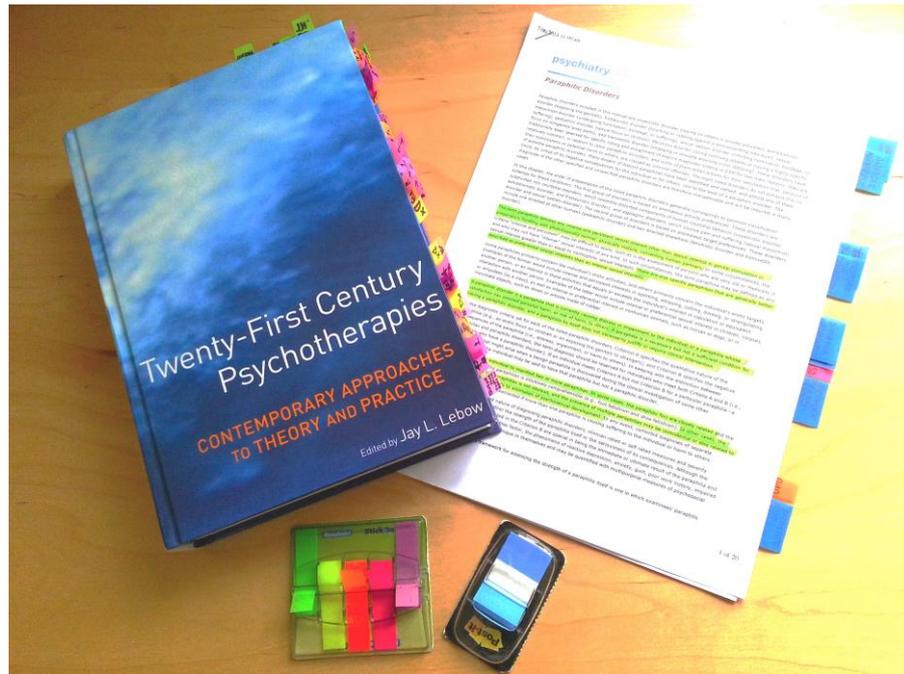


Figure 10, Indexing strategy.

I like to index a lot of things. Indexing, it's like, over-planning, but it works. So I go through sticky-tabs like nobody's business... I keep things organised in the order things have to be presented (*Participant 1*).

When writing her own paper, she can recall reference texts by their allocated colours, and comments:

My sister was helping me with writing my references. She asks, “What was that one”? And I go “oh, that was the turquoise one”, and she goes “WHAT?” I know exactly which one. And she asks, “How do you do that?” And I go, “I don’t know” but I do it, and she’s “Ooooooaaaaay” (*Participant 1*).

The planning involved in Figure 11 makes visible how the introduction, body paragraphs, conclusion and references will be organised when writing the essay, leaving her with the “headspace” that allows insights in arguments to emerge. She described the stages in this process:

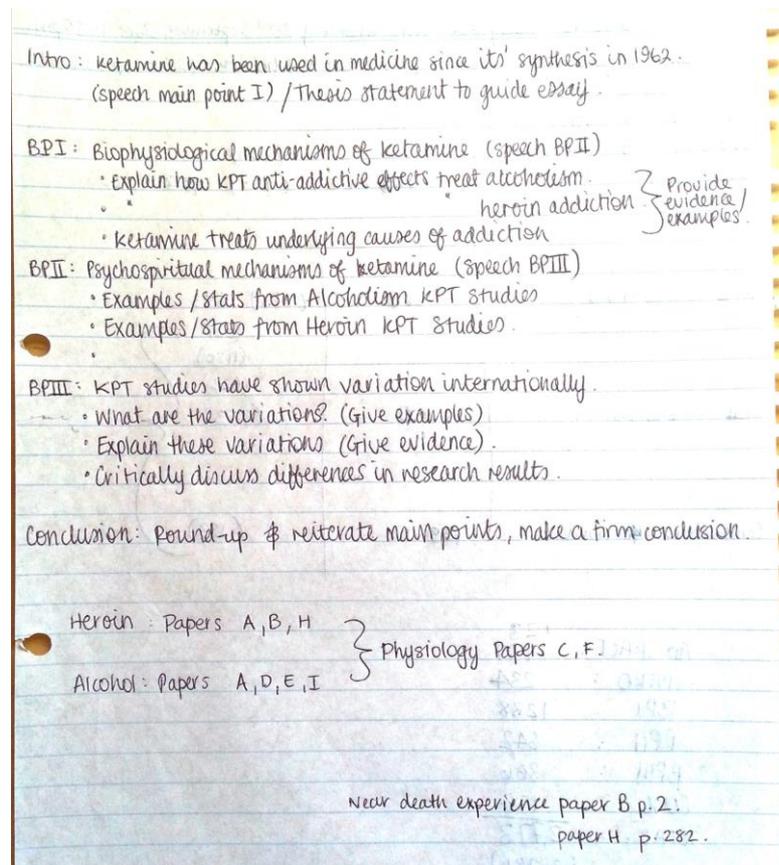


Figure 11, The skeleton.

When I get a new task I will read through the syllabus or the outline and think, “What do I need to do?” Re-read it a couple of times, go over everything a couple of times. So I have to write a paper about something or other. And I’ll go, “OK. So these are

the three main points I need to make” – which is something I learnt from speech making in undergrad and I’ve put it down to assignments as well. So I go, ‘Right. Intro. How many words is that?’ and ‘What are the main ideas I want to say? What are the sub-points?’ and I just do a skeleton on the page like that (Figure 11). Setting goals is good for the organisation. I like to plan. It helps keep things clear, having it on paper (*Participant 1*).

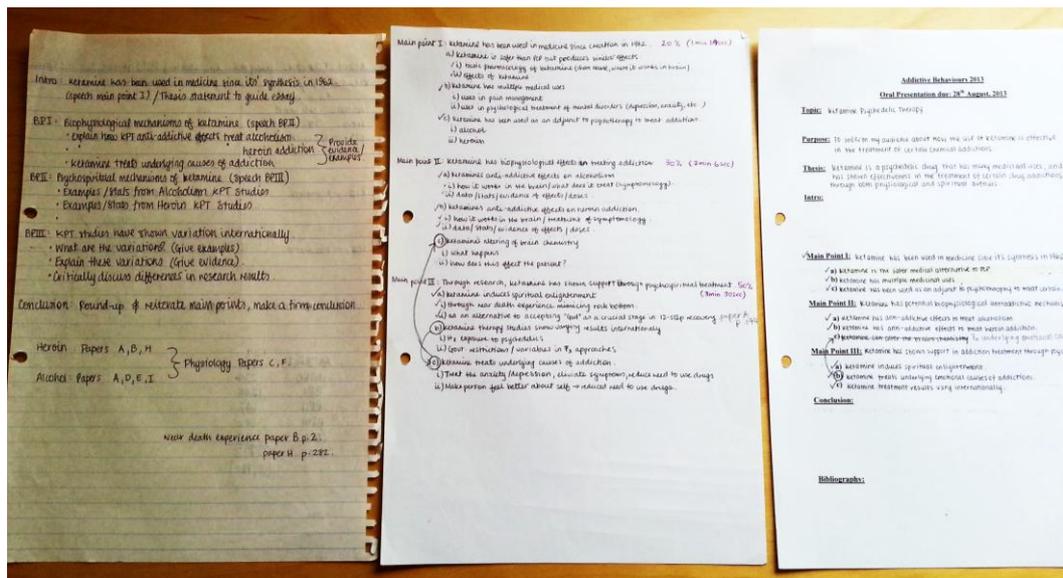


Figure 12, Developing arguments.

I could not function without working like this. Sometimes I write an outline and as I’m doing my work, and said, ‘No no no, that won’t work, it has to move here, and that point would be so much better, it can stay there, but it would be better here’. I write the skeleton down, and I have the paper there so I can look at it so there is another thing I don’t have to think about. As I’m doing it, it’s kind of like epiphanies (*Participant 1*).

The interview and photographs provided by Participant 1 iterate how she will develop an argument. Her quotes show how the essay skeleton strategy (Figure 12) allows her to talk herself through claims and analysis as it is unfolding. Because she does not have to think

about what needs to be included, “there is another thing I don’t have to think about”, she is freed to attend to the task of restructuring the essay.

Transcribing Participant 1’s interview revealed changes in her tone of voice as she talked about her learning. Discussion about the strategies she used for reading and planning her papers was mechanically resolute. When talking about her *writing* strategies, the gritty back-story of distractions, fidgeting and emotional disturbances was silenced. When she described the experience of absorption in abstract thought her voice was resonant with a sense of awe.

4.5 Summary of the Chapter

In this chapter I presented the findings from the semi-structured one-on-one interviews. I used the written narratives and the photographs from the research to explore and explain the learning strategies that were described by each of the women. I organised the findings into key themes as a way of making the learning strategies that were used by the women clearer but still nuanced to individuals. The discussion chapter that now follows these findings further explores the learning strategies that emerged as most useful to the women (visual/spatial strategies; time and organisational strategies; support people; and managing concentration) within the context of the literature.

CHAPTER 5: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Overview

In this chapter, the findings previously presented (Chapter 4) are analysed further and discussed by drawing upon the literature reviewed in Chapter 2. The discussion carefully analyses the emerging themes that were identified from the interviews and takes into account how these strategies contributed to learning for the participants in the study. The chapter unpacks the lived experience of the four women with ADHD in the context of their studies in HE and highlights that the learning strategies used by the women are not isolated or fixed in time. A dynamic cluster of strategies are used that are individual, interrelated and developed through a complex interplay of contextual factors such as diagnosis, medication, greater self-awareness, structure, stability and external support.

5.1 A Dynamic Cluster of Strategies

ADHD can cause individuals to experience a lack of concentration (Reaser et al, 2007) and induce procrastination (Hunt, 2006). The women in this study talked about these issues and how they impacted on their ability to study and learn. Procrastination and poor time management do not sit well with achievement in HE. Problems with procrastination are familiar to many learners, and it appears more difficult and pervasive for individuals with ADHD (Hen & Goroshit, 20014). However, the women each demonstrated that in spite of the difficulties in their life they are able to develop and draw on a range of strategies to support themselves and their learning. This is a story of academic achievement that could be argued is in contrast to the myths and “dominant cultural, institutional and social narratives” (Clandinin et al., 2009, p. 88) that can define learning for women with ADHD. The participants in this study all used a dynamic cluster of strategies that supported their life and learning and that were tailored to their personal situation and academic needs.

The experience of ADHD meant that sometimes the women in this study felt unable to think, concentrate, read, keep working, rest or sleep. They each placed a high value on

learning and so in situations when they needed to study they were pushed to employ an array of strategies. Support people helped them organise their thoughts, learning materials, time and emotions, enabling them to return to their studies. Drawing on support to manage time, emotions and materials has been identified as resource management strategies for learning (Weinstein & Meyer, 1986; Weinstein & Mayer, 1991; Pintrich et al., 1993). Resource management learning strategies are interactive and fluid and this was evident in the way each participant was able to organise personal space, use memory aides, manage time effectively, gain support from loved ones and allied mental health professionals and also seek pharmacological treatment.

The women in the study educated themselves about ADHD and were proactive in finding and applying strategies that helped them manage their symptoms so they could learn. Nonetheless, self-efficacy was not always present when going through life transitions such as entering or re-entering university, or meeting the needs of others in caring roles. Learning strategies were found to be situation-bound. What works for one situation does not necessarily transfer to another, leading the women to sometimes become overwhelmed by their situation when they could not keep abreast of organisational demands in their lives. Their learning strategies needed continual monitoring and external support.

The drive and resilience of the women are evident in their repeated attempts to seek help, and efforts to manage their ADHD. Participant 4 described the conflict between her disorganised mind and the part of herself that is OCD.¹³ To maximise obsessiveness, she ensured medication was timed to take effect on planned tasks that needed intensive concentration. At first it appears that Participant 2 was passive in her experience of ADHD, saying that if wasn't for her mother she "would have just let it all slip... I'm just useless". Yet try and try again is what she did when she returned to the disability services after an unhelpful experience, seeking the right help.

¹³ Obsessive Compulsive Disorder (OCD)

The effort that goes into regulating ADHD and to achieve focus was palpable from the tone of the participants' voices in the interviews. Two of the women recounted routines with the precision of military drill recitations. The fast paced delivery of their speech (something difficult to capture in a written text), along with contingencies listed, indicated they had rehearsed and made a considerable effort to discipline themselves by using routines to meet their learning goals.

5.2 Key Strategies for Learning

The participants in this study developed, selected or were taught the strategies needed to support their learning. The empirical links between “motivation, learning strategies and performance are well established” (Duncan & McKeachie, 2005, p. 120) and the findings emphasise the importance of direct support for women with ADHD. They could become easily overwhelmed with tasks and this sometimes affected their concentration, memory and organisational capacity, making it hard for them to keep up with their university work. Waite (2010, p. 10) describes this experience as “fade”, which means losing motivation and having “trouble persisting in effort over extended periods”. Coaches and support people can pre-empt this problem by helping them predict times of sensory-overload (Gutman & Szczepanski, 2005), and review their learning strategies. The findings from this research showed that the participants used a range of key strategies to support their learning that were visual/spatial, time related, organisational in orientation and interpersonal.

5.2.1 Visual/spatial strategies

Visual and spatial signposts were strategies used by the women to manage their learning. Mind maps and calendars were used to externalise both the timing of tasks and their breakdown into manageable parts. These strategies appear to bring clarity, help prioritise tasks and aid working memory; they make tasks visible. The only reference located on sign posting as a strategy to aid learning is a report on homework interventions for children with ADHD. Of particular note is that strategies used were overtly visual in every case (Firmin &

Phillips, 2009).

Whether studying in libraries, parks, coffee shops, cars, or at the kitchen table, the rearrangement of furniture and people in the household are all ways in which the women controlled their environment and prepared themselves to settle down to study. Changes in location and light orientation helped them overcome restlessness, as did containment. Examples of containment were seen in the behaviour of Participant 3, who worked in her car when waiting to collect her children from school, and Participant 2 who asked that her sister's desk be dragged into her bedroom to "make" her study.

Scene setting is a physical metaphor for the mental preparation to study. Women in this study reported complex, changing systems that they employ to set the scene for learning. The physical need for movement was met through managing their environment and changing location. The organisation of personal space to set the scene for concentration is a significant finding in this study, as it is not well reported in the ADHD literature. In the literature review, only one article could be found that addresses the arranging of resources and personal space for self-organisation in detail (Gutman & Szczepanski, 2005). The context of that article was occupational therapy for individuals with ADHD whose physical environment was chaotic, with recommendations about mastering organisation of their physical environment through training until it became routine (Gutman & Szczepanski, 2005).

5.2.2 Timing and organisation

Difficulties with time management for those with ADHD are well reported in the literature (see Aase & Sagvolden, 2008; Altagaasen et al., 2014; Barkley, 1997; Brown 2005, 2006, 2008, 2009; Castellanos et al., 2006; Toner et al., 2006; Waite, 2007; Weyandt et al., 2013a). The organisation of time-based tasks requires the ability to develop skills in time estimation and cues to alert the individual when to start and stop (Altagassen et al., 2014). While deadlines can provide external structure for study in HE, the occupational demands of study are to be established and managed by the learners themselves. The women in this study

were acutely aware of the need to acquire and continue to use time-based skills to organise learning tasks. The need to organise and maintain routines appeared to create an ever-present undercurrent of anxiety, as all the women described how they felt that their stability could not be taken for granted.

Epstein et al. (2008) reviewed eight studies concerned with ADHD that targeted temporal aspects of organisation such as scheduling, prioritising and creating tasks lists. Conclusions from the review are that (a) organisational skill improvements may be temporary, (b) that no assessment has been made that skills generalise from one setting to another, and (c) that to date, there is no evidence that improvement in organisational skills is made in functional outcomes such as academic performance (Epstein et al., 2008). Transferring organisational skills from one situation to another may be problematic due to issues such as procrastination and/or adapting to differing circumstances. Kildea et al., (2011) noted that if uncertainties and complexities are not factored into the time taken to complete new tasks then this could result in a sense of dissonance and confusion for some students. A consequence of this experience can result in procrastination when approaching difficult tasks (Gutman & Szczepanski, 2005) and delays in task completion (Aase & Sagvolden, 2008; Altgaasen et al., 2014).

Electronic devices were identified as a resource that helped with both time management and organisation. All the participants used smartphones with headphones to help them concentrate by blocking out mental chatter and distractions. As time managers, they are used as diaries and calendars, stopwatches, reminders, prompts and alarms. A plethora of digital applications to manage ADHD are available on the market, although only two references were found to electronic devices in the literature. Janeslatt et al. (2014) make a non-specific mention to ADHD in their examination of the use of electronic planning devices

and Charach et al. (2008) found electronic devices to reliably document adherence to medication treatment in children.¹⁴

The ability to concentrate and get organised was a challenge for the women in this study. The inability of students with ADHD to concentrate is well documented in the literature concerned with ADHD in American college environments (Norvilitis et al., 2010; Prevatt et al., 2011, 2013; Weyandt and DuPaul, 2013) and the bio-medical disciplines (Antshel et al., 201; Barkley, 1997; Barkley et al., 2002; Brown, 2008; Faraone & Biederman, 2005). Most of the women in this study described themselves as having the inattentive subtype of ADHD, experiencing difficulties in sitting down, getting started on their studies and keeping their eyes focused on one place on the page for reading. Being able to sit still and then keep their eyes on the page for reading hint at the physical difficulties experienced with concentration.

In order to discipline themselves from restlessness to concentration, the women continually negotiated with themselves and used different strategies to organise their work and life. Two participants asked people in their household to tell them to get started on their work, some of the participants designed reward systems to overcome the difficulty of getting started and staying on task and one participant used self-talk. Parker and Boutelle (2009) describe a process of using self-talk as a strategy for encouraging students with ADHD to get started on their work. They found it was the “voice” of the coach the students “heard” when they started using self-talk for task commencement (Parker & Boutelle, 2009, p. 209-10). As students became more skilled with self-instruction they could, “engage in self-talk to minimise feelings of being overwhelmed as they organised and persisted with their goals (Parker & Boutelle, 2009, p. 212).

¹⁴ <http://www.ncbi.nlm.nih.gov/simrad.net.ocs.mq.edu.au/pmc/articles/PMC2527765/>

5.2.3 Support people.

Appropriate support people were acknowledged as a helpful learning strategy in the descriptions of the women's experiences of ADHD. At times when they were overwhelmed, the women needed someone who could listen and reflect back to them their own sometimes disconnected thoughts, and help put them in order to recognise how, when and where to start and finish their university tasks. Accessing support is a learning strategy in itself, and described by Weinstein and Meyer as "resource management" (1991). Planning and organisational skills can be taught by people who have been specifically trained in coaching for ADHD and this can be of great support to people with ADHD (Allsopp et al., 2005; Field et al., 2013; Goldstein, 2005; Jaska et al., 1999; Kubic, 2010; Murphy et al., 2010; Parker et al., 2009, 2011, 2013; Prevatt & Yelland, 2013; Prevatt & Young, 2014; Tillman & Granvald, 2014; Toner, 2009; Zwart & Kallemeyn, 2001). In this study support from significant others, peers or coaches helped the women to persist with their studies. Waite recommends coaching for the "functional pragmatics" (Waite, 2010, p. 191) associated with ADHD and this recommendation is supported by the findings in this study.

Stories of the women's lived experience of ADHD reveal a subtle difference between motivation and the ability to initiate their work. Although they are highly motivated, they did have difficulty keeping the 'big picture' in focus and how this can be organised into smaller time frames. The long-term goals in HE may take many years to realise, and if there are competing demands on students' attention or interruptions to their studies, the women feel swamped when their lives become hectic. To maintain motivation and keep momentum they need emotional support and/or coaching assistance to help stabilise them by reviewing time-based goals and how to organise time and tasks.

Rewards for children and adults with ADHD can be more effective when small and frequent, rather than larger and in the long term (Volkow et al., 2010; Scheres et al., 2008, Faraone et al., 2009; Bramham et al., 2008). Frequent feedback provides help to reduce

feelings of being overwhelmed. Dialogue brought clarity and a sense of order when the women were unable to focus their thoughts and think properly. This claim is supported by a study on self-directed psychosocial intervention that reports improved organisational skills and self-esteem for those with ADHD when a support person is involved (Stevenson et al., 2003).

The importance of significant others, peers and friends as supportive of learners with ADHD is almost unacknowledged in the literature. There is evidence of the use of significant others to confirm behaviours to assist in the formulation of a diagnosis of ADHD (Wasserstein, 2005) and the need to incorporate “parents and teachers” in interventions for children (Pfiffner et al., 2000, p. 689). Other literature, however, highlights that the influence of loved ones as a strategy to support learning is not always positive. Indeed research reveals relationship conflict and family dysfunction can negatively impact on performance (Eakin et al., 2004; Minde et al., 2003; Murphy, 2005; Trott, 2006). Only one study on adult ADHD was found to discuss the support role for an individual with ADHD, namely “the coach-wife” (Toner et al., 2006, p. 9) in a study on males with ADHD:

Some [of the men with ADHD in the study] had been supported financially by their wives when they returned to university as mature-aged students. They were “organised” by their wives when they were unable to plan their study timetables effectively, and kept on task by their wives when they became distracted from their studies. Those who were self-employed were assisted by their wives in the daily running of their business.

This quote is a reminder that it is the norm for women to be in the support role as the “coach-wife”, and that women with ADHD also need to be recognised and helped with organisational function (Arnold et al., 2010; Cole, 2011; Faigel, 1995; Hinkley & Alden, 2005; Nussbaum, 2012; Quinn, 2005, 2010; Rucklidge & Kaplan, 1997; Waite, 2010, 2007).

5.3 Diagnosis and Medication

All the women in the study had access to medical practitioners who made the diagnosis of ADHD (a requirement for participation in this study) and gave them the choice to use prescription medication for ADHD. It appears that the efficacy of medication varies according to the individual. Two of the women used medication as a front-line strategy, one said it “helped”, yet another was unable to tolerate the first ADHD medication trialled, supporting the mixed reports on the benefits of medication that are found in the literature. Prevatt and Young (2014) suggest medication improves academic success by improving concentration and study skills, reducing the problem of students withdrawing from classes and leaving exams early. Langberg and Becker (2012) found medication assists performance on standardised tests, but question the scope and significance of educational improvements. Powers et al. (2008) posit academic improvement is likely to be variable and influenced by a variety of factors additional to medication.

Diagnosis helped the women gain understanding about concentration and learning, and this was described as a life changing experience. Two of the participants cited medication as a front-line strategy, becoming adept at timing medication to take effect to coincide with reading and writing tasks that demanded the most concentration. As found, all participants are dealing with multiple distractions and use clusters of strategies accordingly, to the best of their ability at a given point in time.

5.4 Limitations and Conclusion

The participant group for this study was small by design so as to capture the nuances and in-depth experiences of the participants. However, access to the lived experience of Australian women with ADHD in HE was limited. Based on the experience of recruiting participants for this research, it would appear that few female students in Australia disclose with a formal diagnosis of ADHD. Very few people responded to the advertisement through three channels, two being dedicated ADHD lobby and support services. Despite a student

population of 40,000, only one student from the host university was interviewed for this study, one student visiting the campus saw the poster advertising this research and responded, and the other participants came from advertising through a specialist ADHD coach in Western Australia.

The use of technology such as email, Skype and digital recordings was helpful for access to participants in distant locations; however, it reduced the sensory engagement that comes from human contact. This could be a weakness in the research and a reminder that the information gathered and interpreted is influenced by context, place and time. The expectations of a university environment may have affected what emphasis was placed on the learning strategies used by the participants. Although relevant, the interpersonal, social, technical and institutional processes at work in the conduct of research in HE are beyond the scope of this study.

Only two participants provided photographs that supported their interviews with visual narratives. Greater engagement with the use of photography may have helped to understand more fully how this method could support research for students with ADHD. Also, the research did not meet aim 1.2 c) Develop a hierarchy and sequence of strategies that support students with organisation and time management issues. It was found that variables including time, context and availability of resources could preclude the automatic transfer of a learning strategy to another situation. However, as a safeguard, identifying why learning strategies do not generalise has merit, flagging that discrete strategies should not be “treated like a whole solution” when they might only be a “partial solution” (Kildea et al., 2011, p. 11).

In order to function in the university environment the students in this study used a balance of intellectual, timing and organisational, technological and human resource strategies. This research uncovered a complex interplay of strategies used by the women who participated in this study that supported their learning and helped them to better function within the university setting. The research also identified that the women’s learning strategies

were not isolated or fixed in time, they were interrelated and woven together to meet the particular needs of each student. The learning strategies were either learnt from others, or developed iteratively and independently through a complex interplay of contextual factors. A notable factor is that strategies that afforded ongoing, external routines and support helped the participants maintain stability in both their life and learning.

5.5 Recommendations for Further Study

5.5.1 Coaching.

The empirical links between “motivation, learning strategies and performance are well established” (Duncan & McKeachie, 2005, p. 120). The inability to transfer learning in the academic environment has led to one explanation of ADHD being “a disorder of performance, not knowledge” (Antshel et al. 2011, p. 3). Strategies to support learning in HE can be both taught and developed. This study places particular emphasis on one-to-one, ongoing coaching to support time-based strategies for learners with ADHD and this is one area for further exploration.

5.5.2 Visual narrative.

Visual narrative, i.e. images, signs, symbols and illustrations showing the sequence of tasks that are supported with text may have particular value for people with ADHD. Depicting tasks as events in time in a step-by-step method makes time and tasks visible. In the service of visual narrative, photography is a potent method to “represent life or learning as it happens” (Lemon, 2006, p. 3). Visual narrative can make thinking visible “as it happens” (ibid) in mind maps, as time is made visible with calendars and visual clocks. The potential for visual narrative as instructional design for ADHD is untapped; there is no discussion of this method in connection with ADHD and this is an area for further exploration in research. The construction of an *aide memoire*, and visual narratives using Smartphone snapshots and screenshots are yet to be harnessed. Further understandings of how visual narratives can

capture the attention and teach people with ADHD could assist them develop their own visual/spatial strategies in their own reflective space.

5.5.3 Overcoming restlessness.

Even when able to complete tasks effectively, restlessness did not stop after deadlines for the women in this study. There is some discussion in the literature about the capacity for people with ADHD to maintain states of intense concentration for prolonged periods of time, called *hyper-focus* (Hua et al., 2014; Popovic, 2011; Toner, 2009; Edwards, 2008). Yet to be discussed in the literature is the price high achievers with ADHD pay for the effort required to perform academic functions, or how they manage the experience of how they rest or return to day-to-day activities after prolonged intense periods of study. Even when outstanding results are attained, two women in this study reported being enervated by their studies. This suggests the satisfaction they gained from their study was the focused learning in the short term, not a long-term sense of satisfaction from the result. There is evidence that the practice of mindfulness benefits inattention and restlessness (Zylowska et al., 2008). Digital applications (Apps) for mindfulness and systematic relaxation are plentiful and available free of charge. This however, is another area where further investigation would be beneficial.

5.5.4 Overcoming disorganisation.

Further inquiry into the role of ownership is needed to understand to what extent individuals discover the learning strategies that work for them, to establish at what point it is appropriate for an educator to design a process, change a routine or a structure for the safety and security of an individual. Mothers have said routines needed to be “inflicted” and “imposed” on *themselves* and children, with all family members reported as being grateful for the order brought to their household following an organisational intervention for children with ADHD (Firmin & Phillips, 2009, p. 1170). These comments raise the question, to what extent, and in what ways is this appropriate for adults.

5.5.5 Overcoming inattention.

Brown (2005) offers a framework that could be helpful to women with ADHD in higher education: (a) *activation* – someone or something that catalyses the commencement of a study task, (b) *focus and organisation* – e.g. visualisation, time management and organisational skills that help focus on, organise and break down the task at hand, (c) *effort* - continual feedback to keep motivated in order to sustain concentration and motivation, which is more achievable when involved in projects of interest, (d) *self-regulation* – making time visible to manage deadlines, distractions, emotions and sleep (e) *memory* - compensation for poor working memory, using strategies such as mind maps to create more “headspace”, and (f) *action* – task completion. This is another area warranting research to understand if it is useful for helping students studying in HE.

5.6 Chapter Summary

This research reveals that women with a formal diagnosis of ADHD studying in HE can be successful if they can draw on a range of strategies to support their learning. If educators working within the context on HE are to effectively support students it is essential that they recognise those who have ADHD and careful consideration should be given to ensuring these students have access to a broad spectrum of learning strategies that are organised to meet their needs.

APPENDIX A

Ethics Approval Letter

MACQUARIE
UNIVERSITY



Office of the Deputy Vice-Chancellor (Research)

Research Office
C5C Research HUB East, Level 3, Room 324
MACQUARIE UNIVERSITY NSW 2109 AUSTRALIA

Phone +61 (0)2 9850 7850
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Email ethics.secretariat@mq.edu.au

01 April 2014

Dr Trudy Ambler
Learning and Teaching
Faculty of Arts
Macquarie University
NSW 2109

Dear Dr Ambler

Re: Learning strategies of women disclosing with a diagnosis of ADHD in the context of higher education

Thank you for your application for the above project. The Human Research Ethics Committee (Human Sciences and Humanities) considered your application at its meeting held on 28 March 2014.

This research meets the requirements set out in the *National Statement on Ethical Conduct in Human Research* (2007) and your application has been approved.

Details of this approval are as follows:

Reference No: 5201400307

Approval Date: 28 March 2014

This letter constitutes ethical approval only.

The following documentation has been reviewed and approved by the HREC (Human Sciences and Humanities):

Documents reviewed	Version no.	Date
Macquarie University Human Research Ethics Application	2.3	Jul 2013
Participant Information and Consent Form		
One-on-One Interview Questions		
Advertisement		
Letter of support for the project from Joy V. Toll OAM, ADDults with ADHD (NSW) Inc.		

Please ensure that in all future correspondence with the HREC all documentation has a version number and date.

Standard Conditions of Approval:

1. Continuing compliance with the requirements of the *National Statement*, which is available at the following website:

<http://www.nhmrc.gov.au/book/national-statement-ethical-conduct-human-research>

2. Approval is for five (5) years, subject to the submission of annual reports. Please submit your reports on the anniversary of the approval of this protocol.

3. All adverse events must be reported to the HREC within 72 hours.

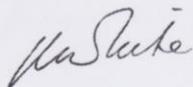
4. Proposed changes to the protocol must be submitted to the Committee for approval before implementation.

It is the responsibility of the Chief investigator to retain a copy of all documentation related to this project and to forward a copy of this approval letter to all personnel listed on the project.

Please do not hesitate to contact the Ethics Secretariat should you have any questions regarding your ethics application.

The HREC (Human Sciences and Humanities) wishes you every success in your research.

Yours sincerely



Dr Karolyn White

Director, Research Ethics & Integrity

Chair, Human Research Ethics Committee (Human Sciences and Humanities)

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) National Statement on Ethical Conduct in Human Research (2007) (the National Statement) and the CPMP/ICH Note for Guidance on Good Clinical Practice.

APPENDIX B

Extract of letter from Joy Toll, ADDults with ADHD

6th March, 2014

Ms Christine Young,
C/- Macquarie University

Re: Research into Women with ADHD at University.

Firstly I would like to congratulate you on choosing a very worthy topic of research. This is a subject area that has not even been considered previously, despite its importance.

Would you have information or a flyer to assist in promoting the research in our newsletter. We could also distribute the information at our Seminar Afternoons and through kindred organisations.

I look forward to hearing further from you.

Joy V. Toll

Joy V. Toll OAM
President and
Helpline Co-ordinator

ADDults with ADHD (NSW) Inc.
Web: www.adultadhd.org.au
Email: info@adultadhd.org.au
Helpline: 02 9889 5977 / 0416 111 036

APPENDIX C

Information and Consent Form



ADHD Learning Strategies

Full Project Title

Learning strategies of women disclosing with a diagnosis of ADHD in the context of higher education.

Project Description & Aims

This research project aims to identify what strategies assist the management of ADHD and learning, and what supports are needed to ensure academic success for women with ADHD. As there is very little research into the learning needs of women with ADHD at university, you would be making a valuable contribution to an area of need by sharing your story about what it is like to study when you are struggling with an attention disorder.

This study is being conducted by Dr Trudy Ambler (Chief Investigator/supervisor) and Christine Young, who is conducting this research for the Master of Research.

Participant Activities & Benefits

You will be required to attend an information session that describes the research and answers any questions you might have. During the information session, you will be asked to take some 'snapshot' photographs that represent your learning strategies and bring them to an interview. The interview will invite you to talk about your learning strategies and experiences, and include some discussion about your snapshots. The interview will be conducted on a one-on-one basis and last for one hour. Your photographs will serve two purposes. They will complement the transcripts, and research texts written by the researchers. Snapshots of your learning strategies will also serve to consolidate your strategies as a visual reminder, and for reflection. Participation will also provide you with the opportunity to be included in a research process. You will be given access to the research results, which will connect you to the learning strategies of other women with ADHD.

Time and remuneration

It is anticipated that a total of two hours of your time will be needed in order to participate in the project. The interview will last for one hour, with and 30 minutes allocated to follow up snapshots and check the interview transcripts.

Research Results

Research findings will be made available to you on request.

Risks or Discomforts

This project has been designed to very low risk for participants. However, if you become distressed during or after completion of the one-on-one interview, support will be available through Macquarie University counselling services which are open Monday – Friday between 8.00 am – 6.00 pm. (02) 9859 7489 Email: counselling@mq.edu.au

If when relating their experiences they experience distress. If this situation arises, the researcher will assess the situation and take appropriate action, which may referring the participant to MQ counselling services.

Privacy

Any information or personal details gathered in the course of the study are confidential (*except as require by law and/or negotiated with each participant*). No individual will be identified in any publication of the results. Only the researchers and research assistant will have access to the data. All data will be securely stored, and will be held for a minimum of 5 years from last publication, after which time it will be destroyed.

Participation in this study is entirely voluntary: you are not obliged to participate and if you decide to participate, you are free to withdraw at any time without having to give a reason and without consequence. Your participation and/or withdrawal from this research will in no way affect your academic standing or relationship with Macquarie University.

I, (*participant's name*) _____ have read (*or, where appropriate, have had read to me*) and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in the *ADHD Learning Strategies* research, knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep.

Participant's Name: _____

Participant's Signature: _____ Date: _____

Investigator's Name: _____
(Block letters)

Investigators Signature: _____ Date: _____

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone (02) 9850 7854; email ethics@maedu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

(INVESTIGATOR'S [OR PARTICIPANT'S] COPY)

APPENDIX D

One-on-One Interview Questions

What types of activities help you with your learning?

What helps you make a start with your studies?

How do you make sure you complete your work and stay on task?

What keeps you motivated to stick with studying a university degree, when other activities are more interesting?

Have there been any high or low points in your educational history?

Probe: Is there a specific time or event that you can remember?

Probe: Can you please describe your academic experiences so far?

Probe: Did you have awareness of a particular strategy that changed how you were learning?

Do difficulties with concentration cause any problems for your learning?

Probe: What do you need in order to be able to concentrate on reading?

Probe: What helps you concentrate when you are writing assignments?

Do have and difficulties with distractibility?

Probe: Are you aware of when you are being distracted?

Probe: Is there anything that you need to do to manage distractibility?

Probe: What makes distractibility better or worse for you?

Do you ever find your memory lets you down?

Probe: do you need help for short-term memory problems?

Probe: have you got any strategies to compensate for your memory?

What are the types of challenges you encounter with organising yourself and tasks?

Probe: do you have any special techniques that help create order?

Probe: what do you do when you have to prioritise your academic work?

Probe: What is it like for you when you have competing demands and you have to manage your time well?

Has anything, or anyone, been particularly helpful in aiding your learning?

Probe: Can you remember a turning point in your learning?

Have you had any breakthroughs in your learning lately?

APPENDIX E

Research advertisement

ADHD



A cognitive difference?

**Are you a female with a formal diagnosis of ADHD?
Interested in consolidating ADHD learning strategies?**

Would you like to participate in what might be the first study on the lived experience of women with ADHD in the context of higher education?

You would be required to attend an information session, an interview, on a one on one basis, for one hour, and take some photographs that represent your learning strategies. You will receive a \$20 Woolworths voucher in consideration of your time.

please contact
Women with ADHD
Learning Strategies
christine.young1@students.mq.edu.au

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone (02) 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

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