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The Lived Experience of Postgraduate Students with ADHD in the New Zealand Online Learning Environment

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ABSTRACT

In Aotearoa, New Zealand, educational organisations have increased their reliance on online learning environments, significantly influencing the learning experience for all students, particularly those with ADHD. Despite the permanence of online learning environments, there is currently a lack of qualitative research that includes the voices of neurodiverse students. The current research explores the lived experience of postgraduate students with ADHD in the New Zealand online learning environment. This research was underpinned by a critical neurodiversity paradigm, in which recognises and challenges neuronormative assumptions embedded within social systems, whilst also promoting more inclusive and equitable practices. Hermeneutic phenomenology enabled the researcher to interpret and make meaning of participants' lived experiences. This study utilised an Interpretative Phenomenological Analysis (IPA) approach, employing semi-structured interviews with nine purposively sampled participants. Findings and analysis revealed four superordinate themes: 'Neurodiversity and self-identity', 'Navigating online environments: socializing, physical workspaces, and individual strategies for success', 'The flexibility paradox', and 'Equity vs Equality'. The findings of this research have implications for improving online learning environments to better support the diverse learning needs of all students and foster psychologically safe spaces.

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Chapter One: Introduction to Attention Deficit Hyperactivity Disorder

The introduction is presented in Chapters One and Two. Chapter One briefly outlines the current clinical context of Attention Deficit Hyperactivity Disorder (ADHD) in New Zealand. This chapter provides a foundational understanding of ADHD, including its prevalence, diagnostic criteria, common comorbidities, causes and current treatment approaches, to provide a framework for subsequent discussion. Chapter Two outlines an overview of the development and clinical presentation of ADHD at different life stages.

1.1 Epidemiology

Attention Deficit Hyperactivity Disorder (ADHD) is recognised as the most common neurodevelopmental disorder, affecting approximately 8% of children and adolescents worldwide (Ayano et al., 2023; Biederman, 2005). The global prevalence of ADHD in adults is much lower, estimated between 2% and 5% (Ayano et al., 2023; Song et al., 2021). The significant variability in estimates worldwide, and increasing rates of diagnosis and treatment have raised concerns about the true prevalence and validity of the disorder (Polanczyk et al., 2014). Polanczyk and colleagues (2014) suggest that variability in prevalence rates is accounted by differences in the methodological differences, such as, disparity in diagnostic criteria, sources of information, and how clinicians consider functional level impairment when determining a diagnosis (Polanczyk et al., 2014). In community samples, the prevalence of ADHD is highest in young children, and twice as high in males compared to females (Ayano et al., 2023; Robison et al., 2002). In clinical samples, females are significantly more likely to meet criteria for inattentive ADHD, whilst males are significantly more likely to exhibit hyperactivity and impulsivity symptoms (Willcutt, 2012). Research suggests that ADHD is not necessarily a predominantly male disorder, as inattentive symptoms are more common in females, and often less disruptive than those of hyperactivity and impulsivity, they often go undetected and have historically led to higher rates of

underdiagnosis in females (Robison et al., 2002). Furthermore, increasing awareness, improved access to treatment, and changes in clinical practice underscore the rising rates of diagnosis and treatment of ADHD, as there is no evidence of an actual increase in ADHD prevalence over time when standardized diagnostic procedures are used (Polanczyk et al., 2014).

Research suggests that the prevalence of ADHD in children aged 5 – 14 years, has been estimated at 5.3%. Further empirical evidence from a four-decade longitudinal cohort study, of 1037 New Zealanders, born in Dunedin, found a 6% prevalence rate for childhood ADHD, whilst adult ADHD had a prevalence of 3% (Moffitt et al., 2015). A recent New Zealand based longitudinal study screened 414,171 preschoolers for ADHD, using population level data from the Before School Check (B4SC) (D'Souza et al., 2022). The B4SC asks caregivers and early childhood teachers to complete the Strengths and Difficulties Questionnaire (SDQ), which can illustrate the severity of ADHD-like behaviours, and indicate whether preschoolers should be referred for a formal diagnosis by a specialist (D'Souza et al., 2022). Research identified ADHD concerns among 2.8% of Māori and 1.6% of non-Māori (D'Souza et al., 2022). However, a smaller proportion of tamariki Māori (10.8%) received ADHD medication compared to non-Māori (14.9%). Findings also indicate early screening and intervention does not result in equitable outcomes for all New Zealanders, and suggest tamariki Māori may face inequitable access to treatment (D'Souza et al., 2022). Together, these studies reveal the complexity of accurately assessing the New Zealand's ADHD prevalence. The limited available statistical data, outdated empirical research, and disparities in access to diagnosis and treatment, particularly for tamariki Māori, highlight significant gaps in our understanding of ADHD in Aotearoa, New Zealand.

1.2 Clinical Diagnosis

This section provides an overview of the diagnostic criteria, clinical subtypes, and assessment procedures associated with ADHD.

1.2.1 Clinical Criteria

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) (American Psychiatric Association, 2022) is the most common diagnostic classification system utilised in New Zealand. According to the DSM-5-TR, the diagnostic criterion of ADHD requires a pattern of five or more symptoms of inattention, and/or hyperactivity-impulsivity symptoms, that interfere with functioning, and have persisted for a minimum of six months (American Psychiatric Association, 2022). Inattentive behavioural manifestations of ADHD, involve difficulty sustaining focus and attention, and may present in various ways, such as, careless mistakes, disorganisation, forgetfulness and avoidance of tasks that require sustained mental effort (American Psychiatric Association, 2022). Hyperactive behavioural manifestations of ADHD, involve inappropriate excessive levels of activity, which may present in various ways, such as, extreme restlessness or talkativeness. Impulsive behavioural manifestations of ADHD, involve difficulty inhibiting inappropriate responses, and may present in various ways such as, an inability to wait for one's turn, interrupting others, or making decisions without considering long term consequences. In order to meet diagnostic criteria, symptoms of inattention, hyperactivity and impulsivity must not be better explained by another mental disorder, or attributable to oppositional behaviours, defiance, hostility, or failure to understand tasks or instructions. The onset of symptoms must be present prior to age 12 years, present across more than one setting such as, work, home or school, and interfere with, or reduce the quality of social, academic or occupational functioning (American Psychiatric Association, 2022).

1.2.2 Clinical Subtype

The DSM-5-TR outlines three main presentations of ADHD, including a predominantly inattentive (ADHD-I), predominantly hyperactive/impulsive (ADHD-HI) and a combined presentation (ADHD-C). Individual subtype is dependent upon which presenting symptoms are the most prominent across the categories of inattention and hyperactivity-impulsivity. According to the DSM-5-TR, a diagnosis may specify a predominantly inattentive presentation, when children exhibit six or more symptoms of inattention, and fewer than six symptoms of hyperactivity/impulsivity over the last 6-months. Alternatively, a diagnosis may specify a predominantly hyperactive-impulsive presentation, when children exhibit six or more symptoms of hyperactivity/impulsivity, and fewer than six symptoms of inattention over the last 6-months. A combined type diagnosis may be specified if the criteria for both inattention and hyperactivity-impulsivity categories of symptoms have been met in the last 6-months. A diagnosis in partial remission may be specified if individuals previously met full diagnostic criteria for ADHD but have not met full criteria for at least 6 months. The severity of the diagnosis may specify between mild, moderate, and severe, depending on the current number of symptoms, and marked impairment.

1.2.3 Clinical Assessment

The New Zealand guidelines for the assessment and treatment of ADHD, indicate that the first step for individuals seeking assessment or treatment for ADHD, is to consult a General Practitioner (GP) for a preliminary assessment. Clinical assessment must be undertaken by professional with training and expertise in diagnosing and managing ADHD, typically a psychologist, psychiatrist or paediatrician (Skirrow et al., 2023). The New Zealand Ministry of Health emphasises the importance of culturally responsive approaches to building rapport and relationships with Māori patients, highlighting the need for clinicians to receive adequate training to support cultural competence.

1.3 Comorbidity

Epidemiological and clinical research has established that a diagnosis of ADHD with a co-occurring comorbid condition, is more common than non-comorbid ADHD. Approximately 52% of individuals with ADHD have at least one comorbid disorder, and 26.2% of these individuals have two or more comorbid conditions (Jensen & Steinhausen, 2015, 2015; Kraut et al., 2013). Oppositional defiant disorder (ODD) and conduct disorders (CD) are among some of the most frequently observed comorbid psychiatric disorders, appearing in up to 60% of children and adolescents with ADHD (Jensen & Steinhausen, 2015; Jensen et al., 2001; Sadek, 2019). Combined data from retrospective adult reports, and prospective child observations, indicate that individuals with comorbid ODD/CD face earlier onset and higher prevalence of substance use disorder and major depression (Spencer, 2006; Taurines et al., 2010). Anxiety and disruptive mood dysregulation disorders have been shown to develop earlier and more frequently across individuals with ADHD, compared to the general population, with comorbid anxiety affecting about 25% and the prevalence of bipolar disorder ranging from 0% to 20% (Jensen & Steinhausen, 2015; Jensen et al., 2001; Sadek, 2019; Taurines et al., 2010). In addition to psychiatric comorbidities, neurodevelopmental disorders commonly co-occur alongside ADHD. Children with ADHD are more likely to develop, or already have autistic spectrum disorder (ASD) behaviours and traits compared to typically developing children, with 12.4% meeting full criteria for ASD (Antshel et al., 2013; Jensen & Steinhausen, 2015). Comparatively, intellectual disabilities are a less common comorbidity, co-occurring in approximately 7.9% of children and adolescents with ADHD (Jensen & Steinhausen, 2015). Specific learning disorders, including, reading disorder, written language disorder and mathematics disorder, co-occur across 31% - 45% of all students with ADHD (DuPaul et al., 2013; Sadek, 2019). Finally, individuals with ADHD have an increased risk of developing tic disorders, including Tourette's disorder, with studies

showing that 20–30% meet the criteria for a tic disorder (Jensen & Steinhausen, 2015; Sadek, 2019).

Individual comorbid psychiatric and neurodevelopmental disorders are significantly influenced by genetic, environmental and clinical factors (Antshel et al., 2013; Willcutt et al., 2012). As each ADHD subtype is associated with elevations of various symptoms of all mental disorders, an individual's presentation may influence their risk of specific comorbidities (Willcutt et al., 2012). Individuals with a predominantly inattentive presentation of ADHD, have been shown to more commonly meet criteria for major depressive disorder and specific learning disorders (Willcutt et al., 2012). Conversely, individuals with a predominantly hyperactive/impulsive presentation of ADHD, more commonly meet criteria for externalizing and tic disorders, whilst those with a combined presentation are more likely to meet criteria for oppositional defiant disorder, conduct disorder, and bipolar disorder (Willcutt et al., 2012). Furthermore, longitudinal research, highlights the impact of both sex and age, suggesting that males are frequently diagnosed earlier in life, with a more significant risk of comorbid autism spectrum disorder, conduct disorder, tic disorders, and specific disorders of development (Jensen & Steinhausen, 2015). Comparatively, females are often diagnosed later in life, with a more significant risk of comorbid affective disorders and anxiety disorders (Jensen & Steinhausen, 2015). Despite heterogeneity in the development of ADHD, it's comorbidities' are developmentally sensitive, as some disorders, such as, autism spectrum disorder are typically diagnosed during childhood, other comorbidities such as SUD, may not appear until later in life (Jensen & Steinhausen, 2015).

1.4 Aetiology

The following section outlines factors that contribute to aetiology of ADHD, including genetic factors, environmental factors, structural differences in brain development, as well as neuropsychological theories.

1.4.1 Genetic Factors

The aetiology of ADHD is complex and is underscored by a combination of both genetic and environmental factors, as well as their interactions. Family, twin, and adoption studies have established ADHD as a highly heritable disorder, and highlight the significant role of genetics in the aetiology of ADHD, and its comorbidity with other disorders (Faraone & Larsson, 2019). Twin studies comparing monozygotic twins, who share 100% of their genes, and dizygotic twins, who on average share 50% of genes, indicate a substantial heritability of inattention problems across sex, age, and severity (Gjone et al., 1996).
A past study investigating the familial association between 894 probands, and 1135 of their siblings, established a recurrence risk ratio of 9.0, suggesting that the siblings of those with ADHD are nine times more likely to develop ADHD in comparison to the general population (Chen et al., 2008). Adoption studies suggest that familial factors of ADHD are not attributable to environmental factors, and are best explained by genetic factors (Faraone & Larsson, 2019; Sprich et al., 2000). Past research utilizing an adoption study design, found that among children with ADHD, the corresponding rate of ADHD was significantly higher in biological parents, compared to the adoptive parents and non-ADHD parents (Sprich et al., 2000). Comparatively, for children without ADHD, the rate of ADHD across adoptive and biological was low and indistinguishable (Sprich et al., 2000). ADHD's high heritability estimates of approximately 70% - 80%, have facilitated research investigating the presence of ADHD susceptibility genes (Faraone & Larsson, 2019; Martin et al., 2002). Large genome wide association studies have shown that a high number of common genetic variants

contribute to an individual's vulnerability to ADHD (Faraone & Larsson, 2019). However, no single genetic variant, or combination of variants have been identified as sufficient causes of ADHD, which is a consequence of gene to gene interaction, as well as other factors, such as the environment (Faraone & Larsson, 2019).

1.4.2 Environmental Factors

The presence of various environmental factors, and their potential interactions with genes have been implicated in the aetiology of ADHD (Anderson et al., 2019). Adverse prenatal environmental factors, including, fetal exposure to maternal stress, alcohol, drugs, and nicotine have been established as risk factors for ADHD (Anderson et al., 2019). Early alcohol exposure has been shown to increase children's risk of cognitive and behavioural deficits, including attention issues, slow information processing, and learning difficulties (Banerjee et al., 2007). Early life exposure to nicotine impacts cognitive and behavioural development, and has been associated with hyperactivity in children (Kotimaa et al., 2003). Retrospective data indicates that children with ADHD are more likely to have had a lower birth weight, and more complications during pregnancy, delivery and infancy (Sciberras et al., 2011). Postnatal psychosocial adversity has also been established as a risk factor for ADHD (Anderson et al., 2019). Research exploring family environments, has shown that factors such as, marital discord, low social class, large family size, paternal criminality, maternal mental disorder and foster placements are associated with an increased risk of psychiatric disorders among children (Banerjee et al., 2007; Rutter et al., 1975). Children exposed to poor psychosocial environments frequently exhibit symptoms of inattention, hyperactivity, and externalizing behaviors, and are commonly diagnosed with ADHD (Banerjee et al., 2007; Sciberras et al., 2011). Moreover, adverse psychosocial stressors such as, stress, marital conflict, and low social support, negatively impact parental mental health and exacerbate postnatal depression (Dennis, 2005). The presence of postnatal depression can

impair a parents ability to provide positive parent – child interactions, and has been significantly associated with an increased risk for both ADHD symptoms and diagnosis in children (Robinson et al., 2024; Sciberras et al., 2011).

Neurotoxicity has been established as a significant cause of neuropsychological symptoms and impairment. (Schoenberg, 2011). Early exposure to metals, such as lead, mercury and manganese have been shown to result in both neuropsychological, and psychological impairments (Schoenberg, 2011). Childhood lead exposure can alter brain dopamine systems essential for regulating attention, focus, and impulse control, and has been associated with ADHD (Banerjee et al., 2007; Froehlich et al., 2009). Epidemiological studies exploring the impact of childhood lead poisoning, found that lead-exposed children, or adults who had been lead-exposed as children, experienced deficits on tests assessing fine motor skills, language, memory, attention and executive function (Lidsky & Schneider, 2006). Regarding ADHD, both mercury and manganese are also considered developmental toxicants. The neurotoxic effects of methylmercury and manganese disrupt dopamine-mediated neurotransmission during crucial developmental periods (Debes et al., 2006; Kern et al., 2010). These dopaminergic system disruptions can have long lasting impact on behavioral and cognitive functions, and have been established in the pathogenesis of ADHD (Ke et al., 2021; Kern et al., 2010).

1.4.3 Structural differences in brain development

Genetic and environmental factors contribute to structural brain differences in individuals with ADHD (Konrad & Eickhoff, 2010). Neuroimaging studies have consistently established smaller brain volumes in individuals with ADHD through the magnetic resonance imaging (MRI) (Friedman & Rapoport, 2015). Volumetric analysis have shown that ADHD is associated with approximately a 3% reduction in total brain volume, particularly in regions of the corpus callosum, prefrontal brain, basal ganglia, and cerebellum (Castellanos et al.,

2002; Friedman & Rapoport, 2015). In comparison to other neurodevelopmental disorders, structural brain abnormalities have been characterised by a delay rather than a divergence in development, and are independent of psychiatric comorbidity (Castellanos et al., 2002; Friedman & Rapoport, 2015). Past neuroanatomical research suggests that whilst developmental trajectories of children with ADHD remain parallel with the growth patterns of typically developing children, these children take significantly longer to reach peak cortical thickness (Shaw et al., 2007). Many of the largest maturational delays are associated with the prefrontal cortical regions, important for control of executive cognitive processes, such as inhibitory control, attentional control, higher-order motor control, evaluation of reward contingencies, and working memory (Shaw et al., 2007). Thus, the marked delay in attaining peak thickness has been implicated in the severity and pathogenesis of ADHD (Shaw et al., 2007). Although differences exist among children to a greater extent than adolescents and adult, emerging evidence highlights that established structural brain abnormalities can persist throughout the lifespan, contributing to cognitive deficits in adults with ADHD (Cubillo et al., 2012). A longitudinal study tracking cortical development from childhood into adulthood, found that the developmental trajectories of brain regions involved in the attentional control, executive control, and default mode networks, were significantly associated with adult ADHD outcomes (Shaw et al., 2013). Greater symptom severity in adulthood has been associated with increased cortical thinning in the medial and dorsolateral prefrontal cortex, whilst remission of ADHD is associated with normalization of cortical structure and function through cortical thickening or minimal thinning (Shaw et al., 2013).

1.4.4 Neuropsychological Theories

Neuropsychological theories of ADHD attempt to explain the relationship between the neurobiological, psychological and symptomatic levels of ADHD (Sonuga-Barke, 2003). Key cognitive and behavioural theories of ADHD, such as the Executive Function theory, the

Delay Aversion theory, and the Dual Pathway model, have developed over multiple decades to provide a more nuanced explanation of the disorders aetiology. Numerous theories propose that symptoms of ADHD primarily arise from cognitive deficits in executive functioning (Johnson et al., 2009). Executive function refers to a set of top-down cognitive processes, that support goal-directed behaviours, cognitive flexibility, inhibition control, and working memory (Willcutt et al., 2005). According to Barkley's (1997) early model of executive function, deficits in inhibition, stemming from problems in the prefrontal cortex, contribute to a cascade of secondary executive impairments, that underly behavioural expressions of impulsivity and inattention (Barkley, 1997; Lovejoy et al., 1999). In comparison, the delay aversion theory suggests that symptoms of ADHD arise from motivational deficits, particularly related to reinforcement, and are marked by a heightened sensitivity to delay (Sonuga-Barke, 2003). In this model, difficulties waiting for outcomes, working towards long term goals, and preferences for smaller immediate rewards reflect an attempt to avoid delay, and underscore impulsive decision-making and hyperactive behaviour (Luman et al., 2010; Sonuga-Barke, 2003). The current converging research indicates that not one single deficit can sufficiently explain the cause of ADHD, and suggests that motivational and executive function problems are among the multiple deficits that compromise the neuropsychological aetiology of ADHD (Willcutt et al., 2005). The dual pathway model of ADHD combines elements of cognitive and motivational theories into a single psychophysiological framework, proposing that executive dysfunction and delay aversion are two distinct yet functionally integrated mechanisms that both contribute to the condition's diverse symptoms (Sonuga-Barke, 2003). The dual hypothesis transitions away from a single core deficit, to incorporate a more multidimensional view that acknowledges the psychological heterogeneity of ADHD (Sonuga-Barke, 2003). Given the wide heterogeneity of the disorder, there is currently no single risk factor or theoretical framework that can sufficiently explain all cases of ADHD

(Willcutt et al., 2005). Thus, it is plausible that different subtypes have distinct aetiologies and neuropsychological or behavioural profiles that align differently with each theoretical framework (Johnson et al., 2009).

1.4 Development and Course

The clinical course of ADHD is chronic and evolves over the lifespan. The clinical presentation of ADHD is influenced by the individual's developmental stage, comorbidities, and environmental demands (Cherkasova et al., 2013; Taylor & Sonuga-Barke, 2008). The typical presentation of symptoms at different ages are summarized in Table 1 below.

Table 1

Different life stages in ADHD

	Preschool	Primary School	Adolescence	Adulthood
Inattentive	Short play sequences (<3 minutes); not completing activities; not listening	Brief activities (<10 minutes); frequent change in activities; forgetful; disorganised; distracted by environment	Persistence less than peers; lack of focus on detail; poor planning ahead	Details not completed; appointments forgotten; lack of foresight
Overactive	'Whirlwind'	Restless when calm expected	Fidgety	Subjective sense of restlessness;
Impulsive	No sense of danger	Acting out of turn, interrupting others or blurting out answers; thoughtless rule-breaking; intrusion on peers; accidents	Poor self-control; risk-taking behaviours	motor and other accidents; unwise decision-making; Impatience

Source: Adapted from Taylor and Sonuga-Barke (2008)

As the developmental abnormalities preceding ADHD manifest early in life, there is an increasing tendency for early identification and intervention to occur in preschool-aged children, to support symptom management, school readiness, and potentially improve long term outcomes (Cherkasova et al., 2013; McGoey et al., 2002). However, identifying developmentally inappropriate symptoms of ADHD in preschoolers can be challenging, as poor inhibitory control, and shorter attentions spans are typical of this age group (Cherkasova et al., 2013; Egger et al., 2006). In clinically significant cases, behavioral manifestations of ADHD are pronounced, and often hinder preschoolers development of social skills, preacademic skills, and acclimation to school life (McGoey et al., 2002). Epidemiological research suggests that most preschoolers with ADHD exhibit the combined presentation, and whilst the hyperactive-impulsive type is more common at this age than in older children, the predominantly inattentive presentation is rare (Galéra, 2011). The majority of ADHD diagnoses are made in school age children, as educational difficulties or class disruptions often bring the condition into clinical attention (Cherkasova et al., 2013; Loe & Feldman, 2007). The combined subtype of ADHD is the most common in this group, as children with inattentive symptoms often also exhibit hyperactive behaviour early in life (Cherkasova et al., 2013; Galéra, 2011). Longitudinal research highlights covariation between hyperactivity-impulsivity and inattention symptoms, suggesting that the presence of childhood hyperactivity may exacerbate inattention during adolescence, and is a salient factor in the chronicity of ADHD (Greven et al., 2011). The current understanding of ADHD beyond childhood stems mainly from prospective longitudinal follow up studies, that suggest approximately 50% - 80% of children have symptoms that persist into adolescence, and about 40% of symptoms continue into adulthood (Austerman, 2015; Cherkasova et al., 2013). In late childhood and early adolescence, hyperactivity/impulsivity symptoms typically appear to decline, while symptoms of inattention may start to become more pronounced (Cherkasova et

al., 2013). In adulthood, hyperactivity is often replaced by an inner restlessness, commonly expressed as an inability to relax, whilst symptoms of inattention are more persistent and may interfere with occupational, interpersonal, and daily functioning (Volkow & Swanson, 2013).

1.5 Treatment of ADHD

The following section outlines various approaches to treatment, including pharmacological and multidisciplinary treatment options.

1.5.1 Pharmacological Treatment

Table 2

Types of ADHD Medication: Stimulants, Non-Stimulants, and Antidepressants

Class	Brand Name	Active Ingredient
Stimulants		
	Aspen Dexamphetamine	Dexamfetamine sulphate
	Apo-Atomoxetine Capsule	Atomoxetine
	Atomoxetine Capsule	Atomoxetine
	Concerta	Methylphenidate hydrochloride
	Dexamfetamine	Dexamfetamine sulphate
	Methylphenidate Extended Release - modified release tablet	Methylphenidate
	Modavigil	Modafinil
	Ritalin	Methylphenidate hydrochloride
	Ritalin LA modified release capsule	Methylphenidate hydrochloride
	Rubifen	Methylphenidate hydrochloride
	Rubifen SR modified release tablet	Methylphenidate hydrochloride
	Vyvanse (Not subsidised by Pharmac)	Lisdexamfetamine
Non-Stimulants		
	Strattera	Atomoxetine
Antidepressants		
	Tronafil	Imipramine hydrochloride

In New Zealand, the three main medicines used for treating symptoms of ADHD are methylphenidate, dexamphetamine, and atomoxetine (Ministry of Health, 2024). Monotherapy with a stimulant drug (methylphenidate or dexamphetamine) is generally

considered as the first line of treatment in ADHD (Ministry of Health, 2001). Extensive research has long shown the efficacy of psychostimulants in reducing the core symptoms and functional impairments of ADHD (Mechler et al., 2022). Briefly, psychostimulants impact dopamine and norepinephrine to increase the availability of synaptic dopamine, subsequently improving the efficacy of the prefrontal cortex (Faraone & Buitelaar, 2010; Mechler et al., 2022). Psychostimulants are available in short-acting and long-acting formulations. Long acting stimulants are equally as effective as short acting stimulants, but provide a longer duration of action, reducing the need for multiple daily doses, and improving treatment compliance (Daughton & Kratochvil, 2009). Short acting medication has a rapid onset of action, and may prove particularly helpful as an additional treatment, to bridge gaps before long-acting medications take effect or when their effects begins to wear off (Daughton & Kratochvil, 2009). Adverse side effects of stimulant medication include drowsiness, loss or appetite, weight loss, gastrointestinal symptoms, headaches, heart tremor, and anxiety (Wakelin et al., 2023). Approximately 10% - 30% of individuals with ADHD do not respond well or tolerate psychostimulants (Banaschewski et al., 2004). In such cases, non-stimulant medications are generally considered as second line treatments, although their effect sizes are relatively smaller than those of stimulants (Mechler et al., 2022).

1.5.2 Multidisciplinary Treatment

Non pharmacological, behaviour management interventions, such as parent training, classroom interventions, and peer-based interventions, aim to reduce undesirable behaviour, and increase desirable behaviour in children with ADHD (Shrestha et al., 2020). Nonpharmacological, psychotherapy interventions, such as cognitive training and cognitive behavioural therapy (CBT) focus directly on the problematic behaviours, to support the child to learn better ways of coping with unfavourable symptoms, and improve quality of life (Shrestha et al., 2020). The National Institute of Mental Health's Multimodal Treatment

Study of Children with ADHD (MTA), examined the long term effectiveness of various treatment types, including, medication, psychosocial treatment, a combination of both, and standard community care control (Arnold, 1997). Research results provide some evidence that combined behavioural and pharmacological management with a stimulant drug may provide significantly larger symptom reductions than pharmacological management alone (Jensen, 2001). However, the substantial differences in the degree of outcomes across treatment types underscores the importance of developing an individualised treatment plan. In New Zealand, the Ministry of Health recommend a multidisciplinary treatment approach to ADHD, that includes both pharmacological and non-pharmacological treatments, such as social, emotional, and psychological therapies, as well as family and school supports (Ministry of Health, 2024). The National Institute for Health and Care Excellence (NICE) emphasise that treatment decisions should be made through a shared decision making process, that involves input from health professionals, and effective consultation with family, schools, and support services and (NICE, 2019). A multidisciplinary treatment plan should consider the individuals goals, symptom severity, resilience and protective factors, as well as the impact of any comorbidities, in order to address psychological, behavioural, and educational or occupational needs (NICE, 2019).

Chapter Two: Literature Review

This chapter situates the current research study within its broader context and establishes a foundation for investigating the lived experiences of postgraduate students with ADHD in the New Zealand online learning environment. The literature review begins by providing a comprehensive overview of the educational experiences of students with ADHD in the traditional learning settings, with particular attention to their academic, psychological and social experiences. This is followed by an overview of the educational outcomes of students with ADHD in the traditional learning environment, including both academic and mental health outcomes. The second section of this chapter shifts to introduce the online learning environment, exploring its key benefits and challenges. This is followed by outlining the existing literature on online learning and neurodiversity, with a specific focus on university students with ADHD. Notably, there is a significant lack of empirical research investigating the experiences of this population in the context of online education. This gap highlights a broader lack of understanding and further underscores a clear rationale and justification for the present study.

2.1 Educational Experiences

The following section provides an overview of the educational experiences of university students with ADHD, including academic, social and emotional functioning. Notably, challenges and difficulties adjusting to the university life appeared more frequently within the literature than positive educational experiences. However, conclusions were often constrained by methodological limitations, including reliance on student-reported ADHD symptoms, and the use of small sample sizes, in which do not necessarily represent the general population of university students with ADHD (Dorr & Armstrong, 2019; Dvorsky & Langberg, 2019; Morsink et al., 2022).

2.1.1 Academic Experiences

It has been long recognised that school age children with ADHD encounter significantly higher levels of adverse educational experiences and outcomes in comparison to their neurotypical counterparts (DuPaul et al., 2009). However, increasing numbers of neurodiverse students are progressing into higher education, with ADHD accounting for at least 25% of registered disabilities among university students (DuPaul et al., 2009; Dvorsky & Langberg, 2019; Green & Rabiner, 2012). Students with ADHD entering higher education have typically experienced high levels of academic success during high school (Green & Rabiner, 2012). Nevertheless, the transition from school to higher education is associated with a significant increase in environmental demands, which can be particularly challenging for students with ADHD (Dvorsky & Langberg, 2019). A comprehensive review conducted by DuPaul et al., (2009), consistently found that university students with ADHD experience significant difficulties adjusting to higher education compared to their neurotypical counterparts, all of which are influenced by the core symptoms of ADHD. Moreover, research independently examining inattentive and hyperactive/impulsive symptom clusters established that inattentive behaviours are more strongly associated with university adjustment, in comparison to hyperactive/impulsive behaviours (Rabiner et al., 2008). As such, symptoms of inattention have been shown to underscore the majority of variance in adaptive functioning and are the most frequently reported challenges among university students with ADHD (Fleming & McMahon, 2012; Osborne et al., 2023; Sedgwick-Müller et al., 2022). In contrast to hyperactivity, symptoms of inattention frequently persist into adulthood, which can increase an individual's susceptibility to both external and internal distractions, including mind-wandering and unwanted intrusive thoughts (Osborne et al., 2023). Research consistently indicates that this population frequently struggles to maintain focus on the task at hand, shifts attention quickly, and are easily distracted by low priority

activities (Osborne et al., 2023). These inattentive behaviours are particularly prevalent in unstimulating environments, and university students with ADHD have been shown to rely on periods of hyperfocus as a coping mechanism for distraction (Sedgwick-Müller et al., 2022).

In recognising the significant heterogeneity across students' educational experiences, researchers have begun to explore whether executive functioning mediates the relationship between ADHD symptoms and functional impairment (Dorr & Armstrong, 2019; Dvorsky & Langberg, 2019; Morsink et al., 2022). Researchers are increasingly understanding adult ADHD as a disorder associated with impaired executive functioning and motivational deficits (Dorr & Armstrong, 2019). A past research study conducted by to Dvorsky and Langberg (2019), established that university students with ADHD frequently experience difficulties with time management, organization, and planning skills, in which are central to self-regulation, and rely heavily on executive functioning (Dvorsky & Langberg, 2019). Consistent with these findings, Morsink et al., (2022) established that motivational deficits create difficulties for adults with ADHD, as this population frequently have trouble maintaining goal-directed behaviours, especially for tasks that are not intrinsically motivating. Subsequently, university students with ADHD tend to believe they are struggling with their study, worse than their peers at planning, completing assignments and avoiding distraction, and frequently express concern about their ability to succeed (Advokat et al., 2011; Blase et al., 2009; Green & Rabiner, 2012).

2.1.2 Emotional Functioning

Individuals with ADHD often struggle with emotional regulation, experiencing heightened levels of stress and anxiety, in which can contribute to dysfunctional coping styles as well as difficulty adjusting to major life obligations (Kwon et al., 2018). Subsequently, the transition to higher education can be overwhelming for students with ADHD and leave students feeling stressed, anxious, and overwhelmed, especially in the absence of effective

accommodations (Clouder et al., 2020a; Dvorsky & Langberg, 2019). In a research study exploring the difficulties faced by university students with ADHD, whilst participants expressed dissatisfaction with their academic performance and achievement, the continuous cycle of worry that followed was equally concerning (Kwon et al., 2018). According to Kwon et al. (2018), university students with ADHD frequently report high levels of self-distrust, self-dissatisfaction, and decreased self-esteem. This emotional turmoil has been shown to lower students motivation and expectations of the future, in which ultimately exacerbates academic difficulties and functioning over time (Kwon et al., 2018). These research findings indicate that the emotional wellbeing of students with ADHD is closely linked to their educational experiences. Furthermore, research has consistently established students with ADHD were more likely to both mentally and behaviourally disengage from their problems and turn to alcohol or drug use (Overbey et al., 2011). A study conducted by Baker et al. (2012), utilizing the Michigan Alcohol Screening Test (MAST) and several self-report and interview questions, established that 40% of students with ADHD felt unable to stop drinking when they wanted and experience higher levels of binge drink in comparison to control students. Additionally, students taking medication for ADHD reported blacking out more frequently than participants not taking stimulant medication, with a further 22% of these participants reporting the loss friends or romantic partners due to drinking (Baker et al., 2012).

2.1.2 Social Functioning

Evidence suggests that individuals with ADHD experience impairments in social functioning, and experience difficulties navigating social interactions (Michielsen et al., 2015). However, specific social impairments have been shown to differ across ADHD subtype (Michielsen et al., 2015). For example, in early educational experiences, symptoms of hyperactivity tend to be more disruptive and aversive to peers, which can lead to an

increased rate of peer rejection (Thompson et al., 2023). Experiencing such early peer rejection may limit an individual's opportunity to engage in age appropriate interaction and develop social skills, which in turn increases the risk of further negative social experiences later in life (Elmose & Lasgaard, 2017; Thompson et al., 2023). In addition to peer relationships, teachers commonly report that working with students who have higher ADHD symptoms is highly stressful, and that their relationships with these students are often characterized by high levels of conflict (DeShazer et al., 2023). Research indicates that social challenges persist from childhood into emerging adulthood, often citing how symptoms of inattention may hinder effective encoding of emotional and contextual cues that are crucial for appropriate social interaction, subsequently increasing the risk of misunderstandings or conflict with others (Elmose & Lasgaard, 2017). Furthermore, difficulties in established social relationships have also been linked to symptoms of impulsivity, which may manifest as excessive talking, interrupting others, or making inappropriate or unnecessary comments (Sacchetti & Lefler, 2017).

In educational environments, the stigma of ADHD is often characterized by social rejection, in which society's negative perception of ADHD contributes to rejection of individuals with the disorder (Rabiner et al., 2008). Subsequently, university students with ADHD may have difficulty accessing social support, which can interfere with their ability to adjust to university life (Rabiner et al., 2008). Consistent with these findings, research conducted by Shaw-Zirt et al. (2005) established that students with ADHD symptoms reported lower levels of college adjustment, social skills, and self-esteem compared to age matched controls. These findings also indicate that low self-esteem may partly explain why university students with ADHD struggle to adjust to college (Shaw-Zirt et al., 2005). Furthermore, a study conducted by Overbey et al. (2011), administering self-report surveys across 497 undergraduate university students, established that students with higher levels of

ADHD symptoms experience numerous stressors and are at risk for engaging in dysfunctional interpersonal behaviour and using maladaptive coping strategies in their intimate relationships (Overbey et al., 2011). These students frequently endured self-critical thoughts, such as telling themselves they are ‘stupid’ and discussed feeling like failures (Overbey et al., 2011). These patterns of self-blame are considered a form of self-deprecation, and may reflect a cycle in which deficits in social skills can negatively impact students’ self-concept and self-esteem (Overbey et al., 2011; Ramsay & Rostain, 2015).

2.2 Educational Outcomes

The following section provides an overview of key educational outcomes that are frequently experienced by students with ADHD, including both academic and mental health outcomes.

2.2.1 Academic Outcomes

Evidence suggests that individuals with ADHD experience impairments in academic functioning (Arnold et al., 2020).. Previous research has categorized academic functioning by distinguishing between an individual’s academic achievement, measured using standardized achievement tests, and their broader performance in the school setting (Arnold et al., 2020). This distinction reflects the understanding that broader academic success requires a wide range of executive skills, beyond the cognitive abilities required to perform well on standardized tests (Arnold et al., 2020; Langberg et al., 2011). Both impaired school performance and poor academic achievement are well-documented and consistent findings among school age students with ADHD (Arnold et al., 2020; Henning et al., 2022; Massetti et al., 2008). Recent longitudinal research underscores the predictive validity of ADHD, showing that achievement gaps between students with ADHD and their typically developing peers not only begin early, but can persist into adulthood (Arnold et al., 2020; DuPaul et al.,

2021; Lawrence et al., 2021). Nevertheless, many students with ADHD do progress into higher education, which places greater demands on students, requiring a set of well-developed executive functioning skills and a strong working memory (Álvarez-Godos et al., 2023). These are areas where students with ADHD often experience difficulties, which can negatively impact their academic performance. However the current research regarding the academic functioning of students with ADHD in higher education is limited (Arnold et al., 2020; Henning et al., 2022; Massetti et al., 2008). Longitudinal research exploring the academic trajectories of students with and without ADHD, indicates that college students with ADHD obtain significantly lower GPA's and utilise less study skills than students without ADHD (DuPaul et al., 2021). Similarly, preliminary findings by Lewandowski et al. (2008) suggest that whilst students with ADHD are more likely to face academic and test-taking difficulties, such challenges are not unique to those with disabilities. In order to address the methodological shortcomings of prior literature, Henning et al. (2022) conducted a longitudinal study examining how specific dimensions of ADHD symptomatology contribute to academic success across a large sample of 3,688 university students. The research underscores the important role inattention in the relationship between ADHD and academic underachievement in adults (Henning et al., 2022). Undergraduate students with greater symptoms of inattention at the start of their university programme experienced poorer long term academic outcomes, including lower GPA's and increased dropout rates, compared to students with more pronounced symptoms of hyperactivity and impulsivity (Henning et al., 2022). These findings align with other major literature that suggests academic deficits and are more strongly associated with inattention symptoms than symptoms of hyperactivity and impulsivity (Rabiner & Coie, 2000). The body of literature exploring adverse academic functioning for students with ADHD, has important clinical implications for educational institutions. That is, student disability support services may consider tailored interventions

specifically targeting inattention symptoms in students who may be at risk for academic underachievement (Henning et al., 2022).

2.2.2. Mental Health Difficulties

Evidence suggests that individuals with ADHD experience adverse mental health outcomes, as well as an increased likelihood of developing co-occurring mental health issues, including major depressive disorder, anxiety disorders, substance use disorders, and personality disorders (Jensen & Steinhausen, 2015). The presence of co-occurring psychiatric conditions has been shown to exacerbate the core symptoms of ADHD, lead to additive clinical effects that complicate the clinical presentation, and contribute to greater functional impairment and poorer long-term outcomes, including an increased risk of suicidal behaviours (Sobanski, 2006). Recent research highlights that individuals with ADHD have been found to have an increase in suicidal behaviours, such as, self-harm behaviours, suicidal ideation (SI), suicide attempts (SA) and completed suicide (Austgulen et al., 2023; Fitzgerald et al., 2019; Sultan et al., 2021). In a large nationwide longitudinal study involving 2.9 million individuals, Fitzgerald et al. (2019) established a significant correlation between ADHD and suicidal behaviour, which is substantially increased by comorbid psychiatric disorders. It is important to note that certain subgroups of individuals with ADHD, such as university students, have been shown to be at elevated risk for suicidal behaviour (Gbessemehlan et al., 2020; Shen et al., 2021; Stewart et al., 2024). Numerous studies have shown that students with ADHD enter university environments with an increased baseline risk for mental health difficulties, which are commonly exacerbated by academic and social difficulties (Eddy et al., 2020; Gbessemehlan et al., 2020; Stewart et al., 2024). For instance, longitudinal research indicates that students with more severe ADHD symptoms experience higher levels of perceived stress, and that these overwhelming feelings are associated with an increased risk of suicidal thoughts (Gbessemehlan et al., 2020). Furthermore, research

examining the prevalence rates of suicidal behaviours in college students, established that first year students with ADHD had increased rates of suicide ideation, and were more than four times more likely to have attempted suicide compared to students without ADHD (Eddy et al., 2020). Subsequently, Li et al. (2025) reported an increased likelihood of mental health service use from adolescence to young adulthood among individuals with ADHD, further emphasizing the impact that ADHD has on psychological well-being. Having a history of suicidal behaviour, poor mental health, or more severe symptoms, prompt individuals to seek care, and continues to contribute to the economic burden of ADHD for both patients, families and health care systems (Li et al., 2025; Matza et al., 2005). The current literature indicates that it is imperative to provide effective support for this high risk population (Austgulen et al., 2023; Eddy et al., 2020; Shen et al., 2021). Due to the influence of cultural norms on students' perceptions of mental health and their subsequent health-seeking behaviour, further research specific to the New Zealand cultural context is essential to inform tailored and effective interventions (Li et al., 2025).

2.3 Online Education

This section provides an overview of the online learning environment and explores its effective practice, with a particular focus on the benefits, challenges and concerns associated with the online learning environment.

2.3.1 Online Learning Environment

In higher education**,** distance learning typically refers to the method of instruction where teachers and learners are geographically separated, whereas the term online education refers to learning that takes place over the internet, whether that be remotely or onsite (Ministry of Health, 2023). A large scale nationwide study by the National Centre for Education Statistics (NCES), found that the main factors influencing higher-education

institutions to offer online education include, meeting students' demands for flexible schedules (68%), enabling access for students who would otherwise not have access (67%), increasing course availability (46%), and increasing student enrolments (45%) (Basat et al., 2008). In New Zealand, the advent and impact of a national response to the COVID-19 pandemic in 2020, accelerated the immediate demand of distance learning, and marked a key milestone in the growth of online education (Barbour & Wenmoth, 2024). In the current post-pandemic context, online education is especially prevalent, with many higher education institutions offering both fully online courses, and hybrid models that combine distance learning with face-to-face teaching (Sun & Chen, 2016). In accordance to the annual report *Tuia Te Hononga Tāngata, Tuia Te Hononga Ao: Taking the Pulse of Distance Learning in Aotearoa New Zealand*, between 36,078 and 36,277 students were enrolled in at least one distance learning course during the 2023 school year. The New Zealand University Advisory Group, Te Pōkai Tara, acknowledge the increase in distance learning during the pandemic, and reported that in 2023, 21% of total domestic university student enrolments were by distance learners. The Ministry of Education has supported the established rise of online education in New Zealand by providing a 10 year strategy: *Connected Ako: Digital and Data for Learning,* to guide the digital and data direction of Aotearoa New Zealand government education agencies (Ministry of Education, 2023).

2.4.3 Online Learning Benefits

Several studies have identified various benefits to online learning in higher education settings for both the students, lecturers and the organisation as a whole(Appana, 2008). Many educational organisations perceive cost-effectiveness as the primary benefit of online learning, as its ability to reach more students lowers the cost through economies of scale (Graham et al., 2005). The recent increase in online student enrolment has been shown to be partially due to the convenience of the education style, in which has enabled adults with full-

time familial and occupational commitments to attend classes (Kim et al., 2005). According to Moore & Diehl (2018), online learning environments increase access to educational opportunities by offering courses not otherwise available, meeting the needs of specific student groups, offering advanced placement and enabling failed courses to be retaken. Consequently, the cohort of online learners is often highly diverse, enabling students to engage with international partners and connect with others in ways that may not be possible in traditional face-to-face environments (Appana, 2008; Graham et al., 2005). Conversely, many prefer the anonymity afforded by online environments, in which increases the active learning strategies that can be implemented, and may encourage greater participation across reserved students (Appana, 2008). In addition, researchers have proposed that the online learning encourages a more effective pedagogy, as a movement towards a more student centred approach, changes the way in which lectures utilise their time and has been suggested to increase the amount of personalised mentoring individuals receive (Graham et al., 2005) However, research conducted by Hongsuchon et al. (2022), established that the effectiveness of online learning is dependent on many factors, including, student and lecturer self-efficacy, attitudes, and confidence in using the technology involved, as well as the ability to monitor and evaluate educational outcomes and student motivation. Ultimately, these research findings established that the more effective online learning was, the more benefits and positive outcomes the student experienced (Hongsuchon et al., 2022).

2.4.2 Challenges of Online Learning Environment

A recent overview of the history and development of distance learning in New Zealand conducted by Barbour & Wenmoth (2024), emphasises the ongoing challenges for institutions offering distance education, in regards to sustainability, equity and quality, adapting to continuous technological advances and complications in meeting diverse student needs. The increasing digitalisation of education involves various information technology

infrastructures, including the use of digital applications, online learning software, and internet connectivity (Hongsuchon et al., 2022). The decision to engage in the online learning environment often encompasses the assumption that both learners and instructors are technologically competent (Gillett-Swan, 2017). However digital readiness, including access to technology, digital tools, and skills necessary for online learning are strongly influenced by an individual's socioeconomic background (Gillett-Swan, 2017; Van De Werfhorst et al., 2022). Moreover, a research study exploring student distress across a web based distance education course, established that both students and instructors report difficulty managing technological mediums and were often left feeling frustrated and overwhelmed due to the lack of support (Hara, 2000). These findings demonstrate how poorly designed online learning environments, and a lack of technical support can create potential barriers to effective teaching and learning. In account of the diversity of the online learning population, teaching with technology requires additional consideration of teaching pedagogy and should prioritise an inclusive instructional design (Gillett-Swan, 2017; Orlando & Attard, 2016). However, research indicates that most online faculty have not received adequate training from their institutions and frequently apply a "one-size-fits-all" approach, by transferring content from face-to-face environments directly into online courses and falsely assuming it is suitable for all learners across diverse cohorts (Gillett-Swan, 2017).

Furthermore, research has consistently indicated that many students in the online learning environment express concern over the perceived lack of social interaction, networking and connections in the online learning environment (Kim et al., 2005). According to the Community of Inquiry (CoI) framework, social presence is a crucial aspect for an effective educational experience in online learning environments (Garrison et al., 1999). The concept of social presence is understood as the ability of students to project themselves socially into the learning community, establish good relationships, and feel affectively

connected one to another (Stoytcheva, 2021; Swan et al., 2009). According to Swan et al. (2009), elements of social presence have been identified as:

> *Affective expression,* where learners share personal expressions of emotion, feelings, beliefs, and values; open communication, where learners build and sustain a sense of group commitment; and group cohesion, where learners interact around common intellectual activities and tasks (p. 48).

The level of social presence in online learning environments has been shown to be a good predictor of students learning outcomes, due to its direct influence on the formation of a learning community and the students subsequent development of a sense of belonging (Kim et al., 2005; Stoytcheva, 2021; Swan et al., 2009). However, research in distance education shows that low social presence in online learning environments is a significant challenge for distant learners. According to Stoytcheva (2021), a lack of socio-cognitive exchanges often contributes to feeling of isolation across students, which is a major factor for the loss of motivation, and has been one of the most common reasons for the drop out in distance learning.

2.4.2 Online Learning Environments: Neurodiversity and ADHD

The transition into online learning environments greatly impacts the educational experiences for all students, particularly neurodivergent students (McKenzie et al., 2022a). The established difficulties that students experience in the traditional learning environments are likely to extend to online education, yet neurodiverse students face several additional challenges specific to remote learning (Le Cunff et al., 2022). Additionally, some researchers suggest that it harder to support diverse learning needs in online learning environments, as their particular set of needs are often virtually invisible to instructors (Matthews, 2009). In considering how to support neurodiverse students in the online learning environment, Le Cunff et al. (2022), carried out a systematic review outlining how neurodiverse students

engage with online education and the specific challenges they experience. Le Cunff et al. (2022) identified three major areas that create challenges for neurodiverse students, including, cognitive factors, instructional factors and social factors. Neurodiverse students were found to face several cognitive challenges, including difficulty managing attention and maintaining focus, lower self-awareness of their own inattention, and greater difficulty using online communication channels in comparison to neurotypical students (Le Cunff et al., 2022). In addition to cognitive difficulties, inconsistencies in online instructional design creates further challenges for neurodiverse students, particularly those who struggle with asynchronous formats, navigating course materials, and managing information overload (Le Cunff et al., 2022). In terms of social factors, Le Cunff et al. (2022) highlighted how stigma, limited support, disrupted routines, financial pressures can all make online learning more difficult for neurodivergent students. Subsequently, many neurodiverse students were reluctant to disclose their diagnosis due to fear of discrimination, reporting that educators lacked a sufficient understanding of diverse needs, in which limited access to adequate support (Le Cunff et al., 2022). The research review concluded with a strong recommendation that organizations move away from a one-size-fits-all approach to online learning and emphasised the need for further research to determine how specific interventions can provide adequate support for neurodiverse students in online education (Le Cunff et al., 2022).

In line with the availability literature on the educational experiences of neurodiverse students in online learning environments, research examining the experiences of university students with ADHD is significantly limited. Nevertheless the following research provides relevant insights into the lived realities for this population, in the context of online learning. A recent quantitative research conducted by Kalman-Halevi et al. (2023), investigated the emotional cost and wellbeing of students with learning disabilities and ADHD, who

experienced a rapid shift to emergency remote teaching, as a result of COVID–19 pandemic. Researchers utilised an online self–report survey in order to establish that students with ADHD experienced lower overall wellbeing , including higher levels of stress, anxiety and depression in comparison to neurotypical counterparts (Kalman-Halevi et al., 2023). These findings highlight the emotional and psychological challenges associated with sudden transitions to online learning, however should be interpreted with consideration to the specific effects of COVID–19 on participants' wellbeing (Kalman-Halevi et al., 2023). Furthermore, a case study by Meyers & Bagnall (2015) explored the lived experience of an undergraduate student diagnosed with autism spectrum disorder and ADHD, in the context of online learning. Researchers explored experiences through the use of in-depth interpretive phenomenological analysis (IPA), in which the participants' educational experiences were understood in relation to three types of disorientation: navigational disorientation, such as not knowing which direction to take; contextual disorientation, not knowing how to evaluate or make sense of information; and procedural disorientation, including uncertainty regarding which learning or assessment task to complete (Meyers & Bagnall, 2015). These dimensions of disorientation were interconnected aspects of a larger experience of confusion, in which indicated a significant discrepancy between the participants learning needs and the characteristics of the learning environment (Meyers & Bagnall, 2015). These findings align with the recommendations of Becker and Schad (2022), who underscore the importance of moving beyond surface-level interviews and basic qualitative analysis techniques. Research conducted by Becker and Schad (2022), advocates for the use of phenomenological approaches in distance education research to enable a deeper understanding of the lived experiences of online learners. These approaches can support the development of more individualised support strategies and more inclusive online learning environments in higher

education, which is crucial for supporting the lived experience of students with ADHD (Becker & Schad, 2022; Meyers & Bagnall, 2015).

Chapter Three: Methodology

This chapter provides a summary of the inquiry process that has been utilised to explore the lived experiences of postgraduate students with ADHD in the New Zealand online learning environment. The following sections outline the rationale for the research design, the theoretical perspectives underpinning the study, and the methods employed. The most suitable methodological approach to contributing to a deeper understanding of neurodiversity for ADHD students in the online space was IPA grounded in critical theory and the neurodiversity paradigm. The research questions are as follows:

1. How do postgraduate students with ADHD describe their experiences in the online university learning environment?
2. What aspects of the online university environment do postgraduate students with ADHD find beneficial?
3. What aspects of the online university environment do postgraduate students with ADHD find challenging?

4.1 Research Design

In order to explore the diverse experiences of ADHD learners studying online it was important to have a research design that allowed me to capture the complexities and richness of experiences. I also wanted to embrace my positionality as someone with lived experience. Thus, qualitative research, which is primarily concerned with developing a nuanced understanding of human experiences, behaviours, interactions and social contexts, was considered the best overall approach (Fossey et al., 2002). Another advantage is that qualitative approaches are not fixed, and may be underpinned by various ontological, epistemological and theoretical assumptions. This means, qualitative researchers must consider the specific intent of the research, and may draw on different perspectives, methodologies, and techniques(Cena et al., 2024; Fossey et al., 2002). This flexible approach

to methodology can support in-depth findings that capture the complexity of the phenomenon under study (Cena et al., 2024; Fossey et al., 2002). Nevertheless, methodological choices must remain theoretically coherent with the analytical approach, be transparently justified to ensure procedural rigor, and be evaluated against the quality criteria most appropriate to the specific approach and aims of the study (Cena et al., 2024). This flexible approach was important so that I could use different theories within an IPA interview design.

This research design was guided by both Critical Theory and Neurodiversity paradigms. A critical neurodiversity approach to research challenges deficit based models and emphasises both neurodiversity and social structure (Rosqvist et al., 2020). Making sense of disability through this lens enables the researcher to foster a nuanced understanding of neurodiversity and recognise the pathologization of neurominorities as a form of systemic oppression (Walker & Raymaker, 2021). This was important for this research as a critical neurodiversity approach provides an opportunity to both recognise and challenge neuronormative assumptions embedded within social systems, whilst also promoting more inclusive and equitable practices (Rosqvist et al., 2020). This was an important part of the research for me personally and for my participants and the stigma and misunderstanding about ADHD and ADHD learners continues to shape experiences in all setting including education space.

4.1.2 Critical Theory

Critical theory assumes that whilst a reality exists, it is shaped by a range of social, historical, and structural factors, in which contribute and determine the social system (Asghar, 2013). This was important for the current research which assumes that lived reality of postgraduate students with ADHD is socially constructed, meaning that their learning experiences cannot be understood in isolation, but are considered in the context of institutional expectations, societal perceptions of neurodiversity, and power dynamics within

higher education. This approach focuses on understanding how knowledge is produced, questions why certain perspectives are marginalised, and recognises that knowledge may reflect dominant ideologies in society (Ryoo & McLaren, 2010). As a critical researcher, it was important that I was able to acknowledge that research is not objective and that knowledge is inevitably influenced by my own values, perspectives, and social position (Asghar, 2013). Furthermore, critical theory was important for the current research to be able to go beyond simply understanding or describing the social world, and instead critically examine, challenge, and transform the oppressive structures that perpetuate inequality (Asghar, 2013).

4.1.2 Neurodiversity Paradigm

The current research study aligned with the emerging neurodiversity paradigm in which stems from social, feminist, and critical theories and recognises neurocognitive diversity as normal part of natural human variation (Bertilsdotter Rosqvist et al., 2020). As an alternative approach to the medical model, the concept of "neurodiversity" is an epistemically useful concept that challenges the ideological position that there is a "normal" way of thinking, learning, and behaving (Bertilsdotter Rosqvist et al., 2020). According to Bertilsdotter Rosqvist et al. (2020), individuals who fall outside of neurocognitive norms are understood as "neurominorities", and are marginalised by a "neuronormative" society in favour of the "neurotypical" (Bertilsdotter Rosqvist et al., 2020). Based on the understanding that "normality" is a harmful construct, the current research seeks to challenge deficit-based understandings of difference, and advocate for acceptance, inclusion, and the adaptation of online learning environments to support diverse needs (Dwyer, 2022).

In considering the neurodiversity approaches, Dwyer (2022) identified that common research practices may be harmful, and outlines recommendations for researchers seeking to apply the neurodiversity approach in their own work. Accordingly, as the researcher I

ensured I was committed to understanding the ideas, theories and concepts neurodiverse individuals use to make sense of their experiences (Dwyer, 2022). Secondly, I ensured to value diverse ways of thinking, including the use of respectful language to avoid perpetuating stigma, marginalisation, and deficit-based assumptions. Finally, in order to challenge deficit-based models, all findings were considered in ways that recognise both strengths and contextual challenges, rather than framing differences solely as deficits (Dwyer, 2022). This approach was crucial to ensure the research does not attempt to 'fix' diverse ways of being but rather identify and challenge environmental barriers that contribute to disadvantage and inform more inclusive practices and meaningful accommodations.

4.2 Theoretical Position

This research study employs methods of IPA, as a qualitative research methodology, in which draws heavily from theoretical ideas from hermeneutic phenomenology, phenomenology, hermeneutics, and idiography.

4.2.1 Phenomenology

Phenomenology is a philosophical approach to the study of experience, drawing on the work of major phenomenological philosophers, including Husserl, Heidegger, Marleau-Ponty, Sartre (Smith et al., 2022a). The principle of phenomenology is that meaning is created through embodied perception, and reality is comprehended through embodied experience (Shinebourne, 2011; Smith et al., 2022a). The goal in phenomenology is to describe phenomena as they manifest within consciousness (Cena et al., 2024). Phenomenologists consider individuals embodied in a world, with a particular historical, social and cultural context. Therefore, in order to examine experience in the way that it occurs, it is necessary to disengage from activities embedded within ordinary everyday life. Instead, a phenomenological attitude must be adopted to describe experiences as they are

consciously perceived, examining the essence of the phenomenon as it emerges (Smith et al., 2022a). Methods of IPA draw on phenomenology, as they aim to explore how individuals make sense of their lived experiences and the meanings they attribute to them. Participants are viewed as experiential experts, and researchers close analysis contributes to deeper understanding of lived experiences by exposing taken for granted assumptions. This was important and was reflected in both my open ended interview questions and the semi-structured style of interviews, in which allowed individuals to articulate their experiences in their own terms.

4.2.2 Hermeneutics

Hermeneutics is the theory, methodology, and philosophy of interpretation (Smith et al., 2022a). The aim of hermeneutics is to study the nature of understanding itself, in order to uncover deeper meanings within lived experience (Smith et al., 2022a). Rather than simply describing experience, hermeneutic inquiry seeks to interpret the meanings embedded within participants' accounts, recognising that both the participant and the researcher bring their own perspectives to the process of understanding (Dowling, 2004; Smith et al., 2022a). Central to interpretative engagement, is the concept of the hermeneutic circle, which describes the iterative process of understanding that occurs through a continuous movement between the parts and the whole of a participant's account (Shinebourne, 2011; Smith et al., 2022a).

Methods of IPA are strongly influenced by the hermeneutic version of phenomenology. Hermeneutic phenomenology combines phenomenological description of lived experience with interpretive analysis, in order to uncover the deeper meanings and structures of human experience as they are lived, understood and situated (Smith et al., 2022a). This dual process of interpretation is defined as a double hermeneutic. The double hermeneutic is a central feature of IPA, in which the participant interprets their own

experiences, within the research interaction, whilst the researcher is interpreting the participant's sense-making, through their analytic work (Montague et al., 2020; Shinebourne, 2011; Smith & Osborn, 2015). Ultimately, the meaning generated is understood to be a blend of both the participants and the researchers' interpretations, all of which have been shaped by the particular history and experiences held (Cena et al., 2024).

Epistemologically, interpretivism is subjective. In hermeneutic phenomenology, interpreting the substance of meaning-making is a constructive process, in which cannot be completed without being affected by the researcher's preconceptions and worldview (Rehman & Alharthi, 2016). Researcher's reflexivity is important to show awareness of the way their experiences, knowledge, perspectives and cultural background shape the research process (Cena et al., 2024). Reflexive engagement requires researchers to continuously reflect on emerging interpretations and question how those interpretations came about (Finlay, 2002). Consequently, reflexivity allows researchers to move beyond the limitations of their prior assumptions and interests, facilitating a more nuanced and transparent understanding of experience (Cena et al., 2024). Hermeneutic phenomenology was crucial in the current study, with reflexive techniques incorporated across all stages of the research process to ensure I could maintain transparency potential influence, preventing my own prejudices from dominating the analysis, and to allow new understandings of neurodiversity to emerge.

4.2.3 Idiography

The third major theoretical underpinning of IPA includes idiography. In contrast to most psychology, idiography is concerned with the particular, focusing on a detailed understanding of individual cases before making wider claims about shared experience (Smith et al., 2022a). This approach emphasises the importance of understanding particular phenomena from the perspective of particular people, within their specific contexts (Smith et al., 2022a). Consequently, analysis must be systematic and detailed, often employing a small,

carefully selected sample to allow for an in-depth examination of each participant's account (Smith et al., 2022a). An idiographic commitment is reflected within methods of IPA, which involve a detailed, case-by-case examination of each transcript before identifying patterns and themes across participants.

4.2.4 Insider Research

The current research study was inspired by my own lived experience as a postgraduate student with ADHD, in the online learning environment. While no specific amount of prior knowledge is required, it is common in qualitative research for researchers to belong to the social group under investigation (Smith et al., 2022a). Due to my position as both a researcher and a member of the group researched, this project is situated within an insider research framework. Ultimately, insider research is understood as the study of one's own social group or society, whilst outsider-researchers do not belong to the group under study (Greene, 2014). The longstanding insider/outsider positionality debate, has been considered a false dichotomy, as both positionalities are shaped by situated knowledge and therefore face comparable methodological challenges (Chavez, 2008). Regardless of positionality, qualitative researchers cannot be assured that their observations, interpretations, and representations will not shape the research process (Chavez, 2008).

Throughout the all stages of the research process, I contributed my own lived experiences as a postgraduate student with ADHD, in the context of the New Zealand online learning environment. After completing a bachelor's degree in a traditional face-to-face learning environment and transitioning into an online learning environment to complete a master's degree, I felt a significant shift in my learning experiences. I recognised that the ways I perceived and managed my ADHD were completely different in the online learning environment, yet the discussions and supports available were largely the same. During this time, I spoke with many other students in similar situations and felt an increasing level of

concern develop for the online community of neurodiverse students. These conversations, often occurring through close social connections, frequently captured my attention and sparked my curiosity, as I encountered the wide variety of experiences, benefits and challenges faced by others. My academic education as a psychology student has also shaped the lens in which I understand neurodiversity. Throughout my academic journey I have developed an increasing appreciation for the richness of qualitative research, as an approach that is capable of generating meaningful change. Overall, this heightened awareness, combined with the apparent permeance of distant learning, influenced my decision to undertake this research. As a result, I was careful to maintain an open mind about the lived experiences of the participants when embarking on this research, as well as the crucial role of reflexivity throughout this research. However, I acknowledge that my background, ideas and experiences will inevitably shape the research relationships, interpretations, and outcomes.

The rights based model is grounded in equal opportunity theory, in which recognises the right to self-determination for all people, and supports neurodiverse individuals in assessing their own needs and determine how resources are allocated (Degener, 2017; Francis, 2018). As a result, neurodiverse insider researchers play a crucial role in supporting people with disabilities to determine their own agenda, and ensuring that research and policy authentically reflect the priorities and experiences of the communities they represent (Francis, 2018). In line with the principles of the disability rights movement, an insider positionality centres the perspectives of neurodiverse students and positions this group as an equal partner in decision making. Epistemologically, this position aligns with hermeneutic phenomenology, which emphasises a collaborative research process in which participants' voices and experiences were central to the co-construction of meaning. Furthermore, presenting as a co-investigator, may minimize the power imbalance between myself and the research participants, reducing the risk of participants being marginalized. I felt that my insider

positionality helped to foreground lived experience as a form of expertise and ensured that the learning experiences affecting the neurodiverse online community were prioritised.

Furthermore, a substantial body of research has conceptualized how an insider positionality can simultaneously benefit and disadvantage the researcher (Chavez, 2008; Greene, 2014). According to Chavez (2008), insider researchers often are privileged with "expediency of access", when entering the field and establishing rapport with the group of interest. This is particularly prevalent when compared to outsider researchers who may be excluded from 'in-group activities. Consequently, insider researchers are typically well oriented to the social and cultural environment of the group, facilitating natural interactions and reducing the likelihood of passing judgment towards participants (Greene, 2014). Throughout the data collection, insight into the ways participants perceive, communicate, and process experiences can enhance the researcher's ability to ask meaningful questions, understand colloquial language, and notice subtle non-verbal cues (Darwin Holmes, 2020). This familiarity also tends to build trust, encouraging participants to provide more truthful answers, subsequently increasing the authenticity of the study as a whole (Darwin Holmes, 2020; Greene, 2014).

While the advantageous nature of this positionality has received significant consideration in the literature, critics frequently raise concern that knowledge stemming from this position can hinder objective perception and analysis (Aguiler, 1981; Greene, 2014). It has been argued that, insider researchers may be susceptible to take certain behaviours for granted, jumping to a conclusion based on prior experience, rather than fully exploring the context (DeLyser, 2001; Greene, 2014). Conversely, throughout the data collection, the participants may assume the researcher holds existing knowledge of their views, leaving 'obvious' issues unexplained (Darwin Holmes, 2020). Furthermore, insider research is frequently accused of being inherently biased. Due to their close proximity to the group,

critics often express concern that the researchers' personal beliefs, experiences, and values may influence the study, including its design, methodology, and the interpretation of results (Greene, 2014). Nevertheless, according to Greene (2014), insider bias is not entirely negative, and may provide valuable insight that an outsider might overlook (Aguiler, 1981).

4.4 Procedure

This section outlines the steps undertaken to achieve the study's aim, including ethical considerations, cultural considerations, participant recruitment, data collection, and data analysis.

4.4.1 Recruitment

Following a full ethics application and approval (OM3 25/24), I asked permission from the administrator of the Facebook group 'ADHD NZ community for Adults with ADHD', which had approximately 18,900 members at the time to post an advertisement. This purposive sampling strategy, deliberately sought participants who were expected to address the research question, allowing the study to utilise limited research resources effectively (Campbell et al., 2020). This approach is theoretically consistent with IPA's orientation, in which views participants as providing situated perspectives that offer insight into a particular lived experience (Smith et al., 2022a). Following approval from the group administrator, an advertisement for the research study was posted, which included a brief outline of the study, participant criteria and the researchers contact email (see Appendix A). Interested individuals that made contact via email, were directly sent a copy of the participant information sheet, and participant interest form (see Appendix B). This information sheet outlined the purpose of the research, what participation involves, how the data will be managed and used, participants rights, and available support services. The participant interest form includes demographic and eligibility based questions, and allowed participants to request any cultural

accommodations (see Appendix C). Notably, the number of interested individuals exceeded the capacity of the research study. Individuals who were not selected for participation were offered to be sent a copy of the final results.

4.4.2 Participants

Given the nuanced nature of human experience, research studies employing methods of IPA, are explicitly idiographic in their commitment to detail and benefit from focusing on a small number of cases (Smith et al., 2022a; Smith & Osborn, 2015). Typically, IPA research studies include between six to ten participants (Smith et al., 2022a). Accordingly, the current study's sample of nine participants was deemed appropriate, particularly in consideration of the 12 month time frame for completion. During the recruitment process, all interested individuals confirmed they met the participant criteria before providing both written and verbal consent (see Appendix D). The inclusion criteria for participation was as follows:

1. Age 18 years and above
2. Experienced postgraduate study via an online learning environment from a New Zealand education provider for at least one semester
3. Experienced postgraduate study via an online learning environment from a New Zealand education provider within the past 5 years
4. Diagnosed with ADHD in New Zealand

One individual expressed interest but did not meet the participant criteria, due to an absence of formal diagnosis. All of the nine participants who were interviewed were diagnosed with ADHD in New Zealand. Additionally, all participants were diagnosed whilst at university, rather than in childhood during school. All participants had experience with postgraduate study via an online learning environment for at least one semester, with some participants continuing their studies at the time of participation.

4.4.3 Data Collection

Qualitative research frequently relies on research interviews, often described as a 'conversation with purpose', as a primary data collection strategy (Smith et al., 2022a; Starks & Brown Trinidad, 2007). This research utilised semi-structured interviews, encouraging participants to share an in-depth first-person account of their experiences, while enabling the researcher to listen attentively and probe interesting areas that arise (Smith, 1995). In line with the principles of hermeneutic phenomenology, this semi-structured approach is collaborative, with knowledge co-constructed through active interaction between the researcher and participant (Smith, 1995). The current study was guided by the semi-structured interview procedure proposed by Smith (1995), which encourages greater flexibility than more conventionally structured interviews. All interviews were guided by an interview schedule, outlining broad areas of interest, along with a range of open-ended questions (see Appendix F). This level of preparation requires researchers to explicitly consider possible direction of discission, plan for foreseeable difficulties and exercise a duty of care (Smith et al., 2022a). During the interview, the schedule was adapted to each participants specific context, and prompts were utilised as necessary to encourage interesting issues which arise. This flexible approach enabled the researcher to maintain sensitivity and curiosity, whilst allowing participants to discuss aspects of their experiences most significant to them.

The researcher conducted all interviews via Zoom, an online videoconferencing application and recorded using the platform's recording function. This platform was chosen because of its widespread use across online education in New Zealand, which helped ensure accessibility for participants. Participants were reminded that they could turn off their cameras if they felt more comfortable. Any video footage automatically recorded by Zoom was deleted, and only the audio recordings were downloaded. All interviews lasted between

60 and 90 minutes. Prior to discussing the research time was intentionally dedicated to building rapport with participants. This was followed by a discussion of the research purpose and a reminder of participants' rights and the measures taken to ensure their anonymity. A natural discussion followed about what drew participants to the research project, their previous involvement in research, and their interest in the topic. Participants were advised that the study was inspired by the researcher's own lived experience and were informed that the researcher also met the criteria for participation. Following the interview, the recording was ended, and participants were reminded that they would receive a $50 Prezzy digital gift card via email in appreciation of their time and contribution to the research. Finally, participants were reminded of their rights to review and amend the transcript. An initial transcript was generated by Otter.ai, a speech to text transcription software. The researcher reviewed the transcript for accuracy and removed any identifying information.

4.4.4 Ethics

This section outlines the ethical issues relevant to this study, including informed consent, safety of participants, confidentiality and cultural considerations. The current research study set out to maintain the highest ethical standards. Prior to making an ethical application to the Massey University Human Ethics Committee (MUHEC), I read and familiarised myself with Massey University's 'Code of Ethical Conduct for Research, Teaching and Evaluations Involving Human Participants'. Recognising the responsibility I held as a researcher, I engaged in ongoing discussions with my supervisor regarding all ethical considerations and research decisions. Prior to commencing the research, full ethical approval was obtained from the MUHEC (OM3 25/24) (Appendix E). The process of completing a full ethics application and attending a MUHEC meeting to observe a full review was particularly valuable in furthering my understanding of the Ethics Code and Responsible Research Conduct. Following ethical approval, I continuously referenced Massey

University's Code of Ethical Conduct for Research, Teaching & Evaluations Involving Human Participants, and the Māori ethics framework proposed in Te Ara Tika. Throughout the research process, I regularly checked in with my supervisor to ensure I was adhering to the commitments that were outlined in my application.

The main ethical issues for this research were informed consent, distress, privacy and confidentiality and cultural competency. Firstly, the participants were fully informed prior to consent and I made sure this process ensured informed and voluntary consent. Consent was not irreversible, as participants were reminded of their right to ask questions before the discussion, withdraw at any time, and were asked to re-confirm their consent verbally prior to the interview recording. Furthermore, all participants received a copy of their transcript and were invited to review this for accuracy. Reflecting the ongoing nature of consent, all participants were given a two week period to review, amend, or withdraw their contributions. Participation in this review was entirely optional. All participants were also asked whether they wished to be informed about the specific quotes to be included in the final study. One participant accepted this offer, noting that their interest was out of curiosity rather than concern. No participants chose to withdraw their transcript from the study.

Secondly, as participants were invited to intimately discuss their learning experiences I considered that there might be psychological distress or discomfort when recalling emotional or traumatic experiences. Whilst it is difficult to predict what specific topics may elicit distress, discussing experiences of neurodiversity as a whole can be challenging, particularly in consideration of its association with stigma and adversity. In recognition of potential risk, this research established clear protocols to manage and minimise harm. Firstly all participants were provided with a participant information sheet, in which outlined accessible and relevant mental health support services available. Prior to each interview, participants were reminded of their right to take a break, skip any question, pause or stop the

recording, and withdraw from the study at any time without consequence. During the interviews, no indications of psychological distress were observed. None of the participants requested to skip questions, terminate the interview or exhibited any immediate signs of emotional distress. Before ending the interview, the researcher checked in with each participant to provide an opportunity to raise any concerns and to ensure their wellbeing. Following the interview, the researcher made contact with each participant via email to offer a follow up phone call to discuss any concerns. No participants accepted this offer, which further suggested that minimal harm was experienced.

Thirdly, this study acknowledges the privacy concerns associated with collecting data that may identify participants or reveal aspects of their identity, including contact details, personal experiences, and other sensitive information. Clear protocols were established to ensure each individual's right to control their personal information. Firstly, the collection of identifiable data was limited to only what was strictly necessary for the research. In addition, steps were taken to de-identify the data where possible, so that neither participants nor their affiliated universities could be identified in any dissemination of the findings. Finally, a data management plan was created to ensure that Massey University's data management policy and FAIR and CARE data principles, as well as Massey University Code of Ethical Conduct for Research, Teaching and Evaluations Involving Human Participants, were continuously consulted and complied with when managing the data in this research. Massey OneDrive was used by both the researcher and the supervisor to protect data from unauthorized access and to ensure that all data was securely stored and backed up.

Finally, to ensue culturally safe research in Aotearoa/New Zealand, Massey University researchers commit to complying with the key principles of Te Tiriti o Waitangi (Treaty of Waitangi), including partnership, participation, and protection. While not specific to research, these ethical principles draw from cultural understandings, and inform general

obligations for all individual researchers. As a researcher at Massey University, I have consistently engaged with the summary of Te Ara Tika, to ensure all stages of the research process described were guided by the core values of whakapapa (purpose and relationships), tika (research design), manākitanga (cultural and social responsibility) and mana (justice and equity). As such, the qualitative approach to research gave specific attention to the processes of tino rangatiratanga (self-determination, autonomy, and independence), warranting the right of Māori participation and ensuring that participants maintain their agency and voice within the research. For instance, the use of semi-structured interviews de-centred the role of the researcher and empowered the participant to take methodological control of the discourse. Furthermore, manākitanga was supported through the normalisation of tikanga Māori. All cultural practices were respected and upheld, in which included allowing sufficient time for introductions and whakawhānaungatanga (establishing relationships), as well as honouring the use of karakia to open and close meetings. As the researcher, I remained reflexive about my own western ways of knowing, as well as the social, cultural and oppressive forces that implicitly shape differences in Māori lived experiences. Overall, this study aims to contribute to the ongoing work of strengthening the trust of Māori towards research, recognising the importance of respect and genuine partnership.

4.4.5 Reflexivity

Hermeneutic phenomenology acknowledges that understanding is developed through an iterative process of interpretation, in which the researcher continuously moves back and forth between the parts of an experience and the whole in order to construct meaning (Smith et al., 2022a). This hermeneutic circle underscored the process of analysis within this study, where my own preunderstandings and engagement with the data were in constant dialogue, requiring ongoing reflexivity to critically examine how interpretations were formed (Ho et al., 2026). As the researcher, I acknowledge that my assumptions, expectations, emotions,

and responses will have inevitably shaped the data collection and analysis. Rather than attempting to bracket or set aside previous assumptions, I engaged with them reflexively, recognising their role in shaping the research process. From the earliest stage of my research, I discussed my values, beliefs and perceptions with my supervisor and documented their development in a reflective journal, which allowed me to track how my interpretations evolved over time. These reflexive practices helped me to remain critically aware of how meaning was being constructed, and ensure that my interpretations were not overly determined by my own assumptions or overlooked important differences.

Along with assumptions, my familiarity with the online learning environment meant that I entered the research process with a number of expectations (Finlay, 1998). Prior to analysis, managing these expectations proved challenging, as I noticed myself anticipating participants' responses. For example, when participants brought the concept of social isolation to my attention when describing challenges in the online learning environment, I felt inclined to explore this further, which led me to probe these areas more readily than others. Through reflection, I recognised that my interest around social isolation stemmed from my own prior challenges, and this may have influenced participants responses to align with my own learning experiences. It was unexpected that my own emotional investment in the research topic became one of the most significant challenges. At times, participants' narratives of personal learning experiences and adversity often resonated with my own, which affected my ability maintain focus as I became distracted by my own self-reflections. Although challenging, critical self-awareness allowed me to step back and recognise how my emotional responses mirrored those of the participants, deepening my understanding of both the research and myself. Guided by Finlay (1998), I was able to reflect on these shared emotional responses, recognise the context that prompted those responses and their importance in shaping learning experiences. Nevertheless, towards the end of the data

collection I became more proficient at holding an empathic stance while maintaining analytical distance, particularly through ongoing reflection and supervision.

Following the data collection process, reflexivity remained central throughout the analysis and was crucial in ensuring epistemological rigor. Making sense of the participants' experiences was time consuming and mentally demanding. I found it beneficial to frequently return to the research questions to ensure that my analysis was aligned with the purpose of the study. The use of supervision and my reflective journal both played a key role in developing and challenging the plausibility of my interpretations, particularly when alternative explanations emerged. Remaining aware of how I was developing conceptualisations involved actively asking myself, what I might not be seeing or responding to within the data. For example, I had anticipated that social isolation would be discussed by participants, although I had initially assumed that this would be primarily experienced as a challenge, due to my own difficulties. However, through reflexive analysis, I was able to find that for some participants, experiences of isolation sometimes had beneficial impacts, particularly in terms of supporting focus and academic engagement. In this way, reflexive analysis enabled the development of more nuanced interpretations and opened up alternative perspectives. Overall, integrating these reflexive practices not only helped to centre and give voice to those often silenced, but also ensured the ethical treatment of participants by acknowledging power imbalances and promoting clarity and transparency.

4.5 Data Analysis

This qualitative research study was committed to making sense of participants experiences with ADHD, in the context of online learning. As a researcher, my goal was to understand participants lived experiences, and learn from the wider social, cultural and psychological meanings. Consequently, IPA was deemed a particularly useful methodology to analyse the data. Consistent with hermeneutic phenomenology, IPA provides researchers

an opportunity to develop a detailed understanding of participants, and explore what it means for them to live with neurodiversity, within their particular social realities (Biggerstaff & Thompson, 2008). Subsequently, the data analysis in this study followed that described by Smith and colleagues (2022).

The first step of the analytic procedure required reading and re-reading the first transcript to develop familiarity with the participant's world. This reflects an idiographic approach, focusing on a single case to ensure that each account received careful consideration, before moving onto the subsequent transcripts. Given the complexity of the conversations, this initial familiarisation was overwhelming, and it was crucial to proceed slowly. I found it particularly useful to read the transcript alongside listening to the audio recording. At this stage, I recorded notes to reduce the high level of "noise" and capture my first impressions of the interview process. The second step involved exploratory noting, in which examines the descriptive, linguistic, and conceptual content to develop a deeper understanding of the participant's experience. During a close line-by-line analysis, detailed notes were taken to highlight the significance of experience and consider the broader context of concern. As a novice researcher, I found it useful to explicitly interrogate the data, asking why certain experiences were described in particular ways, and questioning what they might reveal. This process helped push the analysis to an interpretative level and served as a strong foundation the following stages of analysis. At this stage, I created a systematic table using Microsoft Word to organise all material and ensure it could be traced throughout the analysis. The first column included verbatim participant quotes, while the second column included exploratory notes, in which were expanded and refined as the analysis progressed. A colour coding system was incorporated to easily help easily identify topic areas of discussion.

The third step involved constructing experiential statements by transforming exploratory notes into clear phrases that capture the essence of the participant's lived

experience. This process involves a higher level of abstraction and careful consideration around the underlying meaning and significance of the participants words. This step proved to be particularly challenging, requiring significant concentration and patience. I consistently revisited the data to ensure statements were firmly grounded in the participant's perspective, whilst also incorporating my own conceptual interpretations. During this stage, I recorded experiential statements in a designated column within the existing systematic table. The fourth step involved searching for connections and patterns across experiential statements. This entailed identifying commonalities, as well as nuanced variations in participants' meaning making, and clustering these accordingly. During this stage, I treated each statement with equal importance by physically printing and cutting out each statement, in order to rearrange them on a large surface and explore different connections. The fifth step involved labelling the main features within clusters of experiential statements and transforming these into Personal Experiential Themes (PETs). Individual PETs were compiled into the PET table, in which represents the analytic dialogue by including associated subthemes, experiential statements, and supporting verbatim quotes from the participant.

The next stage of the analytic procedure involved repeating steps one to five for each case in turn. According to Smith et al. (2022), researchers are inevitably influenced by prior analyses, which subsequently shape "fore-structures" and inform how subsequent data is interpreted. Nevertheless, following IPAs idiographic commitment I endeavoured to consciously set aside prior knowledge of the data to encourage each participant's account to be understood on its own terms. The final step involved moving the analysis to a higher level, by examining patterns of convergence and divergence across themes identified to develop Group Experiential Themes (GETs). Similar to step four, this iterative process required continuous movement across levels of comparison to reorganise themes, while also

preserving both shared and unique aspects of participants' experiences. The final themes and subthemes were presented in Chapter four.

Chapter Four: Findings and Analysis

The main themes that arose from the Interpretative Phenomenological Analysis (IPA) of the participants lived experiences as postgraduate students with ADHD in the New Zealand online learning environment are presented in Chapter Four. The current study's analytic process is consistent with the principles of IPA, illustrating analytic depth by understanding participants' personal experience, and identifying the patterns in how this phenomena is understood from their perspective (Smith et al., 2022b). The idiographic approach emphasises detailed individual case analyses, which provide a strong foundation for identifying convergence and divergence. By implementing a multi-layered methodology that moves between individual and group-level claims, it is expected that findings will account for both shared themes, individual voices and exceptions on those themes (Smith et al., 2022b). Reflecting on IPA's 'double hermeneutic' as an insider researcher, it is important to acknowledge that my own experiential knowledge, and interpretative perspective influenced themes that were co-constructed through a reflexive engagement with the data (Smith et al., 2022b). Verbatim quotes that encompass participants' authentic voices are presented to support each theme and provide insight into each individual experience. In addition to exploring participants' meaning making, this chapter aims to acknowledge the larger cultural, social, and structural factors that influence how neurodiverse students navigated New Zealand's online learning environment.

4.1 Overview

The analytic focus was concerned with understanding the significance of participants everyday experiences in the online learning environment. The main focuses were to explore the benefits and challenges of the online learning experience, and the impact of neurodiversity. The role of self-identity in relation to experience is a central theme across the data. The first theme, Neurodivergent Self-Identity, explores participants experiences of

being ADHD, and how their experiences simultaneously shape, and are shaped by, their sense of identity. Serving as a lens for understanding, this theme provides the foundation for the subsequent themes. The following three themes are not presented in a chronological order, and are summarized in Table 3 below.

Table 3

Group Experiential Themes with Sub-Themes

Theme	Sub-theme
Neurodiverse student self-identity	Past learning traumas coming with me: Navigating burnout, failure and stigma
	Reclaiming educational potential: Reframing self
Navigating online environments: socializing, physical workspaces, and individual strategies for success	Balancing stimulation, connection and other commitments
	Physical workspace and importance of environment
	Supporting success: Self-regulation and study techniques
The flexibility paradox	Work life balance: incorporating study into lives with blurred boundaries
	Working out and managing demands on executive functioning
Equity vs Equality	Fitting the mould: Standardized platforms and learning designs
	Accessing support for online learning and different learning needs
	Moving Forward: Pathways for change

The experiences of nine adults were included in the current research project. All participants were diagnosed with ADHD in adulthood. Three out of nine participants had received a formal diagnosis of both ASD and ADHD, and a fourth participant recognized

autistic traits in themselves. The initial thought that the presence of co-occurring neurodevelopmental disorders may complicate the study's focus, did not prove to be true. All participants were able to provide a rich account of their experiences as a neurodiverse student and often differentiated their symptoms of ADHD. The variable symptom profiles reflected the heterogeneity of ADHD and contributed to the depth and authenticity of the findings. All participants had engaged in postgraduate level study within the online learning environment, representing a variety of educational institutions across New Zealand. Eight out of nine participants also had prior experience in a face-to-face learning environment. Eight participants identified as female, and one identified as non-binary. The age of the participants ranged from 24 years of age to 42 years of age, with an average age of 35.78 years. Among the nine participants, eight were Pākehā, and one Māori. Demographic information is presented below in Table 4.

Table 4

Participant Demographic Information

Participant	Ethnicity	Gender	Age
1	Māori	Female	38
2	Pākehā	They/Them	27
3	Pākehā	Female	24
4	Pākehā	Female	39
5	Pākehā	Female	42
6	Pākehā	Female	28
7	Pākehā	Female	48
8	Pākehā	Female	38
9	Pākehā	Female	38
Average			35.78

4.1 Neurodiverse Student Identity

Several studies have identified a significant association between ADHD and self-identity. An abundance of research indicates that the meaning and impact of ADHD for students are best understood through a lens of identity development and social connectedness (Jones & Hesse, 2018). Thus, establishing a foundational understanding of participants' sense of self was essential for understanding the experience of postgraduate students with ADHD in the New Zealand online learning environment. The first theme aims to give the reader insight into the lived reality of neurodiversity within educational environments, providing context for participants' subsequent experiences in the online learning environment. This theme is supported by three sub themes, including: Past learning traumas coming with me: Navigating burnout, failure and stigma; Reclaiming educational potential: Reframing self; and Balancing stimulation, connection and other commitments.

4.1.1 Past Learning Traumas coming with me: Navigating burnout, failure and stigma

Discussions often started with reflections of early educational experiences, as some of the participants' past experiences were from school that they had internalised and bought with them, even though recent educational experiences were within tertiary settings. All experience have shaped the participants sense of identity as a student studying alongside ADHD. This research demonstrates a type of educational history marked with failures, repeating courses, setbacks or conversely very high achievement but at a cost physically and mentally. Karen discussed her journey at university:

> *I did my undergraduate degree in business, and I didn't really like it, but I needed to finish it. I struggled, I failed heaps of papers, I really struggled. I finally got my degree, and I thought that I was never going back there again… There was a lot of late assignments, a lot of emailing my lectures at 11 o'clock. I just really struggled, I had a lack of focus and I just I couldn't do anything. (Karen)*

For Karen, the constant struggle of navigating the educational system has been exhausting and demoralizing, marked by repeated failures and setbacks despite persistent efforts. Past experiences had taught the participants that they could succeed but not easily. These learning experiences left some participants feeling like all of their past academic achievements were hard won, and the cost of success frequently came at the expense of wellbeing.

> *I was a relatively high achiever, although like I said, with great difficulty, frequently getting extensions, frequently getting distressed and procrastinating and that whole cycle. I was doing that regardless and whether it was in person or online, it was just in different ways. (Jane)*

Unfortunately, similar experiences were not uncommon among participants, and over time this reality contributed to learning trauma, reinforcing expectations that study would eventually result in profound mental, physical and emotional exhaustion. For example, Bailey describes how burnout emerged as an anticipated and recurring event, encompassing complete physical exhaustion.

> *I was finding that I was burning out quite a lot, at the end of every semester I would be really sick, and really unwell. (Bailey)*

For many participants, experiencing years' worth of past learning trauma, appeared to shape their self-understanding, and expectations of themselves as students.

> *I did actually have to take a year off because I burnt out, I didn't cope with study and the pressure of the degree and just trying to deal with all that on my own. I was the sort of student that would leave everything to the last minute. I bet you've heard that story 100 times if you've talked to anyone with ADHD that's studying. (Issac)*

For Isaac, experiencing significant difficulty and psychological distress was discussed as a part of a shared neurodiverse identity, where such challenges are recognized as common and

expected within the ADHD community. Taken together, these experiences reveal how past learning trauma became embedded within participants' academic identities, as repeated exposure to distress, shaped beliefs about the type of student participants believed they were, and the costs associated with academic success. Many of their negative experiences were talked about in relation to stigma and misunderstandings about ADHD. In predominantly neurotypical educational environments, behaviours associated with ADHD often deviate from socially constructed norms (sitting still valued over diverse learning styles). For all participants, experiences of stigma, prejudice and discrimination were evident as they described how others saw them, as well as how they saw themselves as students.

> *I told my other sister last week, and just that stereotype is so damaging. Her reaction was really hurtful. She asked why do you even need to seek a diagnosis, I just think this is over diagnosing. You don't have ADHD, you're a functioning adult and you've always been able to get high marks at school. Do you know what… It is so hurtful and damaging, those comments. (Rowan)*

For Rowan, the stereotype that ADHD is associated with hyperactive young boys, discredits her experience of ADHD as a nuanced disorder that affects adults and present differently in females. What is notable for Rowan, was that it was her family that were dismissing her experiences and difficulties so often for the participants stigma played out in educational settings but also with family and friends.

Several participants encountered various stereotypes about ADHD including perceived outward presentations of ADHD (hyperactive) with little understanding of the internalised (such as cognitive and emotional) differences associated with ADHD. This , which lead to a pervasive bias in how their disorder was acknowledged by others.

> *I went to the support centre at my University. First of all, she's said that I don't look like I have ADHD and autism… I just brushed it off, and she recommended this technique. (Olivia)*

For Olivia, the social stereotype that neurodivergence should be outwardly visible or performative undermined her sense of legitimacy. As an advocate for neurodiverse students, Olivia's method to "brush it off" as a coping strategy, reflects the recurring nature of these experiences.

These social misunderstandings and stereotypes contributed to ongoing stigma in different ways, and subsequently impacted each student differently. For Lewis, misconceptions underpinned by ableist assumptions delegitimised neurodivergent ways of learning and sanctioned them for not adhering to the expected social norms.

> *I had real problems when I was studying. the first time was because of being on my phone during lectures, and the lecturers had a real issue with that… which I couldn't possibly understand… I'm actually listening more when I'm on my phone, compared to when I'm not. I just kind of just got annoyed at them, and he got annoyed at me. (Lewis)*

Delving deeper into this experience, Lewis shares:

> *I thought 'screw you' I am actually listening, stop assuming I'm not. What works better for me is leaving tests to the last minute and sitting down with five coffees and studying all day and actually doing relatively okay on tests. (Lewis)*

The tone of frustration highlights the toll of being consistently misunderstood in educational settings that pathologize neurodivergent strategies, and suggests that maintaining a strong sense of self requires actively resisting negative societal judgments and pushing back against stigma.

For many participants, experiences of public stigma resulted in self-stigma. The concept of self-stigma can be understood as a result of participants' internalizing negative societal narratives that devalue and delegitimise ADHD in educational settings (Mueller et al., 2012). As participants experienced stigma in their educational environments, and by society as a whole, it was understandable that some students developed stigmatizing attitudes towards themselves. This appeared in particiapnts negative self-descriptions.

> *I just thought I was lazy, and essentially unmotivated, and had a lazy inability to finish* tasks. *(Karen)*

For Karen, past academic challenges were understood as a result of personal deficits, rather than as a consequence of neurodivergence or inaccessible learning environments. This self-perception reflects broader public prejudices that mislabel ADHD traits, such as inattention or difficulty with time management as laziness or a lack of motivation (Nguyen & Hinshaw, 2020). Bailey also reflected on how they have internalised the attitudes.

> *I always second guess it and internalize it. No you don't need to get that, you are just being lazy… no, that's silly because these are things that everyone has struggles with, or just toughen up – that kind of internalised stigma and self-shaming. (Bailey)*

Bailey illustrates the self-criticism that can accompany internalised stigma. Studies have found that self-stigma appears to erode self-esteem and self-confidence, in which can contribute to later adverse social outcomes (Nguyen & Hinshaw, 2020). This research demonstrates the long term impact of stigma, something that many participants talked about.

> *I've spent a lot of my time trying to be what I think everyone thinks that the professional person should be, and often to the detriment of my own personality and my quirks and myself. (Isaac)*

For Isaac, the consequences of stigma ingrained societal norms so deeply, and meant they felt pressured to mask their neurodivergent identity, at the expense of their authentic selves.

Masking ADHD symptoms not only restricts self-expression but also inadvertently reinforces neurotypical ideals, as neurodivergent traits remain hidden and societal norms go unchallenged.

4.1.2 Reclaiming Educational Potential: Reframing Self

As mature students, participants described how their understanding of what it means to be a neurodiverse student continuously evolved throughout their educational journeys. The minor adjustments in the participants discourse surfaced over time and pointed to a gradual but significant shift in students self-identity. Over time, many participants began to reframe past educational challenges in line with the social model of disability, understanding these as the result of unaccommodating educational environments rather than their own deficits.

> *I am only just starting to identify and realize that I am disabled, I do have disabilities, and I am disabled by my environments, but a lot of people won't necessarily associate neurodivergence or their particular struggles with a disability. (Bailey)*

For Bailey, moving away from deficit-based narratives and forming a deeper understanding of ADHD appeared to positively shape both their self-identity and their self-worth.

> *I can justify that I am these things, this is me and this is what I am capable of doing. This is what I'm prepared to give and if that's not good for you, then that's too bad kind of thing. I'm sorry, but that that's a you problem. (Bailey)*

Validating a neurodiverse self-identity supported students to shift away from measuring themselves against neurotypical standards, fostering greater self-acceptance of both themselves and their learning processes. This appeared through participants use of positive self-descriptions and self-advocacy.

> *Having some self-compassion, not telling yourself that I should be more like this. It is what it is. At least I'm getting it done. (Jane)*

In terms of mental health, it was clear that this shift toward self-acceptance helped reduce feelings of self-blame and inadequacy that had previously characterised educational experiences, and support greater emotional wellbeing among students. In addition, forming a strong neurodiverse self-identity had practical implications. Participants reflected on how their educational experiences looked when they had the opportunity to understand and support their difficulties.

> *It's very much like the whole self-awareness of where I'm sitting, how my brain's feeling, as to what's possible. (Olivia)*

Participants ability to validate neurodiversity as an integrated part of who they were shaped the way in which they approached learning, encouraged a more sustainable engagement with educational environments, and facilitated a movement away from cycles of distress and burnout.

> *I am kind of making things more accessible whereas maybe before I was masking things… I am making more accommodations for myself because I feel validated in my identity. (Bailey)*

For many participants, rather than concealing or minimizing their differences, a strong self-identity acted as a catalyst for participants to implement accessible learning practices, as they actively adapted environments to align with their strengths and needs.

> *Studying has been a completely different story for me now, because I am much more aware of what helps for me, and the sort of strategies that work for me, and it's much easier for me now to ask for help or to explain to other people what's going on, whereas before I couldn't explain it because I didn't actually understand it anyway. (Isaac)*

For Isaac, moving towards a strong neurodivergent self-identity both emerged from and reinforced positive learning experiences, as increased confidence and self-acceptance enabled engagement with strategies that supported continued success. However, the ways in which participants reclaim potential as neurodiverse students were not always linear or obvious.

> *Now I do have to conform to a more neurotypical brain to feel less stressed and what not, but I also know when to ask for help, so I kind of know when to pick my battles. (Olivia)*

As articulated by Olivia, reclaiming control as a neurodiverse student isn't about changing who you are, but about managing expectations in a way that is least harmful to your sense of self and wellbeing.

In summary, the findings of this theme explores the relationship between participants past educational experiences in relation to their self-identity as postgraduate students with ADHD. None of the participants arrived to the online learning environment without life experiences and individual educational histories. All participants experienced difficulties in educational environments which shaped their self-perceptions and impacted their mental health . The ways in which participants made sense of their past learning experiences informed their individual ways of being and shape how educational environments are approached, interpreted, and lived. These experiences are important to be aware of as the rest of the themes explore the online learning experience.

4.2 Navigating online environments: Socializing, physical workspaces, and individual strategies for success

This theme outlines the experiences of participants as they navigated the online learning environment as postgraduate students with ADHD. There are a number of advantages and disadvantages for learning online for these participants. This theme outlines

how they have navigated the pros and cons of learning on-line – how they have reclaimed their potential as successful learners within an online environment.

4.2.1 Balancing stimulation, connection and other commitments

All participants discussed how the online learning environment simultaneously shaped their social interactions, connection, and wellbeing. In the online learning environment, social interaction appeared to most commonly occur with teaching staff via email, and at a class level, through zoom meetings. All participants formed a general consensus that the social interactions felt controlled and intentional, and offered low levels of social stimulation which was considered a major downside and consideration.

> *"When you go to class you just chat to people and you catch up with people and you run into them on campus and get stimulation… Whereas you don't really feel like you've got that with the other students in your class (Online)."(Karen).*

> *I miss those genuine classroom conversations that you can have just before class, and after class as well. I don't feel like I have relationships with anyone really else. I don't have the relationships with anyone like I did have doing my degree as a full time on site student. I do miss that. (Isaac)*

These experiences emphasise the value of informal everyday social contact, which contribute to classroom relationships, and help build a sense of community among students. An abundance of past research has formed an associated between the lack of interpersonal relationships and adverse mental health outcomes such as, depression, anxiety and suicide in college students (Freeman et al., 2007). Many participants highlighted this relationship between socialisation and wellbeing.

> *I think I would have more dimensional and better relationships having real life relationships with students rather than faces and I think that would help my social well-being. (Lewis)*

For Lewis, the nature of social interaction in the online learning environment lacked the capacity to facilitate deep connections with others. The association between meaningful relationships and social wellbeing highlights psychological consequences of limited socialisation, in which impacted participants in various ways. Rowan pointed out that they could not physically attend class in person due to life commitments so the trade-off of missing socialising and connection was an important consideration.

> *If I was in my twenties and I had no kids, and I didn't work full time, and I was wanting that experience, then absolutely that would affect my mental health, because I'd feel really isolated doing it alone. I wouldn't have that social aspect… But in my life stage, no. (Rowan)*

The impact of the online social environment was understood through participants individual life circumstances. As postgraduate students, many participants fulfilled their social needs outside of the university environment, and did not perceive the lack of social interaction to have an adverse impact on their wellbeing.

A few participants described contrasting social experiences, reflecting on the limitations of large, in-person learning settings for fostering meaningful social connections. This showed that in-person teaching is not necessarily the answer to missing socialising in online learning.

> *you lose so much of that personal connection when you're in a massive room full of 100 people. (Tina)*

Additionally, online learning contexts sometimes offered more intentional spaces for connection. As articulated by Jane, who positioned online learning environment as a setting that facilitated, rather than hindered, meaningful connection.

> *I am sure you know that two ADHD people, or two neurodivergent people sometimes click really well, and it's instant besties, but that just didn't happen in person… When it moved to distance, and there was people from across the country, you could really connect online over shared interests and shared passions. That was when I started making more meaningful connections in my field. (Jane)*

For Jane, in the online learning environment, social interaction was not based on mere chance or proximity, as the lack of geographical barriers served as a valuable tool for neurodiverse students to intentionally connect as a minority group.

> *Even if it's just an online group, just connecting with people who you relate to and get on with, and that understand you, makes a world of difference, and you can sometimes learn about yourself. (Jane)*

The impact of social connection and sense of belonging was understood through these positive online interactions, which not only facilitated meaningful relationships but also supported self-understanding and identity development.

In addition to social wellbeing, whilst discussing the role of socialisation in the online learning environment, a few participants also reflected on how a controlled social environment impacted their learning experiences.

> *Social interaction benefits my well-being, but I don't know whether the social interaction necessarily benefits my learning, because I can be in a classroom and kind of feel a bit of sensory overload… I've noticed around the socialization, is that it is easier to engage with people when it is online, because you generally get put into*

> *small breakout rooms, so you're not trying to follow a whole lot of different conversations at once. (Charlotte)*

For Charlotte, aspects of a managed social environment acted as a form of social accessibility, by minimising sensory overload and reducing cognitive demand. However, these conditions were not always found to be particularly conducive. For many participants, difficulties with sustained motivation and engagement emerged in the absence of regular social stimulation and interaction.

> *I love people, I miss that whole, personal interaction with someone and getting to know them, whereas this is very sterile reading. (Olivia)*

As suggested by Olivia, learning environments that are uninspiring and lack excitement may be difficult for neurodiverse students who struggle to engage in tasks that require sustained mental effort. For some participants, it was this part of the online learning environment that proved to be most challenging.

> *I don't learn by myself and from my laptop, 10,000 kilometres away from my lecturer. (Karen).*

For Karen, socialisation was a necessary condition for educational engagement. These experiences suggest that online educational environments may not be conducive for students who rely on embodied, relational forms of learning to sustain motivation and attention. In both scenarios, it was clear that there was a relationship between sense of belonging, academic outcomes and enjoyment (Pedler et al., 2022).

4.2.2 Physical workspace and importance of environment

In reflecting on their experiences in the online learning environment, participants described the importance of their physical work space. As distant students, establishing a work space helped to create both physical and psychological boundaries that support focus, motivation,

and a sense of legitimacy in their identity as a student. For some participants, this involved deliberately placing themselves in traditional academic settings.

> *I put myself back into uni, even though this is an online course, I go to uni and I sit in the library and I feel like a university student. (Olivia)*

> *I find the atmosphere of a physical university environment very inspiring… Being in that environment, seeing other people study, it's almost a body doubling thing as well, it just reminds you of your goals and why you're there. I do really value that, so I actually still go into campus once a week. (Jane)*

In both scenarios, attending a traditional university campus reinforced participant's identity as a university student. The work settings among participants varied, as others challenged and redefined conventional educational settings.

> *I have got my little set up and my desk is in our conservatory… It might not be much but it's my little zone that I have kind of claimed myself. (Bailey)*

For many participants, the ability to work from home enabled them to personalise their environments in various ways. For example, Bailey provided the following insight:

> *I sit on the swiss ball so I can actively move, and I have a mat underneath my feet that I can wriggle my toes on. (Bailey)*

Personalised work environments removed the pressure to conform to the social norms and expectations inherent within traditional classroom settings. With this freedom, self-regulatory behaviours that support attention and focus were more frequently implemented without fear of judgement.

> *I am online, I love it because I'm currently colouring, so you can do these extra things, like doodling, and no one's there to see. (Lewis)*

> *I can be sitting in an online space, and I can be doodling, I can be playing with a fidget, and no one knows. You can be doing those little things that are really useful to*

> *your learning, but to other people that looks like you're not paying attention, or you're distracting others. (Charlotte)*

The common emphasis on invisibility may indicate a broader experience among participants, where they were previously misinterpreted or pathologized in neurotypical educational environments. However, in the absence of social expectation participants described a significant sense of relief.

> *That's another factors in terms of why my brain was so busy and why I did struggle, because I was trying so hard to fit into this vision of what I thought someone should do, all those people can sit, whereas now I bring the fidgets out everywhere with me… (Bailey)*

For Bailey, personalised workspaces facilitated a shift away from masking behaviours, allowing her to implement strategies that genuinely supported her learning. Bailey indicates that these strategies have been extended beyond personal settings, thereby challenging social norms around acceptable learning behaviours.

4.2.3 Supporting success: Self-regulation and study techniques

All participants utilised individual management strategies to support successful learning and educational outcomes. Typically, individual management strategies combined self-regulation and study techniques to enhance attention and support productivity.

Participants demonstrated a deep understanding of ADHD as they described each individual management strategy. Sustaining engagement in tasks, such as remaining focused during lectures can be difficult for individuals with ADHD. In the online learning environment, participants added various forms of environmental stimulation, to harness focus more effectively and reduce symptoms of inattention.

> *I do love online lectures... I've got three monitors, I have the zoom on one, and then I can Google things that they're talking about that I didn't quite understand, and if*

> *there's something like a really interesting infographic, I can go find the infographic and print it out as well, and I'm engaging in a three dimensional way with the learning. (Lewis)*

For Lewis, the ability to implement a multidimensional work space supported symptoms of inattention, and meant that their learning experiences could be more interactive and enjoyable.

> *I can speed up the videos, I just put them on like 1.5 speed, and I can bang those out. Almost half the time if I listen to them on normal speed, I want to poke my eyes out. That's been really good at helping me pay attention, and actually get the work done. If I was having to do it at somebody else's pace, that's really challenging for me. (Rowan)*

For Rowan, the ability to increase the lecture speed supported symptoms of inattention, reduced feelings of frustration and fostered positive learning experiences.

> *When I need to focus on something, I put on a podcast. Not in my ears, but it's on my phone on the table, just like background noise essentially... I find that distracts the part of my brain that is causing my distractions, then I can just focus and type on what I need to do. (Karen)*

Although it was not explicitly stated, it was clear that there was a close relationship between stimulation, academic productivity, and enjoyment.

Remaining still for extended periods of time and engaging in tasks quietly has been shown to be difficult for individuals with ADHD (American Psychiatric Association, 2022). In the online learning environment, participants were able to support symptoms of hyperactivity and feelings of restlessness in various ways, without being labelled as disruptive.

I did a lot of walking my dog and listening to the lectures. I did a lot of, all that stuff where it's doing multiple things at a time. (Charlotte)

Multitasking and incorporating movement were mentioned as common strategies for students who experienced symptoms of hyperactivity.

I've got to keep the hyperactive part of me entertained, whether that's through fidgeting or pacing or really heavy sort of loud music. (Jane)

Whilst these approaches may initially appear unconventional, it was understandable that participants found movement to be a helpful management technique, as physical activity has been found to have a positive effect on cognitive performance on measures of both executive and attentional functions (Rassovsky & Alfassi, 2019).

In addition, effective time management has been shown to be difficult for individuals with ADHD, and was conveyed as one of the most challenging aspects of the online learning environment. Many participants used systems to actively structure and organise their time in order to minimise distractions.

I really try and break it down into a 20 minute slot so I can do this and then I'll have a break. (Olivia)

A few participants described breaking down work into distraction free intervals, whilst others described working for longer periods.

For me, it's actually better if I work for like 2 to 3 hours solidly, and then have 45 min off, and then start again, that's much less distracting for me. (Rowan)

These variations of time management strategies were not sufficient for some participants, who proceeded to describe their reliance on body doubling. Having another individual present emerged as a significant strategy for several participants.

I would video call with people and body double in that way, we literally just put the video call on and do work for two hours or something, and that did help. (Jane)

In the online learning environment, body doubling often occurred virtually. While the concept of accountability remained the same, not all participants found virtual body doubling equally effective or accessible as in-person support.

> *Of course, body doubling is one of the biggest benefits for me, but when you're thinking about the online situation. I can't body double with a computer. (Isaac)*

In summary, this theme provides insight into the participants experiences of navigating the online learning environment and the individual management strategies utilised to support positive learning experiences. The wide range of experiences within the online learning environment, is reflective of the heterogeneity among students with ADHD.

4.3 The Flexibility Paradox

The flexibility paradox describes the contradictory role that flexibility held in online learning environments. Whilst flexibility can provide students with autonomy, it also presents significant challenges. This theme explores participants' experiences in flexible learning environments, how they felt, and the consequences of having few structural boundaries.

4.*3.1 Work life balance: Incorporating study into lives with blurred boundaries*

As mature students, participants explained how the flexible nature of the online learning environment enabled them to incorporate postgraduate study in their lives:

> *There is no way that I could have done this post-grad face to face, because practicalities would have prevented that.(Rowan)*
>
> *I needed it to be online, because there was no other way I was going to be able to find the time or the capacity to do that in person. So, yeah, part of it is just being able to fit it into your life. (Tina)*

Participants balancing multiple commitments and responsibilities whilst participating in the online learning environment often blurred the boundaries between study, work, and personal life. This was an important discussion, as adults with ADHD may experience particular

difficulties in achieving work life balance, which can subsequently increase the risk of adverse mental health outcomes (Oscarsson et al., 2022).

One of the common experiences among participants was studying outside of typical working hours. As articulated by Olivia:

> *I also love the fact that with this online platform if I'm at work and it's 2:00 in the morning and we don't have a job and I can't rest, then I can jump online and like do a little uni work. (Olivia)*

This experience highlights how the online learning environment can integrate into all aspects of life, blurring the boundaries between work, rest, and personal time. In the online learning environment, responsibility is placed on students to manage work and rest effectively, with potential implications for wellbeing. For many participants, navigating this environment involved an ongoing internal negotiation.

> *In reality, just being on my computer for two hours at like 3:00 in the morning, is that really going to get me ahead or is that just going to set me back in the long term? (Olivia)*

Olivia's self-questioning demonstrates a degree of reflective self-regulation, as she actively evaluates the long-term consequences of short-term productivity, potentially informed by prior experiences of fatigue or burnout. Navigating this fine line between productivity and overexertion, may be particularly challenging for students with ADHD, whose executive function difficulties can impair self-regulation and increase the risk of burnout.

> *I was burnt out by the end of year one. It was horrendous. I was coming the end of my second year of my job in this role, and I also had a number of assessments that I also needed to do. I'd been studying and getting back into the rhythm, just even getting my head around online learning. It was really challenging, and I was trying to discover the right strategies. (Isaac)*

The physical and emotional impact of managing postgraduate study and other commitments was clearly very strong. This lived reality was acknowledged but not accepted, and left participants questioning how they could achieve a healthy work life balance. Implementing boundaries to prevent the online learning environment from imposing into all aspects of life was a crucial step for supporting a healthy work life balance.

> *The whole aspect that wherever I take my laptop, I can do uni is great, but I still need to put those boundaries in. (Olivia)*

The statement *"put those boundaries in"* highlights that, rather than being inherent, boundaries in online learning must be actively created and maintained by students themselves. For some participants, implementing boundaries was further complicated by social perceptions of the online learning environment.

> *I struggle a bit with the online environment, because there's the perception that I'm at home, so therefore I'm available, whereas if you're on campus, it's different because you're out of the house. (Bailey)*

For Bailey, the social understanding associated the online learning environment, led to assumptions of increased availability and reduced boundaries around study time. The immediacy and cognitive demands of academic workload were frequently overlooked, intensifying the challenge of maintaining a healthy work life balance.

> *That's when I had to have this kind of revaluation of what is actually feasible for me. If I am going to be that person that is always there, then I can't study full time and work and do all of these other things. (Bailey)*

The moment of *"revaluation"* represents a critical point of making sense of what is sustainable. This appeared as a response to an extended period of competing demands and overexertion. These experiences highlight the ongoing negotiation and self-regulation involved in maintaining a manageable workload and achieving a healthy work life balance.

4.3.2 Working out and managing demands on executive functioning

As participants reflected on how they navigated the online learning environment, it was evident that their experiences were closely linked to the demands placed on their executive functioning skills. In the online learning environment, the self-directed learning style requires individuals to successfully direct attention away from distractions and use effective self-instruction to initiate study. These processes are central to self-regulation, and rely heavily on executive functioning.

> *The flexibility works against me, because you know that you can do it at any time. (Karen)*

For Karen, the flexible nature of the online learning environment exacerbated procrastination behaviours, in which can be understood as a failure of self-regulation. Research has shown that individuals with ADHD experience difficulties utilising executive functioning skills for self-regulation, and may have challenges attainting their goals (Dorr & Armstrong, 2019; Dvorsky & Langberg, 2019). This research demonstrates a type of experience that many participants talked about.

> *If we're just left to do modules and write our own notes and everything, and then have to do an assignment at the end…. that's an absolute minefield for me. (Rowan)*

For Rowan, self-directed learning increased cognitive load and required greater planning and organisation, which was recognised to negatively impact experiences of executive functioning, as well as heighten stress and anxiety. In some cases, the anticipation of commencing self-directed learning, was alone a barrier to engagement.

> *I'm doing a practicum at the moment, so of course it's very self-driven. It's very easy to avoid yourself, especially when it's really hard to get started on a task. (Isaac)*

In these scenarios, flexibility increased cognitive load and stress, which compounded difficulties with task initiation and engagement, illustrating how challenges in self-regulation can undermine successful learning experiences in online learning environments.

In contrast to the experiences above, Lewis described feeling as though the online learning environment supported their experiences of executive functioning.

> *In terms of executive functioning there are way fewer steps right, in terms of click, zoom, put headphones on, and smile. (Lewis)*

For Lewis, the online learning environment required less planning and organisation to access, reducing cognitive load and supporting engagement. The ability to easily navigate and manage learning tasks supported their psychological wellbeing.

> *It also takes a lot less out of me, in terms of having to put clothes on, get to the university and be around a whole lot of fluorescent lights, and then get home and deal with all of that fatigue at the end of the day. I hate myself less… I think that I feel good about myself because I'm doing well. (Lewis)*

These positive learning experiences supported self-esteem, and highlight the relationship between experiences of executive functioning, cognitive load and wellbeing. Notably the challenges and tensions of managing flexibility within online learning were not homogenous but required awareness of their own specific executive function difficulties and then a learning of how to work with those within online learning.

Despite enrolling in various education providers across New Zealand, participants formed a general consensus that the online learning environment reduced many time and place constraints in regards to access and engagement. This convenience placed responsibility on students to determine their own study schedules, manage time effectively, and maintain engagement. This was both a positive and negative. For Jane and Tina it was positive as they could work in ways and times that suited them.

> *I think it can be beneficial to ride your motivation waves. I often get a boost of motivation, around 7 - 9pm and quite often, I'll just accept that and be like that's fine, if this is when I'm motivated, that's when I'll do it. (Jane)*

For Jane, the flexible nature of the online learning environment enabled her to align her learning with her natural rhythms of focus and energy. This experience bring the awareness of motivation into question. The Self-Determination Theory, conceptualises motivation on a continuum ranging from autonomous (voluntary) to more controlled forms of regulation (Morsink et al., 2022). Engaging with study in response to voluntary motivational states may help satisfy the psychological need for competence by allowing students to study when they feel most capable, and support autonomy by permitting self-directed timing and pacing (Morsink et al., 2022).

> *I'll wait when the brain is in the right space, wait when the when the medication's working, and then engage with the study, because I know that it's going to stick better, and I'm going to be able to sit down and work through more of it in one go, if that makes sense. (Tina)*

For Tina, the opportunity to study during times where conditions were optimal, helped foster positive learning experiences. This reflection highlights how for some participants, a lack of structural boundaries may function as a protective factor, by mitigating feelings of frustration or cognitive overload that may arise from compulsory engagement.

> *I can work at a time that I'm not feeling tired, so I feel like it impacts me positively mentally, because I can look after myself physically and mentally. (Jane)*

This experience highlights the relationship between educational environment, motivation, and wellbeing. Educational environments that meet students' needs, are more likely to encourage voluntary motivation and contribute to greater wellbeing (Morsink et al., 2022).

In contrast, several participants discussed how the absence of structural boundaries, contributed to negative learning experiences.

> *I will either do nothing or do everything in 2 days. Because I need the pressure, I would tend to not do anything for a long time, and then, use that pressure to get through. (Rowan)*

In this context, Rowan relies on pressure as a strategy to compensate for challenges in self-regulation and executive functioning. Whilst this strategy appeared to be effective in the short term, it can contribute to negative learning experiences.

> *Working at home has always been a double edged sword for me, because I would either do nothing all day, or I won't move, I'll sit in the same place for 8 hours, I won't go to the toilet, I won't have a glass of water, I won't eat anything, and I will just work solidly for 8 hours without noticing any bodily cues. (Rowan)*

The absence of external structural boundaries was particularly impactful for participants who became hyper focused, which is a common occurrence among students with ADHD.

> *I just became completely absorbed. Couldn't switch off, hyper fixate and focus on it. Forget to eat, I would forget to go to the toilet, I would forget to drink water and I was like desperately unhealthy just sitting all day at my computer, just fixated on this thing I had to get done. (Bailey)*

In this context, Bailey found that it was difficult to disengage with the online learning environment, even when it was necessary. These periods of becoming completely absorbed are afforded by the online learning environment, in which lack external structure or cues that traditional learning environments impose. It was clear that the mental and physical impact of these learning experiences were very powerful. Bailey's experience also reveals a more complex tension within hyperfocus, in which complete over immersion contributes to a loss of control over attention, and harms students' ability to tend to their basic needs.

In summary, the experiences outlined in this theme highlight the ways in which the flexible nature of the online learning environment can simultaneously hinder and support students learning experiences. For some participants, the absence of a fixed structure and external commitments enabled a self-regulated approach to learning that aligned with periods of heightened motivation to foster positive learning experiences. However, this same flexibility posed significant challenges for other participants. There is a broader context too, that draws attention to the fact that flexibility does not amount to inclusivity.

4.4 Equity vs Equality

This theme outlines the experiences of participants as they discussed their perceptions and lived experiences of equity and equality in the online learning environment.

4.4.1 Fitting the mould: Standardized platforms and learning designs

Participants engaged with several online learning platforms across different educational organizations within New Zealand, and described a range of differences in the format and delivery. Participants descriptions of online learning platforms frequently suggested that educational organisations typically used linear, systematic modules. In some cases, narrow online learning modules were described to structurally exclude neurodiverse learning needs.

> *regardless if it's ADHD or not, like some people are kinaesthetic learners… some people are the ones that can read and read and read. Some people can listen and that's how they learn. They haven't even tailored it for that, they've just tailored it for people that can read. (Olivia)*

The was an overarching sense of frustration among participants regarding the small amount of learning style responsive teaching. This general consensus was understandable, as past research has established that neurodiverse students perform significantly better when their

learning styles are accommodated (Brand et al., 2002). Despite being particularly impactful for neurodiverse students, Olivia's choice of words *"regardless if it's ADHD or not"* indicated this as an issue that impacts all students who do not fit a single learning mould.

> *For me, and with my ADHD, a lot of my understanding comes from face to face discussions, so that's been challenging because I'm just reading information, then having to do with that what I will, and I'm not able to unpack it. (Rowan)*

For Rowan, the challenges experienced do not stem from a lack of academic capability, but rather reflect a discrepancy between her learning needs and the online learning platforms design. The choice of words *having to do with that what I will* highlights how participants have minimal choice over the online delivery of education. It was clear that participants recognized adaptability as an expectation within the online learning environment.

> *I think that whole adaptability, is the biggest thing that I found to be helpful, but also frustrating – the expectation to just fit into this one mould. (Olivia)*

The phrase *just fit into this one mould* suggests that the responsibility for successful learning often rested on the student, rather than on the design of the learning environment itself.

4.4.2 Accessing support for online learning and different learning needs

Participants experienced a range of inconsistencies when it came to accessing supports in the online learning environment. It appeared that some participants were not aware of what resources and supports were available to students in the online learning environment, regardless of neurodiversity.

> *Am I allowed to use the library? Am I allowed to borrow books from the library? Am I allowed to even engage with the on-site facilities? You know, they have tons of facilities, but I think there's a real lack of interest in making learners feel like they are part of that institution. (Tina)*

For Tina, the lack of communication around the resources available for online students points to a deeper issue of institutional belonging. The lack of understanding regarding the ability to access basic academic resources reinforced feelings of exclusion and marginalisation, positioning distant students peripherally, rather than full members of the institution. In a similar vein, Isaac discussed the lack of communication around neurodiversity:

> *I'm trying to say if they'd said or given me something that explained that if you are neuro diverse or have takiwātanga , or ADHD, then these are some things that might be good to look at and, and you can tell us about that, but I don't actually recall that being sort of discussed.(Isaac)*

For Isaac, the lack of communication not only limits access to potential supports but also reinforces silence around neurodiversity, making disclosure feel optional, risky, or invisible. In terms of ADHD, many participants agreed that the available supports were designed to be implemented within traditional classroom environments and failed to translate effectively to the online learning context.

> *I also went and saw the accessibility team, and they also didn't have anything specific for the online platform… They had ADHD stuff, but it was very tailored to like someone helping you write your notes for in a lecture. But because we don't have that on our online platform, it kind of was like null and void I had to make my own thing. (Olivia)*

As accessibility supports were not consistently designed with neurodiverse online students in mind, participants were frequently left to bridge the gap themselves.

> *You find your own ways of making things work and making things better, which is very hit and miss when you're really busy. (Charlotte)*

This reflects a broader systemic issue, where the responsibility for forming equitable educational environments is effectively shifted onto the student. This reality left many

participants to view meaningful accommodation as exceptional rather than expected within online education.

> *I have never had support, I don't actually know what would help me because I have had to do it all on my own… Are there some universities that are doing amazing things for their neurodiverse learners? (Isaac)*

For Isaac, following years of self-reliance, there was a certain sense of disbelief regarding the possibility that other neurodiverse students may have received effective support from their educational organisation. When considering this possibility, Isaac shared:

> *I wonder, if there are tools out there that I don't even know exist, , perhaps a speak to text, or other options out there that could work for people like me? It's just a really challenging space and I don't know what would help me. (Isaac)*

This experience highlights how persistent gaps in support, can compound marginalisation, by not only leaving students unsupported, but also uncertain of what support would even look like.

In addition to the lack of availability, many participants experiences accessing support were contingent on individual attitudes, rather than systemic approaches.

> *Even just the attitudes of certain people. Someone like my supervisor, is so understanding, because she works in critical health psychology, she comes from that very holistic, compassionate point of view. But I found that other professionals that are in the clinical side, they're a bit more hard-nosed, and they can be a bit like, well this is a tough area, so you've just got to be tough, you just have to get it done. (Jane)*

The inconsistencies participants experience when accessing support discourage vulnerability and have the potential to prevent future self-disclosure. There is a broader cultural context here too, in which hardship is often perpetuated in educational settings, by placing pressure on students to persevere because others before them have done so. These patterns of

invalidation contribute to psychologically unsafe educational environments that encourage a culture of silence.

> *I thought, do I tell them I've got ADHD? And then I thought, no that's a cop out. They will think here we go another person…. so I never really disclosed it. (Isaac)*

For Isaac, the decision to declare ADHD as an 'excuse' was based on the fear of being judged and the potential negative assumptions held by others. This also reflects a broader societal perception, in which adults that receive an ADHD diagnosis are manipulating the educational system to receive accommodations (Nguyen & Hinshaw, 2020). The expectation that others held negative views of neurodiversity created hesitation among participants to speak up.

> *The other thing I have noticed is around women with ADHD, there is still a lot of that conversation about it being over diagnosed… so you know you might go forward and take that step and say, hey I have got an ADHD diagnosis, but they are not necessarily going to have validated that as being true, because they don't necessarily believe the diagnosis rates are very accurate. (Charlotte)*

Incorporating gender, this reflection highlights how the pervasive gender bias in how ADHD has historically been conceptualised as a "hyperactive boy", continues to marginalise women's experiences and complicate access to support. Unfortunately, various social stigmas were embedded in participants experiences.

> *I am very conscious of other people who have received diagnoses whilst being in registration programs, and the amount of stigma that is still attached to that, and the lack of any support in that regard. There's not really felt like there's been any point in sharing that, and trying to find support from the education perspective, if anything I think it would disadvantage me in the program that I am in, which is really sad. (Charlotte)*

These experiences highlight how ableist assumptions remain embedded within educational environments. The impact of these social prejudice caused self-doubt, interfered with participants ability to access support, and perpetuated inequities.

4.4.3 Moving Forward: Pathways for Change

After reflecting on experiences of support in the online learning environment, participants discussed what changes they would like to see moving forward. Many participants discussed different pathways for change, including the role of increased awareness, self-compassion, and the adaptation of services to meet the needs of neurodiverse online students. Participants emphasised the significant and often under-recognized impact of ADHD on learning.

> *Obviously society is moving forward, and people are learning more about it and everything, but I hope that one day people truly understand the impact that ADHD has on so many facets of learning, and that it's not just swept under the carpet, it's actually acknowledged and supported. (Rowan)*

The neurodiversity movement has continued to increase awareness around how neurodivergent students are perceived and accommodated. However, Rowans reflection highlights an important disconnect that is experienced between societal awareness and meaningful educational change. In reality, increased awareness does not automatically translate into effective support or recognition within learning environments, and there is an ongoing gap felt among participants.

> *I think just that we can't discount the huge impact that ADHD has on study, and especially online learning. I feel like we haven't grazed the surface yet. (Rowan)*

This reflection suggests that existing accommodations and support strategies fail to address the full scope of challenges faced by students with ADHD. The reality of supporting ADHD is complexed and nuanced, and is understood as a consistent work in progress.

> *how we have been taught hasn't changed in a very long time. But as we've seen, not everyone is the same. Not everyone learns the same, not everyone thinks the same. So I think a big shift needs to come in to be able to be more conducive for a lot more people. (Olivia)*

Olivia's reflection situates the issue within a broader critique of traditional educational models. This call for a big shift reinforces the need for systemic change, moving beyond individual accommodations toward more inclusive and flexible learning design. This shift is understood not only to be beneficial for students with ADHD but would contribute to more equitable learning environments overall.

In addition to advocating for systemic change, many participants reflected on the individual role they play in creating pathways for change within their learning environments.

> *If I can have those conversations which I've had with my lecturers and they think differently or they are a little bit more aware of ADHD and more aware of how an ADHD person thinks, that kind of brings me a lot of joy. (Olivia)*

It is important to acknowledge how even small shifts in awareness among educators can have a profound emotional and psychological impact on students with ADHD. As an advocate for neurodiversity, this experience brings feelings of validation, recognition, and empowerment In a similar vein, Bailey highlights how effective support can extend beyond formal accommodations.

> *More acceptance and a bit more education around staff as well and with students so that they know who to contact, they know that it's okay, that they are not alone. They are not the only ones struggling, These are really common things to struggle with, and this is what you can do. That kind of support, I think would be really helpful. (Bailey)*

The focus on support encompassing reassurance and shared understanding highlights the true emotional burden of neurodivergence in the online learning environment. The importance of creating better environments and reducing the emotional and cognitive load on the new generation of neurodiverse students was stressed.

> *I am so thankful that there is more awareness now so that the kids that are coming through won't grow up feeling broken… just having more self-compassion, that would be huge. (Bailey)*

In summary, these experiences highlight the importance of equity in the online learning environment. Many participants felt that the online learning environment was designed around linear formats that privileged uniformity over inclusion. The expectation to 'fit the mould' placed disproportionate pressure on neurodiverse students, particularly those with ADHD. Barriers to accessing support were also evident, with inconsistencies in availability, communication, and relevance for online students. Participants felt that these challenges often shifted responsibility for adaptation onto the students rather than the educational institution. These findings establish a clear need for systemic change, as well as an increased awareness of neurodiversity to ensure online learning environments are inclusive, accessible, and equitable for all students.

Chapter 5: Discussion

The purpose of this research was to explore the lived experience of postgraduate students with ADHD in the New Zealand online learning environment. I aimed to explore the how participants make sense of their learning experiences, and how this influences how they deal with and manage their ADHD. Five themes emerged from the research, in which collectively provide insight into the sociocultural contexts shaping participants' learning experiences, and how these experiences, in turn, influence broader aspects of importance such as self-identity and belonging. In consideration of the research objectives, theoretical frameworks, and existing body of literature, this chapter aims to explain and situate the research findings. These findings highlight the nuances of neurodiversity in the context of online education, underscoring the need for a stronger commitment to equity and inclusion. The strengths of this study are acknowledged throughout the chapter. The implications of the findings will be discussed, followed by limitations and suggestions for future research.

5.1 Reflections

The imperative for this research emerged from my own lived experience, and deeply situated knowledge, giving me an 'insider' status and this, shaped the interpretive lens through which the findings were understood (Smith et al., 2022). While this subjectivity and positionality can never fully be escaped and was embraced, it is important to me to reflect back on the process, it was revealing to me to see how my perspective changed over the course of the study. I began the research with the assumption that, to support learning experiences for neurodiverse students, it was necessary to better understand the contexts in which these experiences occur. However, the research process proved far more complex, messy, and unpredictable than anticipated. At times, the research decentred the online learning environment all together leaving me wondering what was important for the findings and how I answered the research question.

5.2 Summary of Findings

The findings of this study demonstrate that postgraduate students with ADHD in the online learning environments are managing their experiences in a deeply individualized way. The experiential themes and sub themes outlined in Chapter Four, are presented below to recap:

Table 5

Group Experiential Themes with Sub-Themes

Theme	Sub-theme
Neurodiversity and self-identity	Past learning traumas coming with me: Navigating burnout, failure and stigma
	Reclaiming educational potential: Reframing self
Navigating online environments: socializing, physical workspaces, and individual strategies for success	Balancing stimulation, connection and other commitments
	Physical workspace and importance of environment
	Supporting success: Self-regulation and study techniques
The flexibility paradox	Work life balance: incorporating study into lives with blurred boundaries
	Working out and managing demands on executive functioning
Equity vs Equality	Fitting the mould: Standardized platforms and learning designs
	Accessing support for online learning and different learning needs
	Moving Forward: Pathways for change

During the process of IPA analysis, I identified four superordinate themes: ‘Neurodiversity and self-identity’, ‘Navigating online environments: socializing, physical workspaces, and individual strategies for success’, ‘The flexibility paradox’, and ‘Equity vs Equality’. The

first theme: ‘Neurodiversity and self-identity’, is representative of participants earlier experiences of ADHD, including experiences of burnout, failure and stigma. This theme seeks to develop an understanding of the meanings and consequences of having ADHD for students. Participants’ past learning experiences shaped their self-perceptions, which they carried with them into online learning environments and continued to influence their engagement within these contexts. Within this theme, I observed how past learning trauma frequently reinforced the belief that, while success was attainable, it would not come easily. I noticed that as participants’ self-awareness of their neurodiversity increased, they began to reclaim their identities as capable and successful students, and to advocate more confidently for their needs. The second theme: ‘Navigating online environments: socializing, physical workspaces, and individual strategies for success’, highlights the participants’ individual and collective experiences within online environments and their sense making about this. The online learning environment presented a range of new challenges and opportunities that shaped participants connections with others, their physical workspaces, and their approaches to learning. The third theme: ‘The flexibility paradox’, illustrates how the flexible nature of the online learning environment can simultaneously hinder and support students learning experiences. Whilst flexible learning environments encouraged adaptability, they frequently introduced challenges related to self-regulation and motivation. Participants described the paradox of these flexible work environments, which were often interpreted through the lens of executive functioning, highlighting that flexibility alone does not equate to inclusivity. The final theme: ‘Equity vs Equality’, questions if the online learning environment is truly accessible to all students. Participants’ experiences revealed inequities in engagement and access to support, often shaped by broader societal prejudices, that further marginalized students with ADHD. The importance of creating equitable learning environments was emphasised as participants identified areas for improvement to foster greater inclusivity.

These findings highlight the implications for educational institutions in creating inclusive online learning environments that can better support the diverse learning needs of all students, from the perspectives of adults with ADHD.

It is important to acknowledge that, whilst each superordinate theme and its associated subthemes entail different subjects and ideas, the themes overlap and are intertwined. Collectively, they illustrate that participants' experiences in the online learning environment were multidimensional and are best understood within the broader context, reflecting the complex and subjective nature of their lived experiences.

5.2.2 Neurodiversity and Self-Identity

This section explores how the experiences of the participants are a part of larger social discourses associated with ADHD, and how the contribution of stigma associated with ADHD influence how participants understand their learning experiences. In the online learning environment, participants continued to report stigma and prejudice towards ADHD. This finding is consistent with previous research findings that show college students rate students with ADHD more negatively than those without ADHD (Chew et al., 2009). There is ongoing debate regarding the extent to which such stigmatization stems from the behavioural characteristics associated with ADHD or from the social connotations of the diagnostic label itself (Lebowitz, 2016; Nguyen & Hinshaw, 2020). In the online learning environment, the invisible nature of engagement shifts attention away from observable physical, behavioural or intrinsic characteristics and toward the social meaning and discourses attached to the label "ADHD" (Mueller et al., 2012). Thus, it seemed that stigma was being internalised from past in person experiences as well as online learning showing the pervasive nature of stereotypes and prejudice towards ADHD still. In particular, social discourse that questions the reliability and validity of the ADHD diagnosis was shown to create barriers for participants seeking support, demonstrating how the social meaning

attached to the label undermines students' legitimacy. This idea has been understood to stem from the rising rate of adult ADHD diagnoses, which has heightened concerns about malingering in assessments, as some individuals may feign symptoms to gain access to medication or academic accommodations (Cook et al., 2018). This research found no evidence to indicate malingering was a significant concern among participants, of whom reported receiving few effective academic accommodations that might incentivize feigned symptoms. Although the increasing representation of neurodiversity in higher education could be expected to reduce stigma through greater visibility, unfortunately this is often coupled with a perception that diagnostic and treatment thresholds have lowered, contributing to the trivialisation of mental illness and undermining the legitimacy of students' experiences (Hinshaw & Stier, 2008). Participants internalised some of the scepticism from others which had impacted their self-perceptions. This meant that some participants felt hesitant to share their neurodiverse identity, expressing an explicit awareness of the stigma that was attached to the label of ADHD.

Furthermore, several participants narratives emphasised how gendered expectations around ADHD contributed to prejudice and experiences of stigma, with internalized symptoms such as inattention often overlooked or seen as 'normal' in female students (Lynch & Davison, 2024). The dominant social stereotype commonly conceptualises ADHD as a 'hyperactive boy' prevailed within the participants educational environments (Mueller et al., 2012). These types of social stereotypes and prejudice are a cognitive expression of stigma, that reinforce an inequitable cycle that distorts how ADHD is recognized and understood (Lynch & Davison, 2024). As these externalising behaviours are stereotypically associated with males, it is possible that this contributed to the increase in stigma discussed among the female participants (Nguyen & Hinshaw, 2020). Failing to meet stereotypical presentations of ADHD complicated access to support, contributing to feelings of marginalization. For several

participants, gendered expectations were the basis for some of their difficulty recognising the significance of their challenges and a silencing of their experiences.

The way participants processed stigmatizing experiences was shown to have a significant impact on their identity development, which was actively constructed in response to the dominant social discourses around ADHD. Expressions of self-devaluation reflected self-stigmatization, in which participants took on negative societal narratives that devalue and delegitimize ADHD within educational settings (Mueller et al., 2012). As an additional burden of disease, experiences of self-stigma are considered a major concern in the field of mental health (Lebowitz, 2016; Masuch et al., 2019). Consequently, participants continued to blame themselves for educational difficulties experienced in the online learning environment, rather than acknowledging and validating the genuine challenges associated with ADHD. This meant that some participants experiences lower self-esteem and self-efficacy (Corrigan & Shapiro, 2010). These findings are in line with past research assessing the stigmatization of adult ADHD, in which identified a harmful self-maintaining cycle, where individuals experience and internalize stigma while also anticipating discrimination (Masuch et al., 2019). According to Masuch et al. (2019), internalized stigma and the anticipation of discrimination are associated with increased psychological distress, as well as reduced psychosocial functioning and diminished quality of life. This research found that the persistence of stigma in online learning environments contributes to inequitable outcomes for neurodiverse students, including students with ADHD. These outcomes contribute to psychological distress, maladaptive identity formation and adverse academic performance.

5.2.3 One size does not fit all: Persistence of nuero-normativity and inequality

The participants experiences in the online learning environment were marked by the persistence of neurotypical norms and inequality. Participants described a one-size-fits-all approach to learning that prioritised reading and writing, failed to accommodate diverse

learning styles, yet was still treated as suitable for all students. Since entering the education system, this meant that participants were having to work twice as hard than their peers to meet neurotypical expectations. The expectation to fit into this mould can prove to be challenging for some neurodivergent students, who perform significantly better when they are taught with approaches and resources that complement their learning style (Brand et al., 2002). Several participants described the mundane nature of the course work to exacerbate their symptoms of inattention, and this meant they began to believe they were inadequate for not meeting these conventional standards of engagement. Through the lens of the neurodiversity paradigm, it can be understood that the participants were marginalised within a society structured around "neuronormative" standards that privilege neurotypical ways of thinking and processing (Chapman, 2020, p. 58). This is in line with research that has established a significant proportion of students with ADHD face considerable challenges due to traditional teaching strategies, which are typically treated as the standardized model in educational settings (Lagacé-Leblanc et al., 2026). According to Lagacé-Leblanc et al. (2026), the problem does not necessarily lie with the one-size-fits-all approach itself, but rather that pedagogy is often based on a set of norms that fail to address the diversity of the student population (Lagacé-Leblanc et al., 2026). If changes are made to design supportive courses that foster student engagement and success, there is potential for a one size fits all model of learning to support all learners, including students with ADHD (Lagacé-Leblanc et al., 2026).

Furthermore, the persistence of neurotypical norms and inequality plays out in the education system at all levels (Hennekam et al., 2025). The participants felt that as a result of neurotypical privilege, varying symptoms of inattention, hyperactivity and impulsivity were often viewed as unfavourable, marking participants as part of an outgroup within the classroom. Consequently, several participants discussed masking their symptoms of ADHD

as way to blend in with the neuromajority, and subsequently avoid the stigma associated with belonging to a neurominority. Neurotypical hegemony, invisibility, and privilege have been established as key social drivers of masking and camouflaging (Radulski, 2022). However, participants described the emotional challenges of prolonged masking, which often came at the expense of their authenticity, and proved unsustainable overtime. These accounts rare in line with research in which underscores the significant psychological toll of masking, which has been associated with adverse mental health outcomes, including stress, identity loss, and suicidality (Radulski, 2022). Furthermore, in online settings, several participants frequently worked alone, experiencing the privilege of forming the invisible neuromajority, without the effort of masking their neurodiverse identity.

Neurotypical norms were not upheld by participants, yet the negative consequences of not appearing neurotypical in social settings were avoided. In the absence of social surveillance, participants felt freedom to implement various management strategies (i.e. multitasking, physical movement) without being perceived as having special educational needs, in which implicitly validate ableist assumptions (Manalili, 2021). The sense of safety felt among participants reflects the pervasiveness of ableist ideologies, that discriminate against neurodivergent students (Manalili, 2021; Radulski, 2022). These findings are in line with research conducted by Manalili (2021), underscoring how ableist ideologies stifle neurodiversity and hinder inclusive education.

5.2.4 Unpacking the flexibility paradox

In the online learning environment, participants' experiences were shaped by a flexible structure that prioritised independent functioning. This approach required students to adopt a self-directed learning style and assumed that all learners were able to develop and manage a system that worked effectively for them. The emphasis of self-management was evident through the participants' perceptions of the 'ideal online learner', as someone who

was able to take responsibility for their own learning without heavy guidance from lecturers or classmates. Several participants felt that the emphasis on adaptability conveyed the idea that diverse needs were being accommodated yet shifted responsibility onto students to manage their own learning. However, participants understood success in the online learning environment to be contingent upon strong executive functioning skills, such as self-management of time, self-motivation and self-regulation, which are commonly impaired among adults with ADHD (Dvorsky & Langberg, 2019). For several participants, the ability to work anytime and anywhere, demanded strong self-management of time, and exacerbated procrastination behaviours, which left participants feeling distressed and questioning their capacity to succeed. For others, in the absence of external reinforcement it was difficult to sustain the self-motivation needed to work toward academic goals, even if the academic rewards were more meaningful than the immediate distractions, leaving participants feeling frustrated. These findings lend support to the idea that executive functioning plays a significant role in predicting impairment across students with ADHD (Dvorsky & Langberg, 2019). Thus, the times where flexibility supported students' experiences of executive functioning, were shown to positively impact their self-perceptions.

Furthermore, participants' interpretations of the online learning environment were shaped by how its flexibility enabled them to respond to their internal cues and engage with learning when they were functioning at their best. The participants represented diverse neurodivergent profiles, and experienced various patterns of motivation and fatigue. Thus, the times at which participants experienced the right psychological, environmental, and physiological conditions to engage in study varied. For example, many participants often described themselves as 'night owls' and were active late at night. The flexibility afforded by the online learning environments enabled students with ADHD to work in line with their delayed internal circadian rhythm, in which encouraged greater enjoyment in their learning

(Kooij & Bijlenga, 2013). These findings align with recent literature which suggests that more autonomous learning environments help to satisfy students' basic psychological needs, encourage more voluntary forms of motivation, and are typically associated with higher levels of achievement and wellbeing (Morsink et al., 2022). Rather than forcing a traditional 8eight hour work day, the ability to engage in response to voluntary motivational states may help satisfy the psychological need for competence by allowing students to study when they feel most capable, and support autonomy by permitting self-directed timing and pacing (Morsink et al., 2022). At times, the unpredictability of motivational waves appeared to contribute to a shifting self-concept, in which competence was experienced as conditional rather than stable.

5.2.5 Social isolation and sense of belonging

The findings of this study indicate that learning experiences were shaped by socio-cultural contexts and by societal expectations, both of which influenced academic outcomes and students' psychological well-being. Participants experiences with ADHD were embedded within a broader cultural context, shaped by a Western society that encourages an increasingly individualistic social orientation (Humphrey & Bliuc, 2021). Individualism is defined as an orientation towards independence, that advocates for personal autonomy, self-reliance, and the freedom of expression (Humphrey & Bliuc, 2021). The significance of independence in the online learning environment was reflected in participants daily practices, which were frequently characterised by a low social presence, in which acted as a systemic barrier to connecting with others. The absence of a meaningful social presence acted as a barrier to connection, contributing to feelings of disconnection. These findings align with existing research focusing on how orientations towards individualism relate to wellbeing at the personal level, to show that higher levels of isolation within individualistic contexts, are associated with poorer psychological health (Humphrey & Bliuc, 2021). Increased social

isolation is a significant challenge within online learning, as it can negatively impact students' mental health. Research suggests that social isolation is associated increased psychological distress, as well as poorer cognitive function, quality of life and happiness (Gillett-Swan, 2017; Qi et al., 2022). However, several participants' interpretations of isolating learning environments appeared to be shaped by implicit expectations of self-sufficiency, as they emphasised how the practical benefits of online learning outweighed the potential threats to wellbeing. Participants rarely articulated the broader psychological implications of social isolation, often speaking to the mediating role of familial commitments and relationships. The lack of emphasis surrounding the repercussions of social isolation may not necessarily represent an absence of impact but rather highlight how social experiences in relation to wellbeing are conceptualised as deeply individual to the person, within their contexts.

These findings extend the emphasis of social presence in relation to participants' sense of belonging. The socially isolating nature of participants daily practices meant that participants had fewer opportunities to develop a strong community within their university. All of these factors negatively impacted students' sense of belonging. These findings support the concerns raised by several researchers, who have expressed that computer-mediated communication might hinder students from developing a sense of belonging, in which social learning theories suggest support learning (Swan et al., 2009). For students with ADHD, the task of forming a strong sense of self might already be challenging, however feeling as though they did not have a strong online learning community, left them questioning their worthiness as a postgraduate student, and how they felt about their experience left them questioning their resilience. These findings are consistent with previous research highlighting the importance of developing a sense of belonging for students' identity as successful learners (Parkes, 2014). Furthermore, many participants acknowledged that when they did not

feel a part of their educational community, their engagement was impacted in ways that extended beyond the symptoms associated with ADHD. An absence of belonging left many participants feeling unmotivated to engage with online learning, which negatively impacted productivity, and for some participants further developed into psychological distress (Slaten et al., 2016). This supports research examining the role of belonging in student retention, motivation, and enjoyment, in which established that students with lower levels of belonging also reported lower levels of motivation and enjoyment (Pedler et al., 2022). These findings show how academic difficulties are not experienced in isolation or purely as cognitive struggles by highlighting the nuanced interaction between social isolation and sense of belonging.

5.2.6 Pathways to Support, Awareness and Self-Advocacy

In response to an education system that was marked by independence and neurotypical norms, participants reflected on the pathways to accessing support. In New Zealand, all universities are legally required under the Human Rights Act 1993, and Education and Training Act 2020, to provide reasonable accommodations, ensure equal access and prevent discrimination against students with disability (National Disabled Students' Association Incorporated, 2025). The objective is to ensure students with impairments should be neither disadvantaged nor advantaged relative to other students. This final section looks at participants experiences seeking reasonable accommodation, and identifying several barriers that affected their experiences.

The findings suggest that online learning environments may make learning difficulties associated with neurodiversity harder to support, as particular needs and impairments are invisible to teaching staff and may not be accommodated without self-disclosure. However, in a society with prevailing ableist attitudes, social stigma, and the development of internalised stigma, many participants refrained from disclosing their need for support. This

support the findings of research conducted by Matthews (2009), in which underscored the challenges of relying on self-disclosure when teaching students with 'hidden' impairments. Non-disclosure subsequently hindered participants access to the effective support needed to maximize their subjective experience, and objective academic outcomes (Matthews, 2009; McKenzie et al., 2022b).

The concept that accessing support may not outweigh the consequences of public disclosure, raised questions about the quality of supports available. Among the participants who overcame these challenges and disclosed their needs, the supports available were frequently described as a were inconsistent and, at times, ineffective. Rather than systemic approaches, several participants expressed their uncertainty when discussing neurodiversity with staff, which in some cases increased distress, strengthened internalised stigma, and discouraged future self-disclosure. These findings align with recent research on neurodiversity in higher education, identifying both a lack of knowledge and awareness from educators, and highlighting the reliance of neurodivergent students to self-disclose (Clouder et al., 2020b; McKenzie et al., 2022b). There were positive experiences accessing support from lecturers who fostered the principles of the neurodiversity movement, which brought relief for participants. These findings indicate that participants viewed this support as exceptional rather than expected within online learning environments.

Following a history of exacerbating difficulties through harsh self-judgement, several participants used self-compassion and positive self-talk to create counter narratives, sustain motivation and support wellbeing despite ongoing barriers. Self-compassion allowed them to acknowledge their realities and extend kindness to themselves, rather than blame themselves for not meeting neurotypical expectations (Neff et al., 2005). This aligns with research conducted by Neff et al. (2005), which indicates that highly self-compassionate individuals adopt a more reasonable perspective on adverse academic experiences, supporting academic

motivation, competence and self-esteem. For some participants, as a form of internal coping, self-compassions evolved into self-advocacy, allowing them to assert their own needs and raise awareness among those in positions of influence. Participants emphasised their care and concern for future neurodiverse students, expressing a commitment to systemic change by challenging societal norms and discourse around neurodiversity.

These discussions highlight a discrepancy between societal awareness and meaningful educational change. The neurodiversity movement, aligned with the social model of disability has continued increase awareness regarding the recognition of diverse cognitive styles as part of one's identity, supporting how neurodiverse students are perceived and accommodated (Hennekam et al., 2025). This research found that the neurodiversity movement had not translated into substantive institutional change, as prevailing cultural narratives around ADHD continue to create barriers to support, further marginalising students who are consistently required to advocate for their own needs. Participants emphasis of resilience and perseverance underscored the psychological toll of managing ADHD in an environment where accessing adequate support remained challenging. If changes are to be made, educational organisations should implement a diversity of inclusive teaching practices, and advocate for the acceptance of neurodiversity (Matthews, 2009).

5.3 Recommendations

The participants all had suggestions and recommendations for what they would like to see improve their experience in the online learning environment and support the following years of neurodiverse students. The recommendations are outlined below in Table 6 below, including relevant recommendations, area of improvement, and relevant quotes.

Table 6

Participant Recommendations

Recommendation	Area of Improvement	Quotation
Increased educational awareness	Education, training courses, increased visibility and representation	“It would be really cool if our lecturers had an induction about neurodivergent students”. (Olivia)
Increased educational awareness	Education, training courses increased visibility and representation	"For lecturers to understand what it's like, how difficult life is for some people with ADHD and how they are not lazy. They're not unmotivated, they just don't have the correct chemical balance in their brain like everyone else does”. (Karen)
Increase community and sense of belonging	Neurodiverse groups, peer support and community	“Even if it's just an online group, connecting with people who you relate to and get on with, and that understand you, makes a world of difference, and you can sometimes learn about yourself ”. (Jane)
Inclusive instructional design for neurodiverse learners	Accommodate different learning styles, provide diverse ways for engagement, align with inclusive design principles	“If there was consistency across the stream sites and the course offerings, it would be so much better, break things up with a bit of colour or blocking or something, so that it's not just big chunks, then that would be amazing, too”. (Bailey)

The outlined recommendations elevate the voices of participants to encourage meaningful change. Many of these recommendations are focused on increasing the awareness and inclusion of students with ADHD, requiring significant relational changes such as addressing implicit biases, addressing stigma and developing stigma informed interventions. These recommendations align with the neurodiversity movement, which advocates for inclusion, self-determination, and the recognition of natural neurological variation, to improve the quality of life for neurodivergent individuals (Hennekam et al., 2025).

Participants also called for a shift towards a more effective and inclusive course design that fosters a strong online learning community, requiring systematic change at the organizational and instructional levels. These changes have also been supported in past literature exploring inclusive instructional designs, in which set guiding principles for organisations to create flexible and inclusive learning experiences, to foster equity in education (Azuka et al., 2024).

5.4 Implications

By giving voice to postgraduate students with ADHD in New Zealand, this research allows for a nuanced understanding of neurodiversity, in the context of online learning. This research highlighted that postgraduate students with ADHD in the online learning environment continue to experience adversity. These findings highlight how sociocultural dynamics and prevailing narratives shape students' self-identity, and learnings experiences in the online learning environment. There are significant barriers that remain and must be addressed in order to establish equitable educational experiences for neurodiverse students and their neurotypical counterparts. The study's findings have important ramifications for future research, and significant implications for the future of online education, including how these environments must be made more inclusive for neurodivergent individuals.

5.4.1 Epistemic Implications

The experiences of neurodiverse students in the online learning environment were strongly influenced by the persistence of neurotypical norms. Consequently, many participants refrained from disclosing their additional learning needs and reinforced these neurotypical norms themselves. These findings contribute to the current literature on neurodiversity by highlighting how online learning spaces, often assumed to be flexible, may reinforce neurotypical norms that marginalise neurodiverse students. This has implications for educational organisation, in regard to understanding how to these spaces can be made

more inclusive. The explanations for why neurodiverse students may avoid disclosing their impairment highlight the significant changes that may be necessary if disabled people's experiences are genuinely taken seriously (Matthews, 2009). In order to encourage neurodiverse students to disclose their particular needs, a positive attitude towards diversity would have to be promoted, and the prevailing prejudice surrounding neurodiversity would need to be addressed (Matthews, 2009). As participants experiences of neurodiversity are tightly bound to the degree of which public stigma and self-stigma are experienced, this research supports existing efforts to challenge stigma and address self-stigma, helping to break cycles of discrimination (Corrigan & Shapiro, 2010; Kao et al., 2016). This epistemological focus is not meant to minimise the importance of effective educational interventions, but rather to highlight how embedded norms continue to impact students, and create barriers that must be addressed to promote equitable education (Barnes, 2019).

5.4.2 Inclusive Pedagogy

In a disabling society, it may be unlikely that all students with ADHD feel encouraged to disclose their neurodiverse identity and advocate for additional learning needs. These barriers highlight the necessity for incorporating an online course design that can support diverse needs without relying on labels or assumptions (Matthews, 2009). The implications of the current pedagogy disadvantaged participants, given the inability to cater to diverse needs and learning styles. To enhance the educational experience for neurodiverse students, academics must move away from a one-size-fits-all approach to online learning that assumes neurotypical functioning (Lagacé-Leblanc et al., 2026). Notably, the critiques and challenges raised by the participants align with the set of principles among existing inclusive learning frameworks, which aim to make education more accessible (Azuka et al., 2024). The Universal Design for Learning (UDL), is a framework grounded in the idea that there are multiple ways of representing knowledge (i.e. visual, kinaesthetic, auditory), multiple ways

for students to express and demonstrate their learning (i.e. projects, presentations, written assignments), and multiple ways of engaging students, including diverse learning activities, technological integration and collaboration (Capp, 2017). Research examining the principles of Universal Design for Learning and their impact on neurodiverse learners, indicate that implementing inclusive instructional design can effectively reduce learning barriers, cultivate supportive learning environments, and promote greater equity in education (Azuka et al., 2024; Capp, 2017). Whilst there is currently limited literature regarding the implementation of inclusive instructional models in in online learning environments, incorporating inclusive and adaptive design principles is likely to support a diverse range of learning styles, promoting greater accessibility and engagement for all learners.

5.4.3 Social Implications

This research found a low social presence across participants' online learning environments, which was found to hinder the formation of a strong learning community and students' sense of belonging within the online environment. The implications of this are significant, especially given that individuals with ADHD are more vulnerable to experiencing mental health difficulties, including an increased risk of suicide. The participants in this study clearly conveyed that they did not rely on their education as their primary source of social connection yet expressed concern for those who did. Taking this into consideration, it is imperative for educational organisations to work towards an inclusive design to better support the formation of a meaningful and viable online community of students. Prior research conducted by Swan et al. (2009), has established a theoretical model of online learning that addresses some of these issues that are discussed, providing an avenue for New Zealand universities to make meaningful change.

5.4.4 Effective Policy and Representation

The New Zealand Disability Strategy 2026 to 2030 sets out the government's commitment to all disabled people and tāngata whaikaha Māori. In New Zealand, every learner should be supported to attend, participate, and progress in their learning, and all learning support needs are required to be identified and responded to early. The strategy, led by the Ministry of Disabled people, was developed with input from the disabled community to address educational disadvantages. In addition to complying with national legislation, New Zealand universities implement their own disability inclusion plans and policies. Whilst national and institutional policies demonstrate a commitment to equity and inclusion, they do not specifically address the learning needs of neurodiverse students in the online learning environment, and in practice there is minimal oversight into how the policies are being integrated in practice. The implication of this meant that participants were left to navigate these environments independently and develop their own strategies to manage their learning needs.

This research also demonstrates meaningful differences across student perceptions of the design of online learning courses. The implication of the diverse heterogeneity suggests that specialized supports may best support neurodiverse students success in the online learning environment. In response to findings that students may need specialized supports to succeed in the online learning environment, this research suggests that supports for neurodiverse students should be developed with their input (Gillespie-Lynch et al., 2017). In this study, the participants stressed the importance of changing the current climate of supports and clearly identified changes that would personally support them. Although evidence-based supports for students with ADHD are greatly needed, providing opportunities for feedback and incorporating student perspectives into the development of online learning supports is an

important opportunity for New Zealand universities to fill the current void and accurately address needs of neurodiverse learners.

5.5 Future Research Directions

The current study highlights the need for further phenomenological research exploring the lived experiences of students with ADHD in the online learning environment across New Zealand. The growing body of literature surrounding neurodiversity and online learning environments remains highly relevant, however phenomenological research in this area is limited. Across the broader research field, there is often a large emphasis on the relative efficacy of education systems, whilst the nuances of the human experience are minimised (Becker & Schad, 2022). This study supports the use of phenomenological approaches, understanding students experiences from within their perspective, and demonstrating how the interpretation and meaning of education may be different for neurodiverse individuals. Moving towards a framework for phenomenological research on distance education is necessary to help academic authorities who have no personal experience with neurodiversity or online education to improve students lived experiences that are closely intertwined with the learning framework (Becker & Schad, 2022).

The current study has provided a preliminary understanding of neurodiversity within the online learning environment. The way participants' felt about the meanings and consequences of the ADHD can be strongly understood in terms of overall identity development (Jones & Hesse, 2018). As adolescence is a period in life where the foundation of an identity is formed, involving significant interaction with cultural, social, and environmental structures, undergraduate students should also be positioned as a group of interest (Jones & Hesse, 2018). Future research should examine the experiences of undergraduate students with ADHD in online learning environments, as exploring different

stages of the university experience is essential for identifying early supports and reducing dropout rates.

Acknowledging the heterogeneity of ADHD, future research should investigate specific subgroups to better inform the development of individualised support within New Zealand's online learning environment. The diversity of ADHD is underscored by variable symptoms profiles, complexity of attentional challenges and diversity of psychiatric comorbidities, yet is continuously overlooked in research (Luo et al., 2019). The implication of this meant that students with ADHD are often treated as one, and academic supports fail to address diverse needs and experiences. Directing research towards smaller homogeneous subgroups of ADHD can facilitate the development of more tailored intervention and support strategies (Luo et al., 2019).This approach could help prevent oversimplified categorisations of neurodiversity and foster equitable support in education.

As a New Zealand based study, future indigenous approaches to research exploring neurodiversity in the online learning environment should be considered. Currently, Māori knowledge and learning practices continue to be overlooked, and the experiences and perspectives of predominantly non-Maori continue to dominate social and educational research (Bishop, 1999). There is a significant gap in the literature that considers the needs of Māori students experiencing ADHD, both broadly, as well as within online learning environments. The opportunity to adopt a Kaupapa Māori approach to research provides an avenue for researchers to centre Māori worldviews and represent experiences authentically (Bishop, 1999). This research would mark a significant step in working towards strengthening culturally responsive pedagogies and challenging the dominance of traditional, individualistic research.

5.6 Limitations

Several limitations were identified throughout this research project. The qualitative research design of this study was primarily concerned with understanding the nuances of personal experiences, and the specific means of which participants make sense of their lived realities (Smith et al., 2022a). As such, the study employed a small purposefully selected sample of postgraduate students with ADHD, from a wide range of universities across New Zealand. The idiographic focus allowed for in-depth exploration, it is not intended to be utilised to inform specific interventions within New Zealand educational institutions. Instead, the insight into the lived experiences of neurodiverse students is expected to increase awareness, and inform future research and practice.

Secondly, whilst this research set out to recruit a reasonably homogenous group, there was some reasonably unexpected variability within the sample. While all participants had received a diagnosis of ADHD, one participant disclosed a formal diagnosis of Autism, a second participant referenced living with Chronic Fatigue Syndrome, and a further participant described experiencing autistic traits, but had not sought a formal diagnosis. The diversity of neurodevelopmental profiles and health conditions may have introduced additional complexity to the findings. Whilst this limitation may be prevented if the research participation criteria was refined, the presence of these comorbidities also reflects the broader heterogeneity commonly associated with ADHD.

In addition, across the group, participants had variable educational histories, with many discussing the significance and reoccurrence of experiences over a long period of time. These past learning experiences were important to the research, raising the consideration around recall bias as a limitation. Contrary to recall error, recall bias is understood as a systematic error in self-report, that can subsequently threaten the reliability of results (Khare & Vedel, 2019). In this study, it is possible that recall bias may systematically distort the

reported frequency of specific past learning experiences. As recall bias cannot be eliminated, it is important to acknowledge this limitation. Nevertheless, as this research was primarily concerned with the meaning participants made from experience, minor distortions in frequency are not expected to compromise the findings.

Finally, it is important to acknowledge the influence of an insider bias. Theoretically, while the insider positionality may be expected to advantage the researcher through a deeper contextual understanding, it also presents challenges. An insider bias may take for granted the knowledge, culture, and experience shared with participants (Chavez, 2008). It is important to acknowledge where my insider status was found to be a limitation. Throughout the data collection, familiarity with the ADHD community facilitated strong rapport with participants, yet occasionally also underscored informal interactions and discussions. I dealt with this through the use of reflexivity in a personal journal and in discussions with my supervision.

Despite these limitations, the current study's use of interpretative phenomenological analysis represents a meaningful contribution to the study of neurodiversity, in the context of online education. The participants stories produced an understanding of ADHD that both complements and complicates previous research. As the nuances of the human experience are further understood, the complex system of online learning can be considered, and improvements can be made that benefit neurodiverse students. A movement towards phenomenological research may be useful in studies of other neurodiverse students, as well as within studies of online education outside of the context of neurodiversity. Furthermore, the kind of idiographic and person-cantered perspectives that this research affords, may be useful in informing interventions designed to promote greater equity in education for all students.

5.7 Conclusion

There is a small, but growing body of literature on distance online education, as this mode of learning becomes increasingly embedded in the experiences of students within

higher education. This phenomenological research builds on the existing literature by helping readers to see the lived experience of neurodiverse students, in the context of online education. The research revealed that in New Zealand, postgraduate students with ADHD face barriers to equitable education in online learning environments. Whilst online learning was chosen for a variety of reasons, including its compatibility to fit in with other commitments and students geographical location, the flexibility that online learning warrants was identified as the primary motivation. This flexibility allowed participants to engage in learning authentically, without feeling the need to mask. However, this presented as a paradox, as participants felt that the responsibility for self-management rested soley on them. The findings also demonstrate the persistence of neurotypicality and inequality, through a one-size-fits all approach to online learning, that often fails to account for the diverse needs of neurodiverse students. The participants stories in this study highlight the impact of the sociocultural context on students learning experiences, in which significantly influence how participants perceive and manage their ADHD. The findings of this study are highly individualised, reflecting the diverse learning needs of students, of whom have been navigating a system on their own. The sense that several students were on their own is inadequate and calls for a substantial shift in the design and delivery of online learning.

Appendices

Appendix A: Advertisement

Kia ora koutou,

My name is Victoria Mclatchie, and I am a postgraduate psychology student at Massey University. My personal experiences throughout my experience at university have inspired my current research project which is in partial fulfillment of master's degree at Massey University.

The research will explore the lived experience of postgraduate students with ADHD in the online learning environment within New Zealand. The research will aim to understand what aspects of the experience are beneficial, and what aspects of the experience are challenging. It is my hope that this research will contribute to a better understanding of online learning and ADHD for students in New Zealand.

I am currently recruiting participants for this project, and I would love to hear from you if you meet the following criteria:

- Are age 18 or above
- Experienced postgraduate study via online learning within the last 5 years
- Experienced postgraduate tertiary study via online / distance learning for a minimum of one semester
- Diagnosed with ADHD during the time of online education
- Available for 90 minute online conference

Participants will be invited to engage in an interview, where they will be asked to reflect on and describe experiences as a postgraduate student with ADHD in the online learning environment. This will include discussing both aspects of the experience that were beneficial, as well as challenging.

If you are someone with ADHD who has engaged in online learning in New Zealand, and you would like to share your experiences to inform this research, please have a look at the attached participant information sheet for more information and contact details.

Ngā mihi nui, Victoria

Appendix B: Participant Information Sheet

School of Psychology
Massey University
Albany
Auckland 0632
+64 9 414 0800 ext 43116

TE KUNENGA KI PŪREHUROA | MASSEY UNIVERSITY
UNIVERSITY OF NEW ZEALAND

The Lived Experience of Postgraduate Students with Attention Deficit Hyperactivity Disorder in the New Zealand Online University Environment

PARTICIPANT INFORMATION SHEET.

Kia ora, my name is Victoria Mclatchie, and I am a Master of Science (Psychology) student at Massey University. The following research is conducted in partial fulfillment of the requirements of the degree of Master of Science (Psychology).

You are invited to take part in a study exploring how an online university environment shapes the lived experience of postgraduate students with attention deficit hyperactivity disorder (ADHD) in New Zealand. The following study aims to understand what aspects of the experience are challenging, and what aspects of the experience are beneficial for students.

The decision to take part in the research study is yours. If you do not wish to participate, you do not have to provide a reason. If you decide to participate, you can change your mind throughout the research process. You do not have to provide any reason to withdraw from the study, and there will be no consequence or judgement.

This participant information sheet will help you decide if you would like to take part in the study. It sets out why we are doing the study, what your participation will involve, what the benefits and risks might be, and what will happen after the study is finished. You do not have to decide today whether you participate in this study. Take your time to think about it, and before you decide you may want to speak with others you trust such as, family, friends, whānau, or healthcare providers.

If you do decide to participate in the study, you will be asked to complete a participant interest form and sign the participant consent form. You will be given a copy of both the participant information sheet, and the consent form to keep. Please make sure you have read and understood all pages of this document.

Participant Recruitment
Participants will be recruited through the Facebook group advertisement 'ADHD NZ Community for Adults with ADHD'. A small sample size of six to ten participants will be selected through purposive sampling. If more than 10 participants volunteer to take part in the research study, maximum variation technique will be utilized to ensure maximum diversity across, age, gender, culture and location within the sample.

The following criteria will apply to be included in the study:

- Age 18 and above
- Experienced postgraduate study via an online learning environment from a New Zealand education provider for at least one semester
- Experienced postgraduate study via an online learning environment from a New Zealand education provider within the past 5 years
- Diagnosed with ADHD during the time of online education
- Available for 1 – 2 hour online interview
- Can provide written/verbal consent

What is involved in the study?
If you decide to participate, you will be invited to complete an online consent form, and arrange a convenient time to for a 1 – 2 hour interview. It is important that you feel comfortable throughout the interview process, so please let me know if there is anything that can support this. Interviews will be

conducted online for your convenience, and audio recorded via Zoom. You will have the opportunity to ask any questions before providing verbal consent and commencing open ended interview questions. I can also send you the interview questions prior to the interview.

During the interview process, you will be asked to reflect on and describe your experience as a postgraduate student with ADHD in the online learning environment. This will include discussing both aspects of the experience that were beneficial, as well as challenging. It is not expected that participating in this study will involve any significant risk or discomfort to you. However, I acknowledge that speaking about difficult experiences can be emotional. You are under no pressure to share any information that makes you feel uncomfortable or upset. It is important to understand that if at any point during the interview you feel distressed, you can take a break, skip the question or withdraw from the interview with no explanation, or consequence. You have the right to request that the recording is paused/stopped at any point during the interview, with the understanding that no data will be collected during that time. Following the interview, you will have an opportunity to check in with the researcher, and you will be provided with psychological resources for mental health and ADHD support in New Zealand if you ask for this.

Follow up phone calls will be offered a week after the interview for further check in, and discussion of any distress or concerns.

The audio recording will be transcribed, and a copy of this transcript will be provided for you. You will have a two-week timeframe to review, amend or withdraw your transcript. You may request to have the audio recording returned to you at any point prior to the final publication. You will receive a $40 Prezzy voucher in acknowledgement of your time.

Data Management

Identifiable information
Identifiable information is any information that could identify you (e.g. your name, recorded interview). All identifiable data will be kept by the primary researcher for the duration of the research process (i.e. One year). Identifiable data will be stored on Massey One Drive on a password protected computer, which only the primary researcher and supervisor may access.

De-identified information
To ensure confidentiality of personal information, all identifiable information will be made unidentifiable using pseudo synonyms. The results of the study will be published using de-identified data to ensure that your identity remains anonymous.

Storage and Disposal
Consideration of data security has included network security, physical security and computer files and systems security. All forms of data and consent forms will be kept by the primary researcher for the duration of the research study, stored on Massey One Drive on a password protected computer. Prior to the publication of the study, all identifiable data will be destroyed by the researcher. All de-identifiable data and consent forms will be securely transferred to be protected by the supervisor on Massey One Drive, and password protected computer. All de-identified data will be destroyed by the supervisor 5 years after the research study.

Research Findings
All participants, including Māori, must be aware of their right to request their audio recording and transcript. All participants, including Māori, must be aware of their right to review, amend, or withdraw their transcript from this research. It is important that this research has value to the participants and their communities. Therefore, the participants will be given the opportunity to discuss what they would like to happen to the study's findings and how they would like them disseminated. All participants, including Māori, may decide whom they would like to share the summary of the findings with (i.e. family/whanau, other health professionals, and broader community networks).

Participant's Rights
You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- Ask any questions about the study at any time during participation;
- Provide information on the understanding that your name will not be used unless you give permission to the researcher;
- Decline to answer any question;

- Ask for the recorder to be turned off at any time during the interview;
- Request for the interview end at any point, and for the information provided to be withdrawn, without any explanation;
- Withdraw from the study at any point up until you give confirmation for the use of your final transcript;
- Request access to a summary of the project findings when it is concluded.

Support Services

The services listed in this section are available 24 hours a day, seven days a week.
Need to talk? Free call or text 1737 any time for support from a trained counsellor
Lifeline: 0800 543 354 (0800 LIFELINE) or free text 4357 (HELP)
Youth line: 0800 376 633, free text 234 or email talk@youthline.co.nz or online chat

Project Contact

Thank you for taking the time to read about this study, If you have any questions or concerns about the study, please contact the following contact the researcher and/or supervisor involved in the study:

Researcher - Victoria Mclatchie:
Contact Email: Victoria.Mclatchie.1@uni.massey.ac.nz

Supervisor - Dr. Kathryn McGuigan:
Contact Email: K.McGuigan@massey.ac.nz
Contact Phone: +6492136115

Committee Approval Statement

This project has been reviewed and approved by the Massey University Human Ethics Ohu Matatika 3, Application OM3 25/24. If you have any concerns about the conduct of this research, please contact the Chairperson, Massey University Human Ethics Ohu Matatika 3, email humanethics3@massey.ac.nz.

Appendix C: Participant Interest Form

School of Psychology
Massey University
Albany
Auckland 0632
+64 9 414 0800 ext 43116

TE KUNENGA KI PŪREHUROA | MASSEY UNIVERSITY
UNIVERSITY OF NEW ZEALAND

The Lived Experience of Postgraduate Students with Attention Deficit Hyperactivity Disorder in the New Zealand Online University Environment

PARTICIPANT INTEREST FORM

Full Name: _____

Email: _____

Phone: _____

Location of Education Provider: _____

Age: _____ Ethnicity: _____

Gender: _____ Pronouns: _____

Please circle Yes/No for the following:

Have you been diagnosed with ADHD in New Zealand:	Yes / No
Were you diagnosed at the time you were enrolled in online learning:	Yes / No
Do you have any cultural protocols you would like followed during our interview:	Yes / No

Appendix D: Participant Consent Form

School of Psychology
Massey University
Albany
Auckland 0632
+64 9 414 0800 ext 43116

TE KUNENGA KI PŪREHUROA | MASSEY UNIVERSITY
UNIVERSITY OF NEW ZEALAND

The Lived Experience of Postgraduate Students with Attention Deficit Hyperactivity Disorder in the New Zealand Online University Environment

PARTICIPANT CONSENT FORM

I acknowledge I have read or have had read to me in my first language, and I understand the Information Sheet. I have had the details of the study explained to me, any questions I had have been answered to my satisfaction, and I understand that I may ask further questions at any time. I was given sufficient time to consider my participation in this study and I understand participation was voluntary and that I may withdraw my contribution from the study at any time.

Please circle Yes/No to indicate you consent/do not consent to the following:

I understand that my participation in this study is confidential and that no material, which could identify me personally, will be used in any reports on this study.	Yes / No
I agreed to the interview being audio recorded.	Yes / No
I wish to have my audio recording returned to me.	Yes / No
I agreed that participation in this study is set out under the conditions in the Information Sheet.	Yes / No

Declaration by Participant: I hereby consent to take part in this study.

Participants Name: _____

Signature: _____

Appendix E. Ethical Approval

TE KUNENGA KI PŪREHUROA | MASSEY UNIVERSITY
UNIVERSITY OF NEW ZEALAND

6/05/2025

Dear: Victoria McLatchie

Re: Ethics Application - OM3 25/24 - The Lived Experience of Postgraduate Students with Attention Deficit Hyperactivity Disorder in the New Zealand Online Learning Environment

Thank you for the above application that was considered by the Massey University Human Ethics Committee:

Ohu Matatika 3 at their meeting held on **Thursday, 10 April 2025**

On behalf of the Committee I am pleased to advise you that the ethics of your application are approved.

Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely



Professor Tracy Riley,
Acting Chair, Research Ethics Chair's Committee

Research Ethics, Graduate Research School and Ethics
Massey University, Private Bag 11 222, Palmerston North, 4442, New Zealand
E humanethics@massey.ac.nz; animalethics@massey.ac.nz
www.massey.ac.nz/research/ethics

Appendix F: Interview Schedule

The Lived Experience of Postgraduate Students with Attention Deficit Hyperactivity Disorder in the New Zealand Online University Environment

Interview Schedule

Pre-Interview

A brief of the research project will be explained to the participant, followed by answering any questions the participant might have. The researcher will engage in rapport building with the participant to help make them feel as comfortable as possible in the interview setting. Demographic questions answered in the interest form will be confirmed, and verbal consent will be obtained.

Discuss the following:

- Thank them for coming
- Discuss the purpose of the study
- Discuss how long the interview will be
- Discuss their rights (Take a break, skip questions, and/or end the interview
- Whakawhanaungatanga/rapport building: Where are you from? How do you like to spend your time? Reciprocate the opportunity for them to ask you questions.
- Confirm demographic questions, and consent.

Open Ended Questions / Prompts

All open ended questions are broad. Allow for the participant to speak about their own unique experience, before deciding whether to use more targeted prompts to encourage in depth discussion.

1. Can you tell me a bit about your diagnosis of ADHD?

   Prompts:

   When did you get diagnosed with ADHD?

   What are your main symptoms or presentation?

2. What does your experience of ADHD look like?

   Prompts:

   How have your symptoms influenced your lifestyle? (Routines, Sleep, Relationships…)

3. What has your experience of studying been like in general, both in school and now?

   Prompts:

   Can you tell me a bit about your education journey?

   What are you studying?

   When did you begin studying online?

4. Are there any aspects of the online learning experience you have found beneficial?

   Prompts:

   Are there any factors you prefer about online learning compared to face to face learning?

   Has online learning impacted your focus or attention? If so, was is this a positive impact, or negative impact?

   How has the flexible nature of online education impacted your experience?

5. Are there any aspects of the online learning experience you have found challenging?

   Prompts:

   Are there any factors you dislike about online learning compared to face to face learning?

   Has online learning impacted your socialisation?; If so, was is this a positive impact, or negative impact?

   Has online learning impacted your time management or procrastination?; If so, was is this a positive impact, or negative impact?

6. How has the experience of online learning influenced your overall academic achievement?

   Prompts:

   Has the experience of online learning impacted your achievement? If so, was is this a positive impact, or negative impact?

   Have any aspects of online learning supported your academic achievement?; If so, what aspects?

   Have any aspects of online learning hindered your academic achievement?; If so, what aspects?

7. How has the experience of online learning influenced your overall mental wellbeing?

   Prompts:

Has the experience of online learning impacted your overall mental wellbeing? If so, was is this a positive impact, or negative impact?

What aspects of online learning supported your mental wellbeing?

What aspects of online learning negatively impacted your mental wellbeing?

8. What management strategies do you use to support your online learning experience?

   Prompts:

   How do you support focus and sustain attention while studying online?

   Do you use any study or focus techniques to support your online experience?

9. What types of support or resources do you believe might be most helpful for students with ADHD, like yourself, in an online learning environment?

   Prompts:

   Are there any resources you use that have supported your online experience?

   Are there any recourses that you believe would support your online experience?

10. Is there anything else that you would like to share that we may have missed earlier? Or anything else I should know to better understand your experiences?

Post Interview

Following the interview, the researcher will thank the participant for sharing their experiences, and check in with them about how they are feeling after the discussion. Participants will be informed of the $40 Koha that they will receive in appreciation of their time, as well as the transcription processes and the upcoming opportunity to review/amend/withdraw. The researcher will remind the participant that they are welcome to contact them at any time, and that they will be in touch in the next couple of days.

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