

**An Examination of Multi-Level Factors That Influence the Integration of
Physical Activity into Psychological Treatment**

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Abstract

Physical activity is increasingly recognised as an evidence-based intervention for mental health conditions, yet its integration into routine psychological treatment is limited. This thesis examines the integration of physical activity within psychological treatment in Australian services, using a multi-study mixed-methods design. Guided by the Theory of Planned Behaviour (TPB) and the Behaviour Change Wheel (BCW), including the Capability, Opportunity, Motivation - Behaviour (COM-B) model at its core, the research adopts a mixed-methods design to examine multi-level influences across community (Study 1), client (Study 2), and clinician (Study 3) perspectives.

Study 1, a cross-sectional survey of 211 Australian adults, examined predictors of intention to engage in physical activity when it is introduced and supported by a psychologist as part of mental health care. Attitudes toward physical activity emerged as the strongest predictor of intention, and psychologists were perceived as credible and appropriate agents to deliver such guidance. These findings highlight community support for psychologists to incorporate physical activity within mental health treatment.

Study 2 involved semi-structured interviews with 13 young people who had participated in a physical activity intervention delivered through a clinical trial within a youth mental health service. Reflexive thematic analysis identified six themes: therapeutic benefits and meaningful gains, capability and motivation, interpersonal support, barriers to engagement, strategies for engagement, and therapeutic integration. Participants described both facilitators and challenges to engaging in physical activity, highlighting the role of psychologists in supporting behaviour change through therapeutic techniques and integration within psychological treatment.

Study 3 used focus groups with 10 registered psychologists. Analysed using reflexive thematic analysis, and identified six themes: Professional Identity and Scope; Therapeutic

Integration of Physical Activity; Client-Centred Therapeutic Approach; Barriers to Implementation; Facilitators to Implementation; and Professional Advocacy and Growth. Psychologists described both individual-level influences (such as confidence and knowledge) and broader contextual barriers (including time, training, and organisational culture) as relevant to delivering physical activity as part of treatment.

Together, these findings, synthesised through the Behaviour Change Wheel, offer a theoretically grounded explanation for the implementation gap in integrating physical activity into psychological practice and identify key leverage points for practice, policy, and workforce development. This thesis contributes new knowledge by clarifying the behavioural, relational, and systemic conditions that shape psychologists' capacity to support physical activity within therapy. By establishing how psychologists can use their behaviour change expertise to support physical activity in mental health care, this thesis contributes to advancing the integration of evidence-based interventions within routine psychological treatment. It also offers practical guidance for embedding behaviour change strategies in routine sessions and could inform policy directions, such as expanding training frameworks and funding models to enable integration within mental health services.

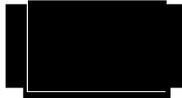
Keywords: physical activity, psychological therapy, implementation, behaviour change, theory of planned behaviour, Behaviour Change Wheel, mental health, psychologist.

Declaration of Authenticity

I, Kerrin Ford, declare that the PhD thesis entitled “An examination of multi-level factors that influence the integration of physical activity into psychological treatment” is no more than 80,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

I have conducted my research in alignment with the Australian Code for the Responsible Conduct of Research and Victoria University’s Higher Degree by Research Policy and Procedures.

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Generative AI Declaration

This thesis has been edited for clarity of expression, punctuation and grammar using ChatGPT and Microsoft Copilot tools. This use complies with VU guidelines on use of editors in HDR theses and overall VU policy on use of AI in research.

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Ethics Declaration

All research procedures reported in the thesis were approved by the Victoria University Human Research Ethics Committee Approval Number (HRE18-222 and HRE23-121) and Human Research Ethics Committee, The University of Melbourne (1442228.19).

Signature:



Date: 30/07/2025

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Chapter 1: Introduction and Thesis Overview

1.1 Context and Rationale

Mental health conditions are a significant global concern, with one in eight people worldwide living with a mental disorder (World Health Organization [WHO], 2022) and nearly half of Australian adults experiencing a mental health concern in their lifetime (Australian Bureau of Statistics [ABS], 2022). Despite progress in treatment, conventional interventions such as pharmacotherapy and cognitive behavioural therapy (CBT) often result in only moderate outcomes, suggesting the need to broaden therapeutic approaches to include evidence-based interventions such as physical activity (Cuijpers et al., 2021a)

Physical activity has gained increasing recognition as an evidence-based intervention for common mental health conditions, such as depression and anxiety disorders (Schuch, Vancampfort, Rosenbaum, et al., 2016; Singh et al., 2023). Physical activity is also perceived as a low-stigma, accessible, and empowering intervention by many clients, especially those hesitant to engage with conventional treatment (Rosenbaum et al., 2016). With improved access to psychological services in Australia, especially via Medicare-subsidised mental health care plans (described further below), psychologists are well positioned to discuss and promote physical activity within routine care. However, despite its strong evidence base, the promotion of physical activity remains relatively uncommon in psychological practice. Earlier studies noted limited engagement among psychologists (Radovic et al., 2017), and more recent Australian research continues to highlight barriers related to role clarity, training, and organisational support (Shrestha et al., 2021).

This thesis investigates the multifaceted factors that influence the inclusion of physical activity as a therapeutic strategy in psychological treatment. Psychologists are a key focus of this research due to their central role in delivering evidence-based treatments in mental health service delivery in Australia and supporting clients through behaviour change

processes. This research seeks to identify the facilitators and barriers that influence whether, how, and when psychologists promote physical activity within mental health treatment.

Within psychological treatment, promoting physical activity refers to activities that are core to psychological practice: screening for relevance and risks; shared decision-making about whether, when, and how physical activity might support mental health goals; brief psychoeducation; goal setting; action and coping planning; problem-solving barriers; motivational interviewing; and routine progress review. Psychologists may initiate simple, low-risk activity plans as part of therapy homework that align with client preferences and capacity (for example, a walking plan developed through shared decision-making) but should not prescribe exercise dose parameters or supervise physical training. Where tailored exercise programming, risk stratification, or monitoring is required, psychologists should coordinate with, or refer to, appropriately trained professionals (for example, Accredited Exercise Physiologists, physiotherapists, or the client's GP) and maintain communication to support adherence and safety. Therefore, the role of a psychologist in delivering physical activity as part of treatment, as explored in this thesis, is distinct from that of physical health and exercise professionals and positions psychologists to enhance uptake, adherence, and therapeutic alignment through behaviour change expertise and collaborative care.

Because associations between physical activity and mental-health can vary by physical activity domain, this thesis distinguishes leisure-time, active transport, and occupational/housework activity where relevant. Consistent with recent evidence, leisure-time activity tends to show stronger associations with mental health, while findings for transport and occupational activity are more mixed (e.g., Vella et al., 2023; Teychenne et al., 2025).

1.2 Thesis Scope, Aims, and Research Questions

1.2.1 Scope

This research addresses a critical gap by focusing on the underexplored role of psychologists in promoting physical activity as part of mental health care. Psychologists are central to service delivery in Australia and are often the first point of contact for individuals seeking help for depression and anxiety, two of the most commonly treated conditions nationally (Australian Institute of Health and Welfare, [AIHW], 2023). Despite their expertise in behaviour change and their ongoing therapeutic relationships with clients, little attention has been given to how psychologists might support the integration of physical activity as a therapeutic strategy within routine care. The thesis focuses on psychologists' role in supporting clients' engagement with physical activity through evidence-based behaviour change methods within routine psychological treatment. It does not examine delivery or supervision of exercise programs, which are the purview of exercise professionals. Specific role boundaries and collaborative pathways are examined later (see section 2.3.4).

1.2.2 Aims

This thesis aims to explore how physical activity can be more effectively integrated into routine psychological treatment by examining the perspectives of three key stakeholder groups: the community, clients, and psychologists. It seeks to generate insights that can inform implementation strategies within routine mental health settings. The specific aims are:

1. Investigate community attitudes and intentions regarding the integration of physical activity in mental health treatment, including perceptions of psychologists as appropriate providers

2. To explore clients' lived experiences of engaging in physical activity as part of their mental health treatment.
3. Examine psychologists' perceived barriers and facilitators to incorporating physical activity into therapeutic practice and how these align with established behaviour change frameworks.

These aims are investigated through three empirical studies; each aligned with a distinct stakeholder group and corresponding research question.

1.2.3 Research Questions

1. What are community attitudes and intentions regarding the integration of physical activity in mental health treatment, including perceptions of psychologists as appropriate providers?
2. How do clients with lived experience describe engaging in physical activity as part of mental health care, and what barriers or enablers do they identify, as interpreted through the Behaviour Change Wheel?
3. What are psychologists' perceptions of the barriers and facilitators to integrating physical activity into therapy, and how do these align with the Behaviour Change Wheel to inform implementation recommendations?

1.3 Key Terminology and Definitions

Language plays a significant role in shaping perceptions and experiences, particularly in the contexts of mental illness, mental health, and overall well-being. The choice of terminology can profoundly affect individuals, potentially reinforcing stigma with negative language or fostering dignity and empathy through positive language choices (Rose et al., 2007; World Health Organization, 2004).

1.3.1 Mental Health

According to the WHO (World Health Organization, 2022b), mental health is not merely the absence of mental illness, but a state of well-being in which individuals realise their potential, manage normal stresses of life, work productively, and contribute to their community. This thesis adopts a continuum-based perspective on mental health, recognising that it encompasses a spectrum from well-being to illness (Keyes, 2002; Westerhof & Keyes, 2010). The terms "mental health concern," "mental health problem," and "mental health condition" are used to describe varying points along this continuum:

Mental Health Concern: Challenges that affect emotional, psychological, or social well-being but may not meet clinical thresholds (Keyes, 2005).

Mental Health Problem: Difficulties such as heightened stress or low mood that interfere with functioning but may not qualify as a disorder (WHO, 2001).

Mental Health Condition: Diagnosable conditions meeting clinical criteria, such as major depressive disorder or schizophrenia, requiring formal intervention (American Psychiatric Association, 2022).

This inclusive approach aligns with the aims of this thesis, which investigates the role of physical activity in supporting mental health across this continuum. By broadening the focus beyond diagnosable disorders, this research emphasises the potential for physical activity to enhance well-being at all levels of mental health and mental health problems.

1.3.2 Client-Centred Approach

Throughout this thesis, the term "client" is used instead of "patient" to reflect a collaborative, person-centred approach to care. This language aligns with contemporary Australian psychological practice, which aims to support autonomy, reduce stigma, and

promote mental health at all levels of the continuum (Australian Psychological Society, [APS], 2018).

1.3.3 Physical Activity

While the WHO (2010) defines physical activity as “any bodily movement produced by skeletal muscles that requires energy expenditure,” this thesis adopts a broader conceptualisation. Drawing on Piggin (2020), physical activity is viewed as a socially embedded practice shaped by individual, cultural, and relational factors. It includes both structured exercise and informal or incidental movement that contributes to wellbeing.

Although often used interchangeably, it is useful to distinguish *exercise* as a specific form of physical activity involving planned, repetitive movement aimed at improving or maintaining fitness (Caspersen et al., 1985). Both forms are relevant to mental health promotion, but this thesis prioritises a flexible, context-sensitive understanding of movement that supports therapeutic goals and meaningful engagement.

Importantly, this thesis does not treat physical activity as something to be prescribed in a medicalised sense, but rather recommended or encouraged within a client-centred therapeutic framework. Emphasis is placed on collaborative, client-led approaches that align with individual preferences, capabilities, and goals.

1.3.4 Evidence Based Practice (EBP) and Evidence-Based Interventions (EBIs)

In this thesis, *evidence-based interventions* refer to specific therapeutic strategies, such as physical activity, that have demonstrated effectiveness in improving mental health outcomes. These interventions contribute to the body of *best available research evidence*, one of the three key components of *evidence-based practice* (EBP). According to the American Psychological Association (APA, 2006), EBP is a clinical decision-making framework that

integrates current research findings, the clinician's professional expertise, and the client's values and preferences.

Although EBP provides the broader model for psychological treatment, this thesis does not aim to evaluate the entire model. Rather, it focuses on the implementation of one evidence-based intervention (physical activity) within routine psychological practice. To do this, the research explores distinct yet interrelated aspects of EBP: community and client perspectives (reflecting the values and preferences of service users) and psychologists' perspectives on capability, role definition, and clinical application (reflecting professional expertise).

1.3.5 Medicare and Better Access

Medicare is Australia's publicly funded health insurance system, which provides subsidised access to a range of medical and allied health services for Australian residents (Services Australia, 2023). As part of this system, the *Better Access* initiative funds psychological treatment for individuals with a diagnosed mental health condition, typically covering up to 10 rebated sessions with a registered psychologist each calendar year (Department of Health and Aged Care, 2023). Access to these sessions is enabled through the development of a Mental Health Treatment Plan (MHTP), which is prepared by a general practitioner in consultation with the client. The MHTP outlines the client's presenting concerns, treatment goals, and recommended referrals, and serves as the formal mechanism through which individuals can access subsidised mental health care. Under this scheme, mental health support is usually provided through individual or group sessions, with eligibility and session numbers determined by the referring general practitioner. Psychologists are the most commonly accessed mental health providers under this scheme, which is situated within broader models of stepped and primary care (APS, 2018).

1.4 Reflexivity

My professional experience as a psychologist, particularly my longstanding interest in the role of physical activity in mental health care, has strongly influenced the focus and design of this research. I recognise that these experiences contribute a positive bias toward viewing physical activity as beneficial, which may shape the ways I interpret findings and conceptualise barriers or enablers within practice.

Importantly, this research was developed in collaboration with a supervisory team who also acknowledge the value of physical activity in psychological practice. Their perspectives have both supported and challenged my assumptions, contributing to a more critically reflective process. While our shared interest in physical activity could introduce potential confirmation bias, the supervisory team has provided essential guidance in maintaining methodological rigour and critically examining interpretive decisions, particularly when engaging with participant data that contradicts our expectations.

To manage these influences, a mixed-methods design was adopted. This approach allowed me to triangulate personal and professional insights with empirical data from multiple stakeholder perspectives. By balancing qualitative and quantitative methods and engaging in ongoing dialogue with my supervisory team about assumptions and analytic choices, I sought to ensure that findings were grounded in evidence rather than advocacy. This reflective and collaborative process enhances the credibility and transparency of the research and supports the study's aim to generate practical, context-sensitive recommendations for implementation.

1.5 Positionality Statement

As a researcher, I am aware that my dual position as both a practicing psychologist and an advocate for physical activity significantly informs my approach to this study. This

positionality is not merely a reflection of personal bias but instead serves as a lens through which I critically examine the integration of physical activity into mental health care. My dual roles allow me to explore barriers and facilitators from both a practitioner's and researcher's viewpoint, thus providing a comprehensive understanding of the challenges and opportunities of integrating physical activity into mental health treatment. This personal connection is balanced with theoretical frameworks like the theory of planned behaviour (TPB) and the Behaviour Change Wheel (BCW), ensuring the research is both personally relevant and scientifically robust.

1.6 Thesis Structure

This thesis examines how physical activity can be more effectively integrated into psychological treatment by investigating the perspectives of three key stakeholder groups: the community, clients, and psychologists. It begins by establishing the context and theoretical foundations, followed by three empirical studies that provide a comprehensive exploration of the barriers and facilitators to integration. The final chapter synthesises the findings, offering implications for clinical practice, policy development, and future research.

The chapters are structured as follows:

Chapter 2: Literature Review

This chapter synthesises literature on the burden of mental health conditions, the evidence supporting physical activity as a therapeutic strategy, and the challenges associated with implementation in routine care. It highlights the potential role of psychologists in supporting physical activity within therapy and identifies key gaps that the thesis addresses.

Chapter 3: Theoretical Foundations and Research Design

This chapter outlines the theoretical frameworks guiding the research, including the TPB and the BCW. It presents the mixed-methods design, justified by a pragmatic epistemology that integrates constructivist and post-positivist assumptions. The chapter also includes a reflexive account of the researcher's positioning and describes the reflexive thematic analysis used in Studies 2 and 3.

Chapter 4: Study 1 - Community Perspectives

This chapter presents a cross-sectional survey of Australian adults examining attitudes and intentions toward engaging in physical activity when recommended by a psychologist. It identifies predictors of intention and compares perceptions of different health professionals, addressing Aim 1 and Research Question 1.

Chapter 5: Study 2 - Client Experiences

This chapter presents qualitative findings from interviews with young people who participated in a clinical trial that integrated physical activity into their mental health care. It explores how clients experienced the intervention and identifies both perceived benefits and barriers to engagement. The BCW informs the analysis and is aligned with Aim 2 and Research Question 2.

Chapter 6: Study 3 - Psychologists' Perspectives

This chapter presents qualitative data from focus groups with registered psychologists, exploring their perspectives on integrating physical activity into therapeutic practice. It identifies barriers and enablers across individual, organisational, and systemic level, mapped to the BCW to highlight intervention and policy opportunities. This study addresses Aim 3 and Research Question 3.

Chapter 7: General Discussion

The final chapter brings together findings across the three studies and integrates them with the broader literature. It discusses implications for clinical practice, workforce development, and health policy. The chapter also reflects on methodological strengths and limitations and outlines future research directions to support the integration of physical activity into routine psychological treatment.

Chapter 2: Literature Review

Mental health conditions continue to present a major global challenge, affecting both individuals and society through widespread personal distress, functional impairment, and economic burden. Nearly one billion individuals worldwide (WHO, 2022) and almost half of Australian adults experience a mental health condition at some point in their lifetime (Australian Bureau of Statistics [ABS], 2022). Despite substantial investment in traditional treatments, such as pharmacotherapy and psychotherapy, treatment outcomes often remain modest (Cuijpers et al., 2021a; Johnsen & Friberg, 2015), prompting growing interest in underutilised evidence-based interventions. Meta-analytic evidence increasingly supports physical activity as an effective, scalable, and low-stigma intervention that can be integrated alongside and within routine treatment to enhance symptom improvement or recovery across a range of mental health conditions (Rosenbaum et al., 2016; Schuch et al., 2018; Singh et al., 2023). However, despite this evidence, the integration of physical activity into routine psychological practice in Australia and elsewhere remains limited, marked by a persistent gap between research findings and practical implementation (Radovic et al., 2017; Shrestha et al., 2021; Stanton et al., 2014).

Psychologists, with their behavioural expertise, regular therapeutic contact with clients, and central role within Australia's mental healthcare system (AIHW, 2020), are uniquely positioned to help address this translational gap. Yet the incorporation of physical activity into psychological practice requires navigating complex professional, organisational, and systemic barriers (Happell et al., 2012; Radovic et al., 2017). This chapter synthesises key literature to establish the rationale for investigating how psychologists can effectively support physical activity within routine psychological treatment. It critically reviews the evidence base, identifies implementation challenges, and explores opportunities to enhance mental health care through the integration of physical activity.

2.1 The Global and Australian Mental Health Burden

Mental illness is a pervasive global health issue, affecting millions of people worldwide. Globally, one in eight people live with a mental health condition, totalling an estimated 970 million individuals, with anxiety and depression being the most common conditions (WHO, 2022b). In Australia, mental health conditions are highly prevalent. According to the *National Study of Mental Health and Wellbeing (2020–2022)*, 42.9% of Australians aged 16–85 years have experienced a mental health condition in their lifetime, which equates to approximately 8.6 million people. The study also found that 21.5% of Australians had experienced a mental health condition in the previous 12 months, representing around 4.2 million individual (Australian Bureau of Statistics, [ABS], 2023).

The prevalence of mental health conditions imposes a considerable economic burden. In 2022–2023, the Australian government spent approximately \$12.6 billion on mental health-related services, equivalent to \$478.47 per person and reflecting continued growth in demand and associated healthcare costs (Productivity Commission, 2025). The economic impact of mental health conditions extends beyond direct healthcare costs, with productivity losses estimated at \$10–15 billion annually due to reduced workforce participation and related challenges (Productivity Commission, 2020). For young people, these conditions can also disrupt education, limiting skill development and future employment opportunities (Patel et al., 2007). These socioeconomic consequences strengthen the case for investing in accessible, sustainable mental health prevention and intervention strategies.

Mental health conditions can vary widely in severity, duration, and functional impact. The 12-month prevalence of anxiety disorders among Australians is 17.2%, followed by affective (mood) disorders (7.5%) and substance use disorders (3.3%), according to the ABS (2020-2022) . Notably, women are more likely to experience anxiety and affective disorders, while men have disproportionately higher rates of substance use disorders (ABS, 2023). At

the more severe end of the spectrum, mental health conditions such as schizophrenia and other psychoses affect 1–2% of adults yet account for around 80% of Australia’s mental health expenditure due to the intensive, long-term support required. Individuals with severe mental health concerns also face significantly shorter life expectancies, primarily due to comorbid physical conditions that often remain unrecognised or inadequately treated (AIHW, 2020).

Although service delivery and policy frequently prioritise severe mental health conditions, given their complexity and higher associated costs, most psychologists, particularly those in private practice, predominantly treat high-prevalence mental health conditions such as depression, anxiety, post-traumatic stress disorder (PTSD), substance use disorders, and eating disorders (AIHW, 2022; APS, 2019; Department of Health and Aged Care, 2022a; Productivity Commission, 2020). While these conditions may be less complex to manage from both psychiatric and psychological standpoints than psychotic disorders, they still impose substantial personal, social, and economic burdens. Critically, many of these more prevalent conditions emerge early in life: around two-thirds of individuals who experience anxiety or affective disorders show symptoms before age 21 (Kessler et al., 2005). This early onset can disrupt pivotal developmental milestones, from education and workforce participation to forming stable relationships, with long-term implications for overall quality of life (Patel et al., 2007). Ensuring timely, evidence-based interventions in the early stages of these more common mental health conditions can therefore help avert the entrenchment of difficulties later in life.

Beyond clinical symptoms, the personal and social repercussions of mental health conditions are profound, affecting nearly every aspect of an individual’s life. In addition to diminished emotional and social well-being, individuals often face substantial disruptions in daily functioning, including challenges in maintaining employment, pursuing education, and

sustaining interpersonal relationships. These disruptions contribute to reduced quality of life and increase the broader economic burden associated with mental health conditions (Hashmi et al., 2020; Slade, 2010). Stigma and negative societal attitudes further compound these challenges, frequently deterring individuals from seeking timely or ongoing professional support (Corrigan et al., 2014; Morgan et al., 2021). These realities underscore the importance of delivering adaptable, client-centred mental healthcare that not only responds to individual needs but also addresses the social barriers that restrict access, reduce engagement, and compromise long-term outcomes.

Mental health concerns often stem from a complex interplay of individual, social, and systemic factors. Adverse childhood experiences, socio-economic disadvantage, discrimination, social isolation, chronic stress, and trauma exposure heighten vulnerability to psychological distress (Ceccarelli et al., 2022; Reavley & Jorm, 2011; World Health Organization, 2022b). Health-related behaviours such as disrupted sleep, poor nutrition, and limited engagement in meaningful activity have also been linked to poorer mental health outcomes (Firth, Gangwisch, et al., 2020; Freeman et al., 2020; Jacka et al., 2010; Scott et al., 2022). Additionally, growing evidence indicates that prolonged passive sedentary behaviour contributes to the onset and maintenance of conditions such as depression and anxiety (Hallgren et al., 2020; Schuch et al., 2017b). These interconnected factors reinforce the importance of interventions that adopt a holistic approach, addressing both psychological symptoms and the physiological or behavioural influences that shape mental outcomes.

2.1.1 Established Treatments and Limitations

Mental health care has historically been shaped by the biomedical model, which defines health as the absence of disease and prioritises physiological interventions as first-line treatments (Wade & Halligan, 2004; Engel, 1977). In mental health settings, this has typically

meant a focus on pharmacological treatments and hospital-based care (Taylor et al., 2025; Wade & Halligan, 2004). Although this approach has improved outcomes for some severe mental illnesses, it has been criticised for overlooking psychological, social, and environmental dimensions that are central to mental health (Engel, 1977; Whitaker, 2010). To address these limitations, integrated models that emphasise holistic, client-centred care have gained traction. These models recognise the interplay of biological, psychological, and social factors as essential to effective and sustainable support (Keyes, 2005; Slade, 2010). Rather than relying solely on symptom-focused treatment, they open the door to a broader set of strategies that align with clients' preferences, values, and everyday functioning.

When individuals overcome significant barriers to seeking support, it is critical that they receive high-quality treatment tailored to their unique needs and preferences. Achieving this requires psychologists to be equipped with tools and training that allow delivery of scientifically validated and responsive care (Patel et al., 2018). However, without adequate support or system-level guidance, psychological treatment may continue to prioritise symptom-focused outcomes, often at the expense of broader approaches that address everyday functioning and wellbeing. This underscores the importance of diversifying therapeutic strategies to better align with clients' lived experiences and evolving needs (Drake & Whitley, 2014; Thornicroft et al., 2016).

In practice, this has led to the widespread adoption of psychological therapies that are both evidence-based and adaptable to individual client needs. Cognitive behavioural therapy (CBT), interpersonal psychotherapy, and acceptance-based approaches have gained prominence and are widely recommended in national and international clinical guidelines (APS, 2024; Cuijpers et al., 2021b). These therapies are supported by strong empirical evidence and are recommended as first-line or cornerstone options in national and international guidelines (NICE, 2022; RANZCP, 2020; APS, 2024), with meta-analytic

evidence indicating comparative effectiveness across modalities (Cuijpers et al., 2021b).”.

However, outcomes in routine care are often modest, with many clients experiencing partial symptom reduction or ongoing functional difficulties (Cuijpers et al., 2014; Johnsen & Friborg, 2015). Here, “modest” refers to small-to-moderate average effects and suboptimal remission or recovery rates under routine service conditions (NICE, 2022; RANZCP, 2020). For instance, a large-scale network meta-analysis by Cuijpers et al. (2021b) reported that just 41% of individuals receiving psychotherapy for depression achieved a 50% reduction in symptoms, and most did not reach remission (defined in that study as scoring below 7 on the Hamilton Depression Rating Scale, indicating the absence of clinically significant depressive symptoms). Such evidence emphasises the need to expand the range of evidence-based strategies used in routine care by combining and sequencing options to improve reach, adherence, and overall clinical yield, with physical activity positioned as a complementary adjunct rather than a substitute for established treatments (NICE, 2022; RANZCP, 2020).

2.1.2 The Evidence-Practice Gap

In addition to the modest outcomes of accepted treatments in routine care, a further challenge lies in the persistent gap between research evidence and its application in practice settings (APA, 2006; NICE, 2022). Although psychological therapies such as cognitive behavioural therapy and interpersonal psychotherapy are supported by robust evidence from controlled trials, their effectiveness in everyday care is often more limited, highlighting challenges in translating evidence into practice (NICE, 2022; RANZCP, 2020). This disconnect, commonly referred to as the ‘evidence–practice gap’, contributes to continued variability in service delivery and client outcomes (Fixsen & Blase, 2020; Greenhalgh et al., 2004). Within the broader framework of evidence-based practice (EBP), effective implementation requires not only the availability of high-quality evidence-based interventions (EBIs), but also clinical expertise and alignment with client values (APA,

2006). However, multiple systemic and organisational barriers continue to limit the translation of EBIs into routine care, including service fragmentation, constrained training opportunities, and policy environments that deprioritise psychosocial approaches (Greenhalgh et al., 2017; NHMRC, 2016, 2020).

Notably, the successful implementation of EBIs in mental health care is shaped by a multifaceted interplay of individual, organisational, and systemic influences. While broad-level barriers such as limited funding and uneven service accessibility are significant (Royal Australian and New Zealand College of Psychiatrists [RANZCP], 2021), consumer preferences and clinician engagement also play a pivotal role in bridging the evidence–practice gap. These challenges impact not only psychological and pharmacological treatments, but also other promising, evidence-based interventions that remain underutilised, particularly physical activity. Research consistently shows that physical activity can improve mood, enhance self-efficacy, and reduce physiological stress responses, making it an effective adjunct to standard psychological treatment (Rosenbaum et al., 2016; Singh et al., 2023). Nevertheless, physical activity has yet to be widely integrated into routine psychological practice in Australia, despite its accessibility, low cost, and fit with client-centred psychological treatment (RANZCP, 2020; Czosnek et al., 2021; Shrestha et al., 2021). Understanding and addressing the reasons evidence-based options, such as physical activity, are not reaching more clients across mental health care, particularly within psychological practice, remains a key implementation priority (Czosnek et al., 2021; Shrestha et al., 2021). One key explanation for the evidence–practice gap lies in the so-called “translational pipeline,” which describes how interventions move from preintervention development and efficacy trials to effectiveness evaluations and, finally, to dissemination and implementation in practice (Brown et al., 2017). Although numerous treatments prove successful under tightly controlled conditions, many stall before reaching routine practice

(Durlak & DuPre, 2008b). Organisational issues such as service fragmentation, insufficient clinician training, and limited infrastructure support often impede the final step of this pipeline, leaving interventions with strong empirical support underutilised or inconsistently applied (Fixsen & Blase, 2020; Reavley et al., 2012). This not only restricts client access to evidence-based interventions but also diminishes the overall impact of research investments aimed at improving mental health outcomes.

Moreover, policy frameworks and systemic structures can either accelerate or inhibit the uptake of evidence-based interventions. Complex funding mechanisms, uneven workforce distribution, absence of formal recognition or support for integrating physical and cognitive strategies into psychological treatment can limit the incorporation of such approaches within routine care (NHMRC, 2020; Nilsen, 2015). Under these conditions, many interventions, regardless of their efficacy, remain under-prioritised or difficult to sustain, especially when they involve multidisciplinary collaboration or require additional clinician training (Greenhalgh et al., 2017). These high-level challenges reinforce the importance of implementation strategies that consider not only intervention-specific factors, but also broader system-wide constraints.

Successful adoption of evidence-based interventions hinges on comprehensive strategies that acknowledge the multifaceted barriers along the translational pipeline (Brownson et al., 2017). Implementation research has identified common enablers such as organisational readiness, leadership engagement, and service alignment (Fixsen, 2025; Greenhalgh et al., 2017), and building capacity through targeted training, supervision, and resource allocation can enable clinicians to deliver underutilised approaches with confidence and fidelity (Fixsen et al., 2020). At the same time, sustained stakeholder engagement and supportive policy environments are essential to embed and maintain these practices. By addressing systemic, organisational, and contextual barriers in parallel, mental health services

will be better positioned to bridge the evidence–practice gap and support the adoption of diverse, evidence-informed strategies such as physical activity that align with both clinical goals and client needs.

2.2 Physical Activity as an Evidence-Based Intervention

A growing body of evidence positions physical activity as both a preventative and therapeutic intervention for mental health. To strengthen the case for its integration into psychological treatment, it is important to move beyond general claims and critically examine the nature and quality of this evidence. This section begins by outlining broad mental health benefits, including improvements in mood, resilience, and stress regulation. It then examines evidence related to specific mental health conditions, with particular attention to depression (the most widely studied and highly prevalent mental health concern globally), anxiety, post-traumatic stress disorder, and related presentations. In doing so, it critically appraises methodological strengths and limitations across key studies and considers the translational value of findings for routine psychological practice.

2.2.1 Preventative and Therapeutic Effects of Physical Activity

Physical activity confers both preventative and therapeutic benefits for mental health, operating through complex biopsychosocial mechanisms. It not only enhances mood and stimulates endorphin release, but strengthens stress regulation, builds self-efficacy, and fosters a sense of mastery (Solmi et al., 2025). These psychological benefits are associated with improved coping skills, daily structure, and overall quality of life (Crone & Guy, 2008; McDevitt et al., 2006; Roberts & Bailey, 2013).

Further support for the preventative role of physical activity comes from longitudinal research, with evidence from more than 25 prospective cohort studies indicating that higher levels of physical activity are associated with a reduced risk of developing common mental

health conditions (Mammen & Faulkner, 2013). These studies, conducted predominantly in adult populations across Western countries, included follow-up periods ranging from six months to over ten years. While the majority reported protective effects, many relied on self-reported physical activity and did not consistently control for confounding factors such as baseline health status or socioeconomic position, limiting causal inference. Complementing this, Schuch et al. (2019) conducted a meta-analysis focused specifically on anxiety and similarly found that greater physical activity was associated with a reduced risk of developing anxiety over time. Taken together, these findings suggest that the preventative benefits of physical activity may extend across multiple conditions and operate through both physiological (e.g., endorphin release, improved cardiovascular function) and psychological mechanisms (e.g., enhanced self-efficacy, mastery), which have been linked to improved mental wellbeing (Penedo & Dahn, 2005). This growing body of evidence supports the relevance of physical activity not only in treatment, but also in public health and early intervention strategies.

Therapeutically, physical activity has demonstrated benefits for individuals living with a range of mental health conditions. A comprehensive umbrella review by Singh et al. (2023), synthesising findings from over 97 systematic reviews and more than 1,000 trials, found that physical activity was associated with moderate effect sizes for reducing symptoms of depression, anxiety, and psychological distress (median SMD ≈ -0.42 across anxiety outcomes). In population health terms, effects of this magnitude can translate into substantial absolute benefits when applied across large numbers of people and over extended periods. In clinical contexts, physical activity is best positioned as an integrated, complementary strategy that augments established psychological treatments and self-management, rather than a substitute for existing approaches. The review also found that higher-intensity physical activity was associated with greater improvements in mental health outcomes. The authors

concluded that physical activity should be considered a mainstay approach for managing common mental health conditions and highlighted the need to prioritise implementation, given persistently low uptake in routine practice.

Additional syntheses have reinforced the clinical utility of physical activity. A synthesis of 26 systematic reviews involving over 15,000 participants reported that physical activity interventions significantly reduce symptoms of depression, anxiety, and psychological distress (Rebar et al., 2015). These effects were observed across diverse age groups and settings, reinforcing the broad applicability of physical activity in therapeutic contexts. However, many of the included studies were short-term (typically lasting 12 weeks or less), raising important questions about the sustainability of these benefits over time and the need for ongoing support to maintain engagement.

Beyond individual psychological benefits, physical activity can foster social connection, reduce loneliness, and strengthen social identity. Group-based programs and team sports reduce isolation, promote belonging, and contribute to improved psychological well-being (Cacioppo & Patrick, 2008; Crone & Guy, 2008). However, barriers such as stigma, social anxiety, or logistical constraints can impede participation (Soundy et al., 2014; Vancampfort et al., 2015), and some individuals may prefer solitary or home-based options (Teixeira et al., 2012). These observations indicate the need for inclusive, flexible approaches that consider environmental, cultural, and socioeconomic differences (Bauman et al., 2012).

In addition to these social dimensions, physical activity provides a sense of accomplishment and purpose, helping to enhance self-esteem and resilience, especially in vulnerable populations such as older adults and individuals with severe mental illness (Biddle & Asare, 2011; Netz et al., 2005). Achieving small but consistent goals through physical activity can foster a positive cycle, where improved confidence supports continued

engagement and further enhances mental well-being. Beyond psychological symptoms, physical activity has also been linked to cognitive enhancements. Firth et al. (2017) demonstrated improvements in executive function, attention, and memory, highlighting the potential of physical activity interventions to address cognitive deficits that significantly impair daily functioning and recovery.

Relatively few reviews have focused on older adults from ethnic minority backgrounds, signalling a need for more culturally adaptive research in this space. Encouragingly, interventions tailored to specific populations have shown promising outcomes. For instance, a quasi-experimental study demonstrated that a culturally tailored walking program led to improved physical activity levels and social engagement among older Chinese American adults (Katigbak et al., 2024). Meanwhile, an updated review of systematic reviews and meta-analyses by Biddle et al. (2019) focused on children and adolescents, demonstrating that physical activity interventions can enhance self-esteem, social skills, and a range of psychosocial outcomes. These findings underscore the broad applicability of physical activity across different age groups and cultural contexts. Together, this body of evidence highlights its general therapeutic potential for enhancing mental wellbeing and provides a basis for examining specific mental health conditions. The following section begins with the most prevalent and extensively studied: depression.

2.2.2 Depression

Of all mental health conditions, depression has received the most research attention in relation to physical activity, owing to its high global prevalence and well-defined symptom profile (WHO, 2022). As a result, a substantial body of evidence has examined the role of physical activity in both the treatment and prevention of depressive symptoms, with meta-analyses and umbrella reviews consistently reporting clinically meaningful benefits (Heissel

et al., 2023; Schuch et al., 2016; Singh et al., 2023). This expanding literature has also prompted growing methodological critique, particularly around trial design, sample representativeness, and the applicability of findings to routine care, which warrants cautious interpretation and a focus on translational research (Schuch & Vancampfort, 2021; Singh et al., 2023; Stubbs et al., 2020).

Building on this, a growing body of evidence suggests that physical activity may reduce the risk of developing mental health conditions, particularly depression. A prospective cohort study of approximately 5,000 Dutch adults found that higher levels of physical activity were associated with a lower risk of common mental health conditions over a two-year follow-up, although the use of self-reported data limited the precision of these findings (ten Have et al., 2011). For example, a recent two-sample Mendelian randomisation study using genetic data from over 600,000 adults demonstrated that objectively measured physical activity (via accelerometry) causally reduced the risk of major depressive disorder by 26% (Choi et al., 2019). In contrast, no significant association was found when physical activity was assessed through self-report measures. This discrepancy underscores the importance of using objective methods to more accurately examine the relationship between physical activity and mental health. These findings strengthen the case for physical activity as a modifiable protective factor against depression and highlight the value of early, preventive intervention strategies.

In addition to its preventative potential for depression, physical activity has demonstrated therapeutic benefits in reducing depressive symptoms, as supported by multiple meta-analyses and umbrella reviews. Schuch et al. (2017b), in a meta-analysis of 49 studies, reported that individuals with major depressive disorder (MDD) engaged in significantly less physical activity and more sedentary behaviour than healthy controls. Physical activity intervention trials within the review showed modest but consistent reductions in depressive

symptoms. However, the authors noted that motivational and symptomatic barriers often inhibit participation, particularly among individuals with more severe presentations. A more recent umbrella review by Singh et al. (2023), encompassing 97 systematic reviews comprising over 1,000 trials and more than 128,000 participants, confirmed a strong association between structured physical activity and improved mental health outcomes, especially reductions in depressive symptoms. However, 77 of the included reviews were rated as critically low in quality using the AMSTAR 2 tool, limiting interpretability. These concerns highlight the need for caution when interpreting pooled effects and reinforce calls for greater methodological rigour in future reviews. Together, these findings provide robust evidence, albeit methodologically nuanced, that physical activity can significantly reduce depressive symptoms.

Complementing these broader syntheses, more focused meta-analyses by Schuch et al. (2016) and Heissel et al. (2023) examined the effectiveness of physical activity in treating clinical depression. A meta-analysis of 25 RCTs by Schuch et al. (2016) reported a large effect size ($SMD = -1.11$) for physical activity in reducing depressive symptoms, even after adjusting for publication bias, along with improvements in cardiovascular and metabolic health. More recently Heissel et al. (2023), synthesising data from 41 RCTs ($n \approx 2,300$), found a large overall effect ($SMD = -0.95$), with moderate effects retained in studies assessed as low risk of bias. However, the authors noted substantial variability in intervention durations (ranging from four to 24 weeks) and follow-up periods. Additionally, the inconsistent reporting or exclusion of comorbid conditions, which are common in routine care, poses challenges for generalisability. These limitations, coupled with the controlled nature of many included trials, underscore the ongoing need for translational research that addresses the realities and complexities of everyday psychological practice.

The comparative effectiveness of physical activity in treating depression, relative to established interventions, has also been explored. Noetel et al. (2024), in a recent network meta-analysis of over 200 RCTs involving adults with depression, found that physical activity produced outcomes comparable to both antidepressants and psychotherapy. Unlike earlier reviews that primarily compared physical activity to inactive controls, this analysis incorporated direct comparisons between active treatments, enhancing its clinical relevance. However, the authors noted several limitations, including short follow-up durations and the underrepresentation of individuals with complex or severe presentations. Carneiro et al. (2015) compared pharmacotherapy alone to its combination with structured exercise in adults with depressive symptoms. The findings demonstrated that adding structured exercise led to significantly greater improvements in depressive symptoms, suggesting a meaningful additive benefit.

Although these findings support the use of physical activity as a viable intervention, Fabiano et al. (2025), cautioned that exaggerated claims about the superiority of physical activity are often based on selective or low-quality evidence. Drawing on higher-quality comparative reviews, they advocated for framing physical activity as an equally valid, rather than superior, treatment option. Overstating the effectiveness of physical activity may inadvertently stigmatise pharmacological treatments and deter appropriate help-seeking. It is important to note that many of these findings apply primarily to individuals with mild to moderate depression, and further research is needed to determine effectiveness in more severe or comorbid cases, particularly within routine care settings.

This more balanced framing has begun to shape clinical guidance, with growing recognition of physical activity's therapeutic value within established treatment frameworks. Clinical guidelines increasingly reflect recent evidence supporting the role of physical activity as a viable component of depression treatment, particularly as an adjunct or first-line

option in less severe cases. For example, RANZCP (2020) recommends physical activity as an adjunctive treatment in its Clinical Practice Guidelines for Mood Disorders. Similarly, the UK's National Institute for Health and Care Excellence [NICE] (2022) endorses structured physical activity programs as first-line interventions for individuals with mild to moderate depression, alongside other evidence-based treatment options. These endorsements signal growing acceptance of physical activity within mainstream treatment frameworks. However, questions remain about how best to support clinicians, including psychologists, to adopt and implement these interventions in routine care, particularly in ways that accommodate variability in delivery, individual preferences, and comorbid presentations.

2.2.3 Anxiety

Physical activity interventions have demonstrated efficacy in reducing anxiety symptoms across various populations, with meta-analytic evidence particularly supporting their effectiveness in youth. For example, Carter et al. (2021) conducted a systematic review and meta-analysis of 22 studies involving 1,466 participants aged 5 to 25 years, which found a small but statistically significant reduction in anxiety symptoms following structured physical activity interventions, with a pooled SMD of -0.54 (95% CI -0.80 to -0.28). The review also highlighted considerable heterogeneity in intervention design and quality, as well as limited long-term follow-up and a lack of implementation in routine care settings.

Building on this, Singh et al. (2025) conducted a comprehensive umbrella review and meta-meta-analysis synthesising data from multiple meta-analyses examining anxiety and depression outcomes in children and adolescents. This review reinforced the therapeutic potential of physical activity for anxiety, confirming consistent, moderate effect size for reducing anxiety symptoms. However, few of the included studies were conducted within

school or clinical mental health services, and inconsistent reporting of exclusion criteria (such as comorbid depression) limited interpretability.

Similar patterns have been observed in adult populations, where multiple reviews have demonstrated the effectiveness of physical activity in reducing anxiety symptoms. Jayakody et al. (2014) reviewed eight studies focused on mild to moderate anxiety and concluded that physical activity is a viable intervention despite variation in intensity and delivery. This was further supported by Stubbs et al. (2017), who synthesised data from 25 RCTs ($n = 1,488$) and found significant reductions in anxiety symptoms. Singh et al. (2023) extended this evidence base with an umbrella review of 97 systematic reviews, incorporating over 1,000 trials, moderate effects (median SMD = -0.42) for reducing anxiety symptoms across clinical and subclinical populations. However, this review also flagged methodological concerns, with 77 of the included reviews rated as critically low quality using the AMSTAR 2 tool. Despite these positive outcomes, few studies explicitly addressed how such interventions could be implemented in clinical practice or supported by mental health professionals.

Taken together, these reviews provide strong evidence for the role of physical activity in reducing anxiety symptoms across age groups and severity levels. At the same time, they reveal common limitations across the literature, including methodological inconsistency, limited follow-up, and a lack of studies conducted in settings where mental health care is typically delivered, such as schools or clinical services. This points to a key translational challenge: how to implement physical activity interventions for anxiety in ways that align with existing mental health service structures and are practical for clinicians to support within their routine scope of care.

2.2.4 Post-Traumatic Stress Disorder (PTSD)

Alongside this growing body of work in depression and anxiety interventions, the role of physical activity in trauma-related mental health conditions has also been increasingly explored, particularly in the context of post-traumatic stress disorder (PTSD)(Rosenbaum et al., 2015a). Several reviews and trials have explored whether physical activity may help alleviate core symptoms such as hyperarousal, avoidance, and intrusive thoughts.

Among the most influential contributions to this field, Rosenbaum et al. (2015a) conducted a systematic review and meta-analysis synthesising findings from over 40 randomized controlled trials. Their review, which encompassed both military veterans and civilian trauma survivors, concluded that structured exercise interventions such as aerobic and resistance training, were associated with moderate reductions in PTSD symptoms, particularly hyperarousal and avoidance. Proposed mechanisms include improved physiological regulation, enhanced self-efficacy, reduced rumination, and increased social connectedness, domains commonly impaired in trauma-exposed individuals.

In a separate randomised controlled trial, Rosenbaum et al. (2015b) examined the effects of exercise augmentation on PTSD outcomes in 81 adults. Participants engaged in a 12-week program combining resistance training and pedometer-based walking. Compared to usual care (which included psychotherapy and medication), the exercise group showed significantly greater reductions in PTSD symptom severity, alongside improvements in depressive symptoms, sleep quality, sedentary behaviour, and waist circumference. This study was among the first to offer causal evidence that physical activity can augment standard PTSD treatments, with measurable psychological and physical benefits.

Research examining the integration of physical activity with established therapeutic interventions for PTSD suggests potential benefits within multidisciplinary care models.

Klaeth et al. (2024) examined an intensive outpatient program that integrated prolonged exposure therapy, Eye Movement Desensitisation and Reprocessing (EMDR), and moderate-intensity aerobic physical activity. This study, involving approximately 30 participants, reported sustained reductions in PTSD symptoms at a 12-month follow-up. The integration of physical activity into an established treatment protocol highlights its feasibility and potential for use within multidisciplinary care models. However, given the small sample size, it is challenging to attribute specific outcomes solely to the physical activity intervention. The study mainly underscores the role of physical activity as an adjunct to existing treatments rather than as a standalone therapeutic approach.

Further support comes from Jadhakhan et al. (2022), who conducted a systematic review of 13 RCTs ($n = 531$) examining the effects of physical activity on PTSD symptoms. They concluded that multimodal physical activity programs (particularly those combining aerobic, resistance, and mind-body components like yoga), delivered approximately three times per week over 12 weeks, were most effective in reducing PTSD symptom severity. While this emerging body of research strengthens the case for physical activity as a viable adjunctive treatment for PTSD, the authors cautioned that evidence quality remains limited overall due to small sample sizes, methodological variation, and inconsistent reporting.

Biernacka et al. (2024) explored the perspectives of specialist trauma clinicians regarding the integration of physical activity into PTSD treatments. Their findings emphasised the potential role of structured behaviour change support in helping individuals with trauma-related mental health conditions engage meaningfully in physical activity. However, clinicians also identified several implementation challenges, including agoraphobia, physical health limitations, and resource constraints, which can hinder routine uptake in clinical settings.

Taken together, this growing body of research highlights the emerging role of physical activity in supporting trauma recovery. The findings from Rosenbaum et al. (2015) are particularly important in demonstrating that physical activity can address core PTSD symptoms through mechanisms that align with established therapeutic goals, such as improving regulation, building mastery, and fostering relational safety. These processes are especially relevant for individuals who find traditional talk therapies difficult to engage with or who prefer more embodied approaches to healing. More recent studies provide early evidence that physical activity can be integrated alongside trauma-focused treatments such as cognitive behavioural therapy or EMDR. However, as implementation challenges persist, psychologists and other mental health professionals are encouraged to view physical activity not as a replacement for established interventions but as a complementary and adaptable component of care that aligns with client preferences, needs, and readiness for change.

2.2.5 Suicidal Ideation

Growing interest in physical activity as a mental health intervention has extended to populations at risk of self-harm and suicide. Although still an emerging area, studies have begun to investigate whether physical activity contributes to reductions in suicidal ideation and related behaviours, particularly as part of broader prevention and early intervention strategies.

Recent systematic reviews and meta-analyses have identified significant associations between higher levels of physical activity and lower levels of suicidal ideation, and fewer suicide attempts as distinct outcomes. (Vancampfort et al., 2018a), in a meta-analysis of over 83,000 participants across adolescent, adult, and older adult populations, found that higher levels of physical activity were significantly associated with lower rates of suicidal ideation. However, the strength of these associations varied by age group, pointing to the importance

of understanding developmental and contextual factors that may influence outcomes. The authors also noted a lack of longitudinal evidence and called for more rigorous study designs to explore causal relationships and mechanisms of change.

In a large-scale study focused on young adults, Grasdalsmoen et al. (2019) analysed data from over 50,000 Norwegian university students aged 18 to 35 years. The authors found a clear dose–response relationship between physical activity and mental health outcomes, with higher frequency, intensity, and duration of activity associated with lower levels of psychological distress and reduced odds of suicide attempts. These findings are particularly relevant given that emerging adulthood is a high-risk period for the onset of mental health conditions, yet remains underserved in terms of accessible, preventative supports. Despite the potential of physical activity as a protective factor, fewer than one in four male students and one in five female students met recommended guidelines for physical activity, demonstrating substantial implementation gaps even within well-resourced populations.

More recently, Fabiano et al. (2023) conducted a systematic review and meta-analysis of 17 randomised controlled trials examining the effects of physical activity on suicidal ideation and behaviours. The review found no significant effect of physical activity on suicidal ideation but did report a statistically significant reduction in suicide attempts among those who engaged in physical activity compared to controls (OR = 0.23; 95% CI, 0.09–0.67; $p = 0.04$). This finding suggests that while physical activity may not directly reduce suicidal thoughts, these findings suggest it could offer behavioural protection, potentially through improved mood, increased hope, or greater engagement in life. However, it is important to interpret these results cautiously: over 80% of the included studies were rated as high risk of bias, and further high-quality trials are needed to clarify mechanisms and long-term effects.

While observational research suggests an association between higher physical activity levels and reduced suicidal ideation or behaviour, evidence from intervention trials remains limited and mixed. Physical activity may offer protective effects as part of a broader, client-centred approach, but current evidence does not support its use as a standalone intervention for suicidal ideation. Further research is needed to explore underlying mechanisms and contextual factors influencing outcomes.

2.2.6 Severe Mental Illness and Physical Health

Physical activity is increasingly recognised as vital in addressing the physical health disparities faced by individuals with severe mental illness (SMI), such as schizophrenia, bipolar disorder, and major depressive disorder (Firth et al., 2019; WHO, 2022; NICE, 2022; RANZCP, 2020). Compared to the general population, individuals with SMI engage in significantly lower levels of physical activity and exhibit higher sedentary behaviour, contributing to elevated risks for cardiovascular disease, metabolic syndrome, and premature mortality. Consequently, life expectancy among this population is reduced by approximately 10 to 20 years (Firth et al., 2019).

The Lancet Psychiatry Commission (Firth et al., 2019) emphasises the potential of targeted physical activity interventions, such as aerobic and resistance training, to alleviate psychiatric symptoms while improving physical health. In addition to enhancing mental well-being, physical activity may offset side effects of psychotropic medications, including weight gain and insulin resistance (De Hert et al., 2009; Serretti & Mandelli, 2010). Evidence suggests that consistent engagement in physical activity leads to improvements in weight management, metabolic markers, and systemic inflammation, contributing to reduced long-term health risks (Pedersen & Saltin, 2015; Warburton et al., 2006).

Further consolidating this evidence, Rosenbaum et al. (2014) conducted a systematic review and meta-analysis focused specifically on structured physical activity interventions for adults with SMI. The interventions encompassed aerobic and resistance training, tai chi, yoga, lifestyle modifications, and exercise counselling, all consistently delivered and supervised. Across the 20 included studies, participants demonstrated reduced depressive symptoms, improved schizophrenia-related symptoms, enhanced aerobic capacity, and better quality of life. Notably, larger effects were identified in studies of lower methodological quality, underscoring the need for cautious interpretation while still affirming broad therapeutic benefits for individuals with SMI.

Focusing specifically on schizophrenia, a more recent meta-analysis by Martland et al. (2023) provided additional support, reporting moderate reductions in negative symptoms and modest but significant improvements in positive symptoms. The impact on depressive symptoms, although less pronounced, remains meaningful, particularly given the resistance of negative symptoms (e.g., social withdrawal, amotivation) to pharmacological interventions. These findings reinforce the role of physical activity as a complementary therapeutic approach.

Recognising these extensive benefits, clinical and policy frameworks increasingly advocate for integrating physical activity into routine mental health care. The RANZCP (2017) consensus statement on physical health in psychosis identified physical inactivity as a critical modifiable risk factor, advocating for integrated care models that simultaneously address physical and mental health needs. Similarly, international health bodies, including the WHO (2022), stress the importance of embedding physical activity within mental health treatment to reduce health inequities among individuals with SMI and to support comprehensive recovery.

Despite robust evidence supporting physical activity's benefits, implementation barriers persist. Individuals with SMI often engage in insufficient levels of physical activity to achieve clinically meaningful health outcomes. Much of the existing evidence base has been derived from specialist or inpatient settings, limiting its generalisability to routine outpatient or community-based psychological services. Consequently, low uptake and adherence to physical activity persist in real-world practice, contributing to increased risk for preventable conditions such as cardiovascular disease and metabolic syndrome (Lindamer et al., 2008; Nyboe & Lund, 2013; Rosenbaum et al., 2016; Ussher et al., 2007). Approximately 25% of people with schizophrenia meet recommended physical-activity guidelines, compared to about 34% of the general population, and a meta-analysis of exercise trials estimated a pooled treatment dropout rate of 26.7% during the active intervention phase (95% CI 19.7% to 35.0%), reflecting adherence in the included trials (McNamee et al., 2013; Vancampfort et al., 2016).

Nevertheless, physical activity provides a promising non-pharmacological alternative, enhancing physical, psychological, and cognitive health. For those hesitant about prolonged medication use, physical activity may offer an empowering and more acceptable therapeutic option. Yet despite these benefits, the integration of physical activity into routine care for individuals with SMI remains limited, with ongoing uncertainty about who should lead the interventions, how it should be delivered, and how services should resource it (Czosnek et al., 2021; Shrestha et al., 2021; Stubbs et al., 2024). These uncertainties underscore the importance of understanding how mental health providers perceive their role in promoting physical activity within psychological treatment.

While physical activity offers considerable benefits for individuals with SMI, it is equally important to acknowledge that not all forms or patterns of engagement are universally helpful. This complexity is explored further in the next section, which considers risks

associated with compulsive or maladaptive physical activity behaviours in specific populations.

2.2.7 Considerations for a Small Subset of the Population

While the evidence supporting physical activity as a beneficial intervention for mental health is strong, it is important to recognise that these benefits may not apply equally to all individuals or in all contexts. For a small subset of the population, physical activity can pose risks when engagement becomes excessive, rigid, or emotionally driven.

People with a strong physical activity identity may experience psychological distress during periods of inactivity, be at increased risk of injury, or find that their wellbeing is undermined rather than supported by their activity patterns (Cook et al., 2011; Hausenblas & Downs, 2002). These behaviours are sometimes referred to as exercise dependence, characterised by compulsive engagement, tolerance, and withdrawal-like symptoms when the person is unable to be active, which can undermine rather than support mental health (Hausenblas & Downs, 2002; Veale, 1995).

Among individuals with body image concerns or a predisposition toward eating disorders, physical activity may take on a compulsive or compensatory role, particularly in clinical populations (Rizk et al., 2020). While much of the available evidence is drawn from adult and athletic samples, similar concerns have been observed in adolescents, often shaped by appearance-related pressures and societal ideals (Lynch et al., 2025; Prichard & Tiggemann, 2008).

Many of these studies draw on small, non-clinical samples, often from fitness or sporting groups, which limits the generalisability of findings. Still, the evidence underscores the importance of promoting physical activity in ways that are flexible, client-centred, and responsive to individual needs and vulnerabilities. To support sustainability and reduce harm,

interventions should promote achievable, flexible goals and include strategies to manage periods of low motivation, injury, or illness. A nuanced understanding of potential risks, particularly for individuals vulnerable to compulsive exercise or body image distress, is essential for ethical and inclusive implementation. While physical activity is broadly effective, its impact may vary depending on individual characteristics and circumstances. Tailoring strategies to support autonomy, accommodate comorbidities, and foster long-term engagement is critical to maximising both safety and therapeutic benefit.

2.2.8 Physical activity domains and mental health

Physical activity is commonly categorised into leisure-time, transport (active travel), occupational, and household/domestic domains (with the latter sometimes grouped into non-leisure or occupational activity). Emerging syntheses indicate domain-specific patterns in mental-health outcomes. Leisure-time activity, typically discretionary, self-paced, and socially/pleasantly framed, shows the most consistent benefits for symptoms and wellbeing. Transport activity appears beneficial when embedded in safe, reliable contexts but effects vary with distance, environment, and perceived safety. Occupational activity is often constrained by job demands and may lack autonomy or recovery, with attenuated or mixed associations relative to leisure-time activity. These distinctions inform this thesis' interpretation of findings and the practical guidance proposed for psychologists (e.g., Vella et al., 2023; Teychenne et al., 2025). In applied terms, psychologists are most able to support behaviour change in discretionary domains (primarily leisure-time, and where feasible, active travel habits) while recognising the limited modifiability of occupational and domestic loads.

2.2.9 Summary of Physical Activity as an Evidence Based Intervention

Physical activity holds substantial promise in the prevention and treatment of high-prevalence mental health conditions, contributing to symptom reduction, improved physical

health, and enhanced quality of life. The benefits of physical activity are especially pronounced among individuals with chronic mental health conditions or those undergoing long-term pharmacological treatment, as it can also mitigate associated cardiometabolic risks such as weight gain, insulin resistance, and cardiovascular disease.

However, limitations in the current evidence base, including heterogeneous study designs, short intervention durations, limited follow-up, and reliance on self-report, indicate a need for further research to refine delivery protocols and support sustained behavioural change. Effectiveness may also vary depending on individual characteristics such as age, fitness level, comorbid conditions, and specific clinical presentations (Kandola & Osborn, 2022; Schuch, Vancampfort, Richards, et al., 2016), highlighting the importance of tailoring interventions to individual preferences, capacities, and needs (Singh et al., 2025; Noetel et al., 2024). For instance, while observational studies suggest that physical activity may offer some protective effects against suicidal thoughts or behaviours, evidence from intervention trials is currently limited and inconclusive. This reinforces the importance of integrating physical activity into broader, evidence-informed models of mental health care, rather than viewing it as a standalone solution for more complex presentations.

Despite these challenges, consistent findings across multiple studies and meta-analyses support the inclusion of physical activity as a valuable component of mental health care when appropriately adapted. Supporting individuals to build self-efficacy and incorporate preferred forms of activity into their daily routines is likely to support both adherence and therapeutic outcomes (Rosenbaum et al., 2016). Given their position within Australia's mental health care system, along with their expertise in behaviour change, therapeutic relationships, and ongoing client engagement, psychologists may play a key role in supporting the integration of physical activity into mental health treatment. Taken together, these findings underscore the potential for physical activity to enhance psychological

treatment across a range of settings and populations. However, realising this potential in routine care depends not only on clinical efficacy, but also on understanding the conditions that support its successful implementation, an issue explored in the following section.

2.3 Evidence to Implementation: Challenges and Opportunities

2.3.1 Limits to Generalisability and Implementation

While a growing body of research supports the efficacy of physical activity in treating mental health symptoms, several limitations constrain its generalisability and uptake in routine clinical practice. Most existing evidence is derived from specialist-led, highly controlled interventions, often conducted with participants who do not reflect the complexity or diversity of mental health care populations (Schuch & Vancampfort, 2021; Stubbs et al., 2018). These studies frequently exclude individuals with multiple comorbidities, severe symptoms, or socio-environmental barriers. In addition to factors pertaining to the participants of research studies, intervention-delivery factors contribute to restricting generalisability. For instance, much of the evidence base derives from interventions delivered by Accredited Exercise Physiologists (AEPs), whose expertise in exercise prescription has demonstrated efficacy in clinical trials (Rosenbaum et al., 2014; Firth et al., 2017; Schuch et al., 2016). However, these interventions are typically conducted under resource-intensive conditions and may not translate well to routine care, particularly in underfunded or rural settings. Barriers such as cost, limited workforce availability, and restricted access further constrain scalability. As a result of these participant and provider level factors, findings may not translate well to everyday clinical settings.

Effectiveness studies involving common providers of mental health care, such as psychologists, mental health nurses, or general practitioners, remain limited. This raises concerns about whether physical activity interventions can be feasibly and sustainably

delivered beyond structured research settings. Given that these providers are often more accessible and widely available than specialist exercise professionals, such as AEPs, their inclusion in implementation studies is critical for understanding broader applicability. The continued reliance on short intervention durations, tightly controlled protocols, and homogeneous samples underscores the need for translational research that reflects practical service conditions, diverse client presentations, and variability in provider training and confidence (Schuch & Vancampfort, 2021; Stubbs et al., 2020; Firth et al., 2019).

Although structured programs often yield promising short-term outcomes, ongoing issues such as recruitment challenges, high dropout rates, inconsistent outcome measures, and limited follow-up hinder understanding of their long-term effectiveness (Rosenbaum et al., 2014). In addition, many studies do not report physical activity intervention components with sufficient detail, including type of activity, frequency, intensity, or the behaviour change strategies used. This lack of consistency makes it difficult to identify which elements are most effective or how they can be adapted for broader use (Biddle et al., 2023; Michie et al., 2009). Furthermore, intervention studies often lack clarity regarding the roles and qualifications of those delivering the intervention. Without detail on provider training or scope of practice, it is challenging to assess whether such programs can be delivered outside research settings or by professionals without specialist expertise. In response to these limitations, researchers have increasingly called for pragmatic implementation studies that examine feasibility, sustainability, and clinical integration within routine mental health services (Schuch & Stubbs, 2023; Czosnek et al., 2021).

A helpful framework proposed by Glasgow and colleagues (2003) distinguishes between efficacy, effectiveness, and implementation trials. Efficacy trials test whether an intervention can work under optimal conditions, whereas effectiveness studies assess whether it works in everyday clinical contexts. Implementation trials take this further, investigating

how best to integrate evidence-based interventions into routine practice. Most physical activity research in mental health sits at the efficacy stage, featuring tightly controlled conditions, short durations, and often excluding participants with comorbidities or elevated clinical risk. While necessary for initial validation, this limits applicability to routine care. Without progression to effectiveness and implementation research, the evidence base remains difficult to scale. This typology reinforces the importance of moving beyond whether physical activity can work, toward how and for whom it can be embedded into practice.

2.3.2 Integration of Physical Activity in Mental Health Guidelines and Practice

Pharmacotherapy, CBT, and interpersonal psychotherapy remain the primary evidence informed treatments for common mental health conditions. These approaches are supported by extensive research and are formally recommended in national and international clinical practice guidelines, including those developed by RANZCP (2020) and NICE (2022). Alongside these core treatments, both RANZCP and NICE acknowledge the role of physical activity in managing mood disorders, recommending structured physical activity programs as a helpful adjunct, particularly for individuals with mild to moderate depression. This inclusion reflects the growing recognition of physical activity as a valuable component of evidence-informed mental health care.

Physical activity has gained increased recognition as a complementary or alternative treatment, particularly for individuals seeking lifestyle-oriented or lower-stigma mental health care options (Parker & Bailey, 2018; Richardson et al., 2005). A feasibility study by Gourgouvelis et al. (2018), involving 60 adults with major depressive disorder, found higher remission rates when structured physical activity was combined with CBT or medication. Although modest in scale, these findings align with client preference research (Parker & Crawford, 2007), which consistently ranks physical activity among the most valued non-

pharmacological treatment strategies. Notably, health professionals (including psychologists) also express favourable attitudes toward physical activity in mental health care; however, consistent implementation remains limited due to constraints such as time and inadequate training (Stubbs et al., 2024).

To support implementation, the RANZCP guidelines outline several practical strategies. These include developing personalised activity plans, encouraging daily movement, and selecting physical activities based on individual preference and previous experience. Both aerobic and resistance-based activities are identified as beneficial, and clients are encouraged to choose forms of activity that are enjoyable, effortful, and sustainable. Additional strategies include reviewing progress regularly, addressing motivational challenges, and gradually supporting clients to incorporate physical activity into their daily routines. These recommendations align closely with behaviour change frameworks that emphasise tailoring, goal-setting, habit formation, and self-regulation as key mechanisms for sustained engagement (Michie et al., 2011).

Despite inclusion in clinical guidelines, physical activity remains inconsistently integrated into routine psychological treatment. While efficacy is well established in controlled research settings, the key gap lies in translating this evidence into sustainable, everyday practice. This requires greater attention to how physical activity recommendations can be applied in typical care settings, taking into account service demands, client diversity, and provider roles. These limitations highlight the need to move beyond demonstrating effectiveness and towards understanding how physical activity can be practically embedded across mental health care settings. The following section explores this translational gap by examining the differing capacities of health professionals to support physical activity within routine practice.

2.3.3 The Translational Gap: Moving Beyond Specialist Contexts

Several health professionals, including general practitioners (GPs), mental health nurses, AEPs, and psychologists contribute to supporting physical activity engagement among individuals with mental health conditions. These professionals vary in their scope of practice, training, and session structure, influencing their ability to deliver sustained behaviour change support.

The majority of structured physical activity interventions evaluated in mental health research have been led by AEPs. Their training in exercise prescription and rehabilitation makes them well-suited for designing and delivering targeted programs, which have been shown to improve physical and mental health outcomes (Rosenbaum et al., 2014). However, in Australia, AEPs are typically not embedded within mental health services, and clients often require a chronic disease management plan to access government-subsidised care with these professionals. Additionally, Medicare rebates are capped at five sessions annually (Department of Health, 2023), which may be insufficient for lasting behaviour change, especially among clients with mental health conditions. By contrast, psychology services provide Medicare rebates under Better Access via GP referral, with up to 10 subsidised sessions per calendar year; these different pathways shape referral patterns and the feasibility of ongoing support within routine care.

General practitioners and mental health nurses are well-positioned to support health behaviour change, given they are readily accessed and can facilitate frequent client contact. GPs are often the first point of engagement in mental health care and are trusted sources of guidance on health behaviours, yet their capacity to deliver sustained physical activity counselling is limited by brief consultations, competing clinical demands, and inconsistent follow-up (Little et al., 2004; Orrow et al., 2013). Similarly, mental health nurses, particularly

those in inpatient or community settings, may engage clients more regularly but often do so within non-standardised frameworks that lack long-term evaluation (Stubbs et al., 2014; Vancampfort et al., 2016). Systematic reviews and individual trials evaluating physical activity counselling and behaviour change interventions delivered by GPs and mental health nurses have identified variability in delivery and only modest effects, with persistent challenges in ensuring long-term behaviour change (Elley et al., 2003; Grandes et al., 2009).

Despite their potential to contribute meaningfully to physical activity promotion, psychologists remain largely overlooked in research on intervention delivery. Most studies focus on exercise physiologists or structured programs, with limited exploration of how psychologists might support physical activity participation through ongoing therapeutic engagement. Recent guidance from Sports Medicine Australia and the Australian Psychological Society encourages psychologists to integrate physical activity support into care, not by prescribing exercise, but by applying behaviour strategies aligned with clients' mental health goals (Vella et al., 2023). With over 43,000 registered practitioners nationwide (Australian Health Practitioner Regulation Agency, 2023), psychologists represent a scalable and context-sensitive workforce. Greater clarity is needed around how psychological treatment can incorporate physical activity support in ways that align with therapists' scope of practice, therapeutic goals, and session structure. This is an area the current thesis aims to address.

Table 1 presents an overview of the key provider groups in Australian mental health care, highlighting their estimated workforce numbers, strengths, limitations, and roles in the integration of physical activity within mental health treatment. While mental healthcare involves a wide range of professionals, the groups outlined here are the most frequently studied in the context of physical activity integration.

Table 1*Provider Roles and Workforce Numbers in Australian Mental Health Care*

Provider Type	Estimated Number in Australia (2023–2024)	Strengths	Limitations	Mental Health Context
Accredited Exercise Physiologists (AEPs)	~7,500 (ESSA, 2023)	Specialised in exercise prescription; demonstrated efficacy in trials	Limited access in mental health; high cost; referral barriers	Referred under chronic disease management plans; not routinely embedded in mental health care
General Practitioners (GPs)	~40,350 (DoHAC, 2024)	First point of contact; trusted role	Limited consultation time; lack of follow-up	Provide most MH care plans; initiate referrals to psychologists
Mental Health Nurses	~25,000 (AIHW, 2022)	Ongoing client contact; trusted relationships	Limited long-term data; inconsistent delivery	Active in inpatient and community care, especially public services
Psychologists	~48,240 (AHPRA, 2024)	Skilled in behaviour change and therapeutic engagement	Underrepresented in PA research; scope-of-practice concerns	Deliver ~45% of Medicare-funded MH sessions; eligible for 10 sessions/year under Better Access

The table outlines the distinct contributions and challenges faced by each provider group in supporting physical activity within mental health care. While the professions vary in expertise and scope, limitations related to training, access, and funding influence how effectively they can incorporate physical activity into their practice. Psychologists, despite their strong foundation in behaviour change, remain underutilised in this area.

Each provider's capacity to support physical activity is shaped by broader system-level constraints. Multidisciplinary care reviews emphasise the need for dedicated funding, role clarity, interprofessional training, and structured referral pathways for effective implementation (Pescheny et al., 2018; Stubbs et al., 2018). However, many health systems

still lack policies or funding models that prioritise physical activity within mental health settings (Bauman et al., 2012; WHO, 2022a). In this context, the potential for psychologists to contribute more directly remains underexplored and underutilised, an issue examined in greater detail in the following sections.

2.3.4 Psychologists and Physical Activity: A Reconsidered Role in Mental Health Care

Despite strong alignment with behaviour change principles, psychologists remain underrepresented in research examining the delivery of physical activity interventions (Keyworth et al., 2020b; Radovic et al., 2017). Most studies have focused on exercise physiologists or multidisciplinary programs, with limited attention to how psychologists might support physical activity through therapeutic engagement. Recent professional guidance highlights this potential. The Australian Psychological Society (APS) identifies psychologists as key contributors to improving physical health outcomes under the national *Equally Well* initiative, a cross-sector commitment to integrating physical and mental health care (National Mental Health Commission, 2016; Roberts & Bowman, 2019); National Mental Health Commission, 2016). Similarly, the *Fifth National Mental Health and Suicide Prevention Plan* emphasises the importance of embedding physical health considerations within mental health treatment (Department of Health, 2017).

Rather than prescribing exercise, psychologists are encouraged to apply behaviour strategies that align with clients' mental health goals, consistent with guidance from Sports Medicine Australia and the Australian Psychological Society [APS](Vella et al., 2023). Programs such as *Keeping the Body in Mind* in New South Wales demonstrate how psychologists and AEPs can collaborate to support physical activity among people with severe mental illness (Lederman, Suetani, et al., 2017). In these settings, psychologists address motivational and psychological barriers, while AEPs design and supervise physical

activity programs, a complementary division of roles that reflects overlapping but distinct competencies. This type of collaboration is also endorsed by the RANZCP (2020), whose Mood Disorder Guidelines recommend physical activity as part of a stepped-care approach to treatment. However, many psychologists work independently or in small teams without access to formal interdisciplinary support. In these cases, further guidance is needed to assist psychologists working in solo or non-collaborative settings to integrate physical activity into therapeutic practice.

Psychologists are well positioned to facilitate physical activity engagement as part of mental health care alongside other professions with behavioural expertise (e.g., accredited exercise physiologists, GPs, nurses, given skills in case formulation, behavioural tailoring, and evidence-based intervention (Michie et al., 2013a). Although they are not trained to prescribe exercise, they can play a central role in promoting safe, effective, and personalised activity through therapeutic strategies. This includes addressing common psychological barriers such as low self-efficacy, avoidance, and uncertainty about how to begin, as well as implementing techniques like goal-setting, behavioural activation, self-monitoring, and motivational interviewing (Happell et al., 2011; Michie et al., 2009; Radovic et al., 2017). Importantly, psychologists can tailor these approaches to clients' readiness to change, cultural identity, and personal values; factors known to improve engagement and long-term adherence to physical activity (Fortier et al., 2011; Joseph et al., 2017; Schuch et al., 2017a). Their training also equips them to recognise vulnerabilities such as trauma histories, perfectionism, or low self-worth, allowing them to tailor physical activity guidance without reinforcing harmful patterns. For clients who may be disengaged from formal exercise programs or face stigma-related barriers, psychologically informed support, for example autonomy-supportive counselling, behavioural activation, and motivational interviewing has been shown to improve uptake and maintenance, particularly among people with severe mental illness or

low confidence (Rosenbaum et al., 2014; Firth et al., 2019; Czosnek et al., 2019; Fortier et al., 2011; Joseph et al., 2017). In this way, psychologists bridge the gap between intention and action, offering a flexible, client-centred approach that aligns with therapeutic goals.

Psychologists are not generally expected to prescribe or supervise physical activity programs, yet emerging evidence indicates that many are already advising clients about physical activity within their therapeutic scope. However, these are often carried out without the benefit of formal training or comprehensive guidance. Mental-health clinicians report advising on physical activity within therapy despite limited formal training, with fewer than 40 percent indicating specific training to support such recommendations (Shrestha et al., 2021); practical barriers such as low counselling confidence and uncertainty about clients' medical status are also common (Hirschbeck et al., 2024) underscoring the need for targeted workforce supports (e.g., guidance, supervision, and referral pathways). These findings suggest that while psychologists can play a role in advocating for physical activity implementation, current practices are often informal and inconsistently applied. This highlights the importance of exploring how physical activity is implemented within psychological treatment and the factors that influence its integration into routine care.

With more than 43,000 registered practitioners in Australia (AHPRA, 2023), psychologists represent a scalable and context-sensitive workforce for bridging the translational gap between research and practice, specifically, the gap between evidence supporting physical activity and its integration into mental health care. Despite this potential, their role remains largely untapped in both academic and policy discussions. Advancing this agenda requires a shift in how physical activity is conceptualised, not as an adjunct service, but as an adaptable treatment that can be woven into routine psychological treatment. This raises critical questions about how professional identity, training, and perceptions of scope of

practice shape psychologists' engagement with physical activity. These questions are explored further in Section 2.4.

2.4 Psychologists: Professional-Level Barriers and Enablers

While psychologists are well positioned to support physical activity in mental health care, effective integration depends on more than clinical skill. Factors such as training, professional development, personal attitudes, and scope-of-practice perceptions all influence uptake. This section explores current evidence on how these elements intersect, with a focus on professional identity, career stage, and interpretations of evidence-based practice. Understanding these influences is key to addressing barriers and enabling psychologists to adopt this role with confidence.

2.4.1 Training, Professional Development, and Implementation Readiness

Initial training and ongoing professional development are critical in shaping psychologists' readiness to adopt new interventions, including the integration of physical activity into therapeutic care. In Australia, psychologists are required to engage in continuing professional development (CPD) to maintain registration (AHPRA, 2023), presenting an opportunity to introduce evidence-based training in physical activity promotion. However, CPD content is largely self-directed, and uptake of physical activity-focused modules remains low unless endorsed by regulatory bodies or integrated into formal training pathways (Radovic et al., 2017).

Despite growing evidence linking physical activity with improved mental health outcomes, many mental health professionals report limited exposure to relevant content during university training or subsequent professional development (Shrestha et al., 2021). This contributes to uncertainty around scope of practice, perceived competence, and legal liability, all of which can inhibit implementation in clinical contexts. Previous studies suggest

that these barriers are common across mental health professionals, and that training and role clarity are key factors influencing whether physical activity is addressed in therapy (Shrestha et al., 2021; Stanton et al., 2014).

CPD initiatives that offer practical, context-specific strategies for supporting physical activity within therapy have been shown to improve practitioner confidence and readiness (Czosnek et al., 2021; Rosenbaum et al., 2020). However, while these behaviour change competencies are well embedded in psychological practice, their explicit application to supporting physical activity remains limited. Few profession-specific guidelines exist, and it remains unclear how psychologists adapt these skills in this context or what factors influence their clinical decision-making. This gap points to the need for research that examines how psychologists engage with physical activity in therapy, beyond simply endorsing its benefits or referring externally (Czosnek et al., 2021).

2.4.2 Attitudes, Experience, and Receptivity to Physical Activity

Personal attitudes and physical activity habits play a well-established role in shaping engagement across the general population. Individuals who perceive physical activity as enjoyable, accessible, and personally meaningful are more likely to maintain regular participation (Biddle et al., 2021). These attitudes are often influenced by social norms, previous experiences, and perceived competence. Such patterns are not only relevant for individuals' own activity but also inform their likelihood of encouraging others to engage. For example, health professionals who are personally active tend to feel more confident in promoting physical activity as part of care (Gorczyński et al., 2010; Lobelo et al., 2009).

Among mental health professionals, attitudes toward physical activity are generally positive. Shrestha et al. (2021) found that most Australian practitioners viewed it as beneficial, but comfort, confidence, and perceived role relevance varied. While these findings

offer useful insight, the study reported aggregate data across professions, providing limited detail specific to psychologists. Moreover, its cross-sectional design precluded deeper exploration of how psychologists conceptualise and apply physical activity within therapeutic work. More recent research underscores that translating positive attitudes into practice often depends on contextual factors, including system-level prompts, training exposure, and professional role clarity (Crichton et al., 2024). These patterns may also vary by career stage, as emerging evidence suggests professional experience shapes both attitudes and implementation likelihood. Early-career psychologists, for example, may be more receptive to integrating physical activity, potentially due to recent exposure to emerging research, more flexible role conceptions, or a greater willingness to adopt newer approaches (Aarons, 2004; Hirschbeck et al., 2024). In contrast, more experienced clinicians may be less inclined to modify established routines, particularly if physical activity has not been positioned as core to psychological treatment during their training (Shrestha et al., 2021). These findings suggest that attitudes are not static but shaped by professional development, experience, and identity over time.

Overall, while favourable personal attitudes provide a useful foundation, they are not sufficient to ensure consistent implementation. Psychologists' beliefs about physical activity interact with broader identity, training, and career factors, all of which shape their receptivity and confidence in addressing it in practice. How psychologists perceive the effectiveness and therapeutic legitimacy of physical activity, however, is also central to its adoption, and is explored in the next section.

2.4.3 Psychologists' Perceptions of Treatment Effectiveness

Psychologists' perceptions of an intervention's effectiveness significantly influence its adoption in practice (Kazdin, 2008). Even when robust empirical support exists, uptake

may be limited if the intervention is perceived as misaligned with therapeutic goals, client preferences, or the practical realities of psychological treatment. Physical activity exemplifies this challenge. Despite substantial evidence supporting its efficacy in treating prevalent mental health conditions such as depression and anxiety (Singh et al., 2023), it is often regarded by psychologists as a peripheral or “health promotion” strategy rather than a legitimate therapeutic intervention. This perception may contribute to its limited integration into routine care by reinforcing uncertainty about its relevance, appropriateness, or alignment with the psychologist’s therapeutic role.

Psychologists frequently rely on clinical judgement and client feedback when assessing the suitability of a given intervention, particularly in cases where there may be a mismatch with the client’s cultural context, presenting issues, or therapeutic goals (Chow et al., 2015). In some cases, psychologists who observe positive outcomes from recommending physical activity, even informally, report increased confidence and are more likely to integrate it consistently into care (Glowacki et al., 2017). These patterns suggest that treatment acceptability, although often examined from the client perspective (e.g., Milosevic et al., 2015), is also important for psychologists. Their perceptions of legitimacy, relevance, and fit within their professional role play a key part in determining whether a strategy is adopted. Understanding how these perceptions intersect with broader community attitudes toward physical activity in mental health care may help explain both uptake and resistance in practice. Building on these patterns, existing literature suggests that psychologists’ sense of professional identity may influence whether physical activity is perceived as compatible with their therapeutic role.

2.4.4 Professional Identity, Therapeutic Fit, and Scope-of-Practice Beliefs

Psychologists' willingness to integrate physical activity into mental health treatment is shaped not only by their training and capabilities but also by how they perceive their professional identity and role boundaries. Psychological training in Australia typically emphasises cognitive, emotional, and relational processes, with limited attention to physical health behaviours. In contrast, physical activity is often positioned within the remit of allied health professionals such as exercise physiologists or physiotherapists, reinforcing boundaries that may discourage psychologists from addressing it directly (Happell et al., 2012).

Psychologists' willingness to integrate physical activity into therapy is strongly influenced by how they conceptualise their professional identity. Those who view the mind and body as interconnected may be more inclined to incorporate movement-based strategies, particularly when these align with their therapeutic goals (Hirschbeck et al., 2024; Wookey, 2023). However, regulatory frameworks that emphasise evidence-based practice and role clarity can compound scope-of-practice concerns. Psychologists may hesitate to recommend specific activities or intensities due to uncertainty about safety, appropriateness, or liability, particularly when working with clients with physical comorbidities (AHPRA, 2023). Even where confidence in the mental health benefits of physical activity is high, some psychologists perceive it as inconsistent with their core therapeutic role or outside their professional scope.

Recent APS guidance (APS, 2021) and international mental health policy increasingly promote a more integrated view of psychological care, recognising the importance of addressing physical health within mental health settings. When psychologists adopt a broader, quality-of-life focused framework, they may be more likely to view physical activity as compatible with their therapeutic aims (Radovic et al., 2017). These shifts are also

reflected in a growing ethical emphasis on holistic well-being and client-centred care (APS, 2017; APS, 2023; WHO, 2020).

A psychologist's therapeutic orientation, for example, CBT versus psychodynamic approaches, can influence their openness to adopting new treatment approaches, including those that support clients to become more physically active. Structured, skills-based orientations like CBT are associated with greater endorsement of empirically supported strategies and a preference for interventions delivered according to a structured, pre-defined protocol or treatment guide that outlines specific therapeutic goals, content, and techniques (Addis & Krasnow, 2000; Speers et al., 2022). Recent research suggests that theoretical orientation is not fixed, but shaped by psychologists' personal values, training experiences, and clinical contexts, factors that also influence the types of interventions they are likely to adopt (Liao et al., 2022). This suggests that psychologists trained in CBT may be particularly receptive to integrating physical activity when it is framed in a structured and evidence-informed way that aligns with their therapeutic approach.

In addition, different forms of physical activity also vary in how they may complement therapeutic goals. These effects may differ according to intensity, setting, and the psychological mechanisms targeted. Recent frameworks highlight affective responses and motivational processes as key pathways for engagement (Stevens et al., 2020), while neurobiological research has linked aerobic activity with improvements in emotion regulation and stress responses (Wang et al., 2024). Mindfulness-based movement practices, such as yoga, also show promise for improving anxiety and emotional regulation through modulation of stress physiology (Pascoe et al., 2017; Ross & Thomas, 2010). When selected and framed appropriately, physical activity types can be aligned with therapeutic intent, enhancing both client engagement and the perceived legitimacy of their use within psychological treatment.

Ultimately, consistent implementation depends not only on evidence or training access, but also on whether psychologists perceive the intervention as compatible with their professional identity and therapeutic purpose (Durlak & DuPre, 2008a). Supporting this alignment may help bridge the current gap between capability and practice.

Nevertheless, practical resources remain limited. Even psychologists who support the integration of physical activity often report a lack of clear guidance on how to do so in a clinically safe, evidence-informed, and contextually appropriate way. Further research is needed to explore how identity, therapeutic orientation, and scope-of-practice beliefs interact to influence psychologists' willingness and ability to incorporate physical activity into routine mental health treatment.

2.4.5 Clinical Decision-Making and Contextual Responsiveness

Integrating physical activity into psychological treatment is not simply a matter of transferring evidence into practice. Psychologists must make nuanced, context-sensitive decisions about when, how, and for whom to raise the topic, decisions that are shaped by clinical complexity, evolving client needs, and professional judgement. Unlike structured trials with narrow inclusion criteria and fixed protocols, psychological practice unfolds in dynamic, real-world contexts where there is rarely a single correct intervention pathway. Clinicians draw on their accumulated knowledge, skills, and experience to tailor interventions to individual client needs, taking into account co-occurring conditions, cultural background, and social context (Elwyn et al., 2012; Thompson et al., 2013).

Psychologists are often required to balance competing demands in time-constrained sessions, adapting their approach to align with diverse presentations, fluctuating motivation, and co-occurring physical or mental health conditions. While the therapeutic benefits of physical activity are well established, integration into care depends on more than evidence

alone. Clinicians must also assess perceived fit with the client's current needs, treatment goals, and cultural or personal context (Glowacki et al., 2017; Chow et al., 2015). These decisions are further complicated by the lack of discipline-specific guidance, limited formal training, and uncertainty about role boundaries, all of which have been identified as barriers to implementation (Shrestha et al., 2021; Rosenbaum et al., 2020).

Importantly, psychologists are well positioned to support physical activity due to key features of their therapeutic role. Their regular session contact with clients allows for real-time monitoring, adjustment, and support of behaviour change efforts, something that brief medical consultations may not accommodate (Radovic et al., 2017). In addition, psychologists' training in supporting motivation, setting goals, and fostering self-monitoring provides a strong foundation for promoting physical activity (Michie et al., 2013a). These techniques are particularly relevant when addressing psychological barriers to physical activity, such as anxiety, avoidance, or fear of failure, which have been identified as significant impediments to engagement (Connolly et al., 2023). Despite this alignment, these competencies are rarely applied explicitly to physical activity promotion in practice. Guidance remains general, and few structured, profession-specific tools exist to help psychologists integrate behaviour change techniques into therapeutic sessions in ways that support physical activity engagement (APS, 2021).

Together, these challenges highlight the importance of implementation approaches that respect the complexity of clinical work and build on psychologists' existing strengths. However, current research offers limited insight into how psychologists navigate these competing considerations in practice, or how they evaluate the appropriateness of physical activity for individual clients. To bridge the evidence-practice gap, it is essential to better understand how clinicians perceive their role, assess client readiness, and apply therapeutic judgement in the context of implementing physical activity into psychological treatments.

These practitioner-level considerations do not occur in isolation, but are shaped by broader service structures, funding models, and client contexts, issues explored in the following section.

2.5 Implementation Conditions: Service Structures, Policies, and Client Contexts

Preceding sections have explored how psychologists' theoretical orientation, perceived role boundaries, and professional identity influence their integration of physical activity into psychological treatment, however, these individual-level factors do not operate in isolation. Even when psychologists are motivated and behaviourally skilled, uptake may still be limited if the broader service and policy environment does not support or enable such practice. Translating evidence-based approaches into routine care depends not only on empirical support or clinician willingness, but also on the structural and contextual conditions that shape what is feasible in everyday practice.

Accordingly, this section shifts focus from individual-level factors, such as professional identity or theoretical orientation, to the contextual environments in which psychological treatment is delivered. These include health service structures, policy frameworks, interdisciplinary infrastructure, and the diverse needs and circumstances of clients. All of which influence whether physical activity promotion can be effectively and consistently embedded in everyday practice.

Recent Australian and international studies have begun to highlight implementation barriers and enablers related to physical activity in mental health care. Common barriers include limited training, time constraints, uncertainty around professional role boundaries, and low confidence in addressing clients' physical health (Shrestha et al., 2021; Hirschbeck et al., 2024). In an Australian case study of a youth early psychosis service, Czosnek et al. (2021) identified 43 contextual factors influencing implementation, highlighting the

complexity of embedding physical activity interventions in real-world settings. Key facilitators included supportive leadership, co-location of an exercise professional, shared team values, and the use of audit and feedback mechanisms. Collectively, these findings underscore the importance of addressing not only individual-level readiness but also organisational culture and infrastructure to support sustainable integration.

These findings support the view that psychologists are well placed to advocate for, motivate, and support physical activity engagement. However, consistent implementation depends on the presence of system-level enablers. Embedding this role within routine care requires clear procedural frameworks, dedicated training pathways, and cross-sector collaboration. These implementation requirements are examined in greater depth in the following section.

2.5.1 Systemic Determinants of Implementation

Implementation success often hinges on structural enablers and constraints. Organisational conditions including leadership support, funding mechanisms, team structures, and time allowances can affect whether psychologists have the capacity to incorporate physical activity into their practice. Without these supports, evidence-based interventions risk remaining siloed in research settings, unable to scale across practical environments (Fixsen et al., 2009; Greenhalgh et al., 2004).

Clinicians may also lack formal pathways for referral or collaboration with other professionals, such as exercise physiologists or health coaches. Systemic factors like fragmented services, poor communication infrastructure, or unclear scopes of responsibility can make interdisciplinary coordination difficult, even when intentions align. Embedding new approaches requires not only workforce development but also system-wide planning, incentives, and streamlined procedures (Damschroder et al., 2009).

2.5.2 Implementation Challenges from the Clinician Perspective

Recent research has begun to capture clinicians' experiences and perspectives as they navigate these complex systems. One strength of Biernacka et al. (2024) work lies in its qualitative focus on trauma clinicians, shedding light on the resource and role-specific barriers they face when trying to integrate physical activity into psychological treatment. These included service-level constraints (e.g., time and funding), client complexity (e.g., physical limitations or comorbid anxiety), and gaps in interdisciplinary support. Importantly, clinicians also expressed a desire for greater training and clearer guidance, reinforcing the need for supportive structures that enable rather than impede innovation.

While this thesis does not evaluate system-wide reform, it recognises that sustainable integration depends on creating environments where evidence-based practices, such as physical activity promotion, are not only possible but practical within everyday mental health care. This includes ensuring clear referral pathways, flexible funding models, and education efforts that address both clinician and client barriers.

The next section examines how these systemic dynamics intersect with specific organisational and policy conditions within the Australian context.

2.5.3 Organisational and Policy-Level Barriers

In the Australian context, organisational structures and health policy frameworks strongly influence whether and how physical activity is integrated into psychological treatment (Biddle, 2021). While there is growing recognition of the need for holistic approaches to mental health, systemic barriers continue to limit the translation of evidence into standard practice.

A key challenge is the lack of dedicated funding mechanisms to support physical activity promotion within psychological services. Under the Medicare Better Access

initiative, psychologists are reimbursed primarily for talk-based interventions, leaving little flexibility to incorporate physical activity support unless clearly tied to therapeutic goals (Department of Health and Aged Care, 2024). Despite evidence showing that physical activity improves functional outcomes and reduces healthcare costs by decreasing reliance on pharmacotherapy and hospital admissions (Rosenbaum et al., 2016), existing funding structures are not yet aligned with such cost-effective approaches.

Infrastructure and referral limitations further constrain the integration of physical activity within psychological treatment. In private practice, where many psychologists work independently, there is often limited access to co-located professionals, formalised referral pathways, or interdisciplinary support systems. Even when clinicians are motivated to address physical activity with clients, they face structural barriers such as restricted session time and difficulties coordinating care with other providers (Rosenbaum et al., 2016). In public mental health services, these challenges are compounded by workforce shortages and high service demand, which reduce capacity to incorporate physical health promotion alongside core mental health interventions. The *National Mental Health Workforce Strategy 2022–2032* acknowledges these limitations, highlighting the need for a skilled and distributed workforce to deliver integrated care across diverse settings (Department of Health and Aged Care, 2022b).

Policy initiatives such as the *Fifth National Mental Health and Suicide Prevention Plan* (Department of Health, 2017), the *National Mental Health and Suicide Prevention Agreement* (2022), and the *National Mental Health Workforce Strategy 2022–2032* emphasise the importance of person-centred, stepped, and coordinated care. However, their operationalisation is hampered by longstanding service fragmentation, siloed funding structures, and limited workforce capacity (Productivity Commission, 2020). Although the APS and RANZCP recommend the inclusion of physical activity in mental health care, there

remains no national implementation framework that outlines how to embed these recommendations in routine practice. As a result, services lack consistent protocols, training pathways, and benchmarks to guide integration at the clinician level.

More recent strategies, including *Vision 2030 for Mental Health and Suicide Prevention* (NMHC, 2020), reinforce the need for coordinated and whole-person care. However, these documents also stop short of offering specific implementation guidance on integrating physical activity within psychological services. This leaves psychologists without a clear framework for role boundaries, team integration, or therapeutic decision-making related to physical activity promotion.

Although integrated models of care offer a promising avenue for embedding physical activity into psychological services, they remain relatively uncommon. In the absence of co-located or team-based structures, psychologists infrequently address physical activity in therapy, with research highlighting low rates of implementation despite professional support for its inclusion (Garvey et al., 2023; Keyworth et al., 2019).

This absence of clear implementation guidance may partly explain why integrated models of care remain underutilised, despite growing recognition of their potential to support psychologists in addressing physical activity within psychological treatment.

To better understand these challenges, it is important to consider the broader care environments in which psychologists operate. As outlined in Section 2.3.3, allied health professionals such as mental health nurses, occupational therapists, and AEPs often play active roles in supporting physical activity interventions. These interdisciplinary models provide useful comparisons for identifying the structural supports that enable integration and situating psychologists' perceived barriers. For example, Fibbins et al. (2021) evaluated an AEP-led clinic embedded within a community mental health service and reported improved

participant fitness and reduced sedentary time. Success was attributed to supportive infrastructure, leadership engagement, and clear role definitions, factors consistently identified as implementation enablers.

In contrast, many psychologists operate without these supports. In settings where co-location and referral pathways are lacking, the responsibility to promote physical activity is often ambiguous. This uncertainty can deter clinicians from raising the topic, especially when other providers are giving inconsistent or limited advice. Although psychologists are not solely responsible for supporting behaviour change, clarifying their role within the broader mental health system is essential to overcoming these implementation barriers.

2.5.4 Implementation Challenges from the Client Perspective.

Client engagement with physical activity is shaped by a complex interplay of practical, perceptual, and psychological barriers. These may include limited access to safe or affordable options, negative past experiences, or discomfort in public settings. For individuals with mental health conditions, these challenges are often compounded by low confidence, internalised stigma, reduced motivation, or fear of judgement (Connolly et al., 2023; Joseph et al., 2017). These factors can significantly undermine self-efficacy and make it more difficult to initiate or maintain physical activity. Tailored, accessible, and contextually relevant interventions are therefore essential to supporting sustained engagement, particularly for those who may face compounding vulnerabilities or marginalisation (Kazdin & Wassell, 2000).

Socioeconomic disadvantage, limited transport options, and lack of culturally appropriate or inclusive programs may further constrain engagement, particularly among priority populations (Barry & Edgman-Levitan, 2012; Hébert et al., 2012). Even when

interest in physical activity is present, many clients report needing personalised and flexible support that considers their specific circumstances and life context (Kazdin & Wassell, 2000).

Importantly, alignment between the intervention and a client's personal values, goals, and readiness is often a critical determinant of sustained participation. Physical activity options that are perceived as too demanding, irrelevant, or out of step with one's identity or mental state are less likely to be taken up or maintained. This highlights the need for meaningful personalisation and choice, rather than one-size-fits-all prescriptions. Shared decision-making approaches, when properly supported, may help address these issues by giving clients a more active role in selecting and adapting activities that feel achievable and relevant (Barry & Edgman-Levitan, 2012; Elwyn et al., 2012; Slade, 2017).

Clients' ability to engage with physical activity may also be affected by perceived expectations or assumptions they encounter in care. For example, some report feeling that their openness to lifestyle changes is overlooked or undervalued, particularly when assumptions are made about their motivation, capacity, or likelihood of adherence (Radovic et al., 2017). These dynamics can discourage participation and reinforce internal doubts. When clients sense that physical activity is not seen as a viable or relevant option for someone in their position, this can diminish confidence and reduce willingness to explore such interventions. Understanding these perceptions is crucial to designing supportive environments that promote autonomy, agency, and meaningful choice in care.

2.5.4.1 Diversity and Population-Specific Considerations Psychologists working in mental health care must navigate a wide range of client backgrounds, ages, preferences, and cultural meanings related to physical activity. These factors can shape how clients perceive physical activity within therapy and may influence psychologists' decisions about whether and how to raise the topic. For example, young people, often the focus of early intervention,

may engage more readily with social or routine-based forms of movement that support identity development, autonomy, and peer connection. Interventions that are co-designed or embedded into everyday routines may feel more accessible and less medicalised, enhancing both interest and uptake (Crichton et al., 2024).

For clients from Aboriginal and Torres Strait Islander communities, wellbeing is often understood in holistic and relational terms, encompassing culture, Country, and community. Movement practices such as walking on Country or traditional dance may hold spiritual or cultural significance and cannot be separated from their broader social and emotional context (Macniven et al., 2023). Psychologists may need to draw on cultural consultation, community knowledge, and flexible delivery approaches to ensure that physical activity discussions are respectful, meaningful, and aligned with client values. National policy frameworks, such as the *National Aboriginal and Torres Strait Islander Health Plan 2021–2031* (Department of Health and Aged Care, 2021) and the *National Strategic Framework for Aboriginal and Torres Strait Islander Peoples' Mental Health and Social and Emotional Wellbeing 2017–2023* (Department of the Prime Minister and Cabinet, 2017), acknowledge the value of culturally relevant physical activity as a pathway to improving mental health outcomes. However, these culturally responsive strategies may require additional time, support, and relational work, which can be even more challenging to implement than addressing initial barriers such as limited knowledge, confidence, or session time.

Similarly, clients from culturally and linguistically diverse (CALD) backgrounds may encounter intersecting barriers related to language, gender roles, migration stress, or trauma history. These experiences can shape both mental health and attitudes toward physical activity. Psychologists may need to adapt their communication style, use translated or visual materials, or suggest culturally familiar forms of activity that align with the client's identity

and preferences. Attention to cultural safety, family dynamics, and inclusive practice is essential (Caperchione et al., 2011).

These diverse client factors may also affect psychologists' confidence or willingness to integrate physical activity into sessions. Some may be uncertain about how to tailor recommendations across cultures or may feel that additional barriers reduce feasibility within standard therapeutic timeframes. Understanding how psychologists navigate these complexities is essential to improving the integration of physical activity in ways that are equitable, respectful, and client-centred.

2.5.4.2 Help-Seeking Attitudes. Help-seeking attitudes refer to an individual's overall evaluation of the process of seeking help from a mental health professional (Hammer et al., 2018; Li et al., 2016). These attitudes influence treatment-seeking behaviour, primarily through their impact on the individual's intention to seek help (Armitage & Conner, 2001). Numerous studies have examined attitudes toward mental healthcare, consistently finding positive relationships between proactive attitudes and actual help-seeking behaviours (Li et al., 2016; Mackenzie et al., 2006).

Favourable attitudes and beliefs toward psychological services, such as perceiving therapy as useful or feeling confident in professionals, are associated with stronger intentions to seek support (Cepeda-Benito & Short, 1998; Cramer, 1999). Moreover, research suggests that help-seeking intentions can be enhanced by promoting the perceived value and efficacy of available services (Gulliver et al., 2010; Weich et al., 2007). Understanding these underlying attitudes is important, as they may influence how clients perceive specific treatment components, such as physical activity, and in turn affect psychologists' decisions to introduce or support such interventions in therapy.

2.5.4.3 Mental Health Literacy Mental health literacy includes multiple components, such as the ability to recognise mental health conditions, understand risk factors, and know how and where to seek help (Jorm, 2000). Individuals with higher levels of mental health literacy are more likely to seek treatment (Gorczyński et al., 2017; Zochil & Thorsteinsson, 2018), recommend professional help to others (Coles & Coleman, 2010), and accept or comply with Mental Health Treatment Plans. Although this relationship has not been widely studied in the context of physical activity, the influence of mental health literacy on openness to new treatment options, including those outside traditional clinical models, warrants further investigation.

Treatment-seeking behaviours are shaped not only by knowledge but also by beliefs about whether seeking help will be beneficial. Intervention research has shown that higher mental health literacy is associated with greater readiness to engage in care, particularly when individuals perceive treatment options as relevant and effective (Schomerus et al., 2009; Schomerus et al., 2012). These beliefs are especially important when recommending non-traditional treatments such as physical activity, which may be unfamiliar or unexpected within standard psychological treatment. One intersecting factor that can undermine treatment-seeking, even among individuals with adequate knowledge, is stigma.

2.5.4.4 Stigma Stigma remains a frequently cited barrier to seeking treatment for mental health issues (Corrigan et al., 2014; Jorm & Wright, 2007). Stigma can manifest in two forms: public stigma, referring to societal stereotypes about people with mental health conditions, and self-stigma, which refers to the internalised feelings an individual holds about themselves in relation to their mental health (Corrigan, 2004). It is still unclear how public and self-stigma influence attitudes and intentions towards adhering to physical activity as part of psychological treatment. However, existing research shows a strong association between

public stigma and lower help-seeking intentions (Miville & Constantine, 2007; Vogel et al., 2007; Vogel et al., 2005).

For some clients, stigma around “being in therapy” can inhibit them from further engaging in “additional mental health interventions.” However, others see physical activity as less stigmatising than medication, which presents an opportunity for psychologists to frame it as a standard, non-pathologising approach to mental well-being (Corrigan, 2004; Crone, 2007). Reducing barriers such as stigma (Corrigan et al., 2014; Eisenberg et al., 2009; Vogel et al., 2006) may be essential for encouraging individuals to seek and adhere to treatments that incorporate physical activity.

An interesting question is whether physical activity itself carries any stigma as a mental health treatment. It may, in fact, be a more acceptable option for individuals hesitant to seek help or with low mental health literacy. On one hand, some clients may view physical activity as a non-clinical, “everyday” activity, making it feel more acceptable and less pathologising than medication or traditional talk therapy (Corrigan, 2004). This perspective can reduce barriers to engagement, particularly for those who are reluctant to be seen as “mentally ill” or who hold negative perceptions of psychological treatment. On the other hand, some individuals might dismiss physical activity as a trivial add-on, underestimating its therapeutic potential or perceiving it as incompatible with “serious” treatment. For these clients, stigma may manifest as a worry that a physical activity recommendation implies their mental health issue is “not severe enough” for a formal psychological intervention. As a result, attitudes toward help-seeking (Armitage & Conner, 2001), can influence whether physical activity is readily accepted or met with resistance. Psychologists who appreciate these nuanced responses and tailor discussions accordingly, such as by explaining the science behind the mood-enhancing effects of physical activity or presenting it as part of a broader,

client-centred treatment plan, may be better positioned to normalise physical activity as a suitable mental health intervention and reduce stigma-related barriers.

2.5.4.5 Perceived treatment acceptability. Treatment acceptability, a construct developed by Kazdin (1980), emphasises the importance of aligning treatment options with client expectations and needs. When clients perceive physical activity as an acceptable and appropriate treatment, they are more likely to engage with it and, in turn, achieve better outcomes. This aligns with meta-analytic findings suggesting that when client preferences are accommodated in treatment planning, satisfaction, completion rates, and clinical outcomes improve (Lindhiem et al., 2014). Research has further operationalised the construct to explore how clients evaluate the suitability and relevance of different interventions, including physical activity (Milosevic et al., 2015). Measuring treatment acceptability through client feedback, preference surveys, and qualitative insights helps researchers and practitioners better understand how target populations perceive various interventions and whether they feel these align with their goals and mental health needs. Recent research shows that when there is alignment between client preferences and therapeutic activities, outcomes are improved (Faye Jacobsen et al., 2024). A client-centred approach that incorporates these insights is more likely to enhance adherence, improve satisfaction, and support the long-term integration of physical activity into mental health treatment. However, few studies have directly explored how clients perceive physical activity when introduced as part of routine psychological treatment, highlighting a need for further research into how acceptability is shaped in real-world therapeutic settings.

2.6 Critical Gaps and Rationale for Thesis

The existing literature provides an initial understanding that psychologists often face training shortfalls, time constraints, role ambiguity, and policy-related challenges when attempting to integrate physical activity into their therapeutic interventions. However, several

unanswered questions remain regarding how these barriers and facilitators manifest in contemporary Australian practice:

1. **Context-Specific Insights**

Few studies have examined these barriers/facilitators exclusively among Australian psychologists, despite the fact that they deliver a large portion of Medicare-subsidised mental health sessions (AIHW, 2021). The interplay between Australia's unique healthcare funding model, private-practice dominance, and professional regulations is not fully understood.

2. **Private Practice vs. Public Settings**

While some research addresses organisationally supported settings (e.g., inpatient units, community clinics), the unique challenges faced by private-practice psychologists who often work independently without access to interdisciplinary teams remain underexplored.

3. **Professional Identity Concerns**

Previous studies mention “perceived scope-of-practice” or “fear of liability” but do not deeply investigate *why* some psychologists readily expand their roles while others do not. There is room to investigate how professional identity, personal physical activity history, and perceived peer norms all converge to shape willingness to discuss physical activity.

4. **Integrating Client and Psychologist Perspectives**

Although the literature touches on general client barriers to physical activity, fewer studies specifically link these client factors (e.g., mental health stigma, readiness for change) with psychologists' experiences of delivering physical activity as a

therapeutic intervention. A holistic view that integrates both viewpoints could identify new strategies for implementation.

Hence, while prior literature suggests that insufficient training is a common barrier (Happell et al., 2011), the ways in which these known hurdles affect Australian psychologists, particularly those working in private practice, remain under-examined. This thesis aims to address that gap by exploring client and community attitudes (Studies 1 and 2) alongside psychologists' perspectives (Study 3), culminating in a general discussion that synthesises all three standpoints.

Previous chapters have established a significant gap in the translation of physical activity research into clinical practice, particularly regarding psychologists' involvement. However, successful implementation is unlikely to be achieved by psychologists alone and requires coordinated contributions from multiple stakeholders. Clients, psychologists, and the broader community each play a critical role in shaping the uptake of physical activity in mental health care. Community beliefs influence expectations and help-seeking; client experiences determine engagement and adherence; and psychologists serve as key facilitators of behaviour change. This thesis brings these perspectives together to identify multi-level barriers and opportunities, ultimately informing a more nuanced, context-sensitive approach to bridging the evidence–practice gap in Australian mental health settings.

2.7 Conclusion

Psychologists in Australia occupy a pivotal position in mental health care, with the potential to serve as key agents in the promotion of physical activity as part of routine psychological treatment (e.g., Rosenbaum et al., 2014; Michie et al., 2013a). Their expertise in behaviour change, regular client contact, and grounding in evidence-based frameworks, psychologists are well positioned to support sustained physical activity engagement. Yet,

despite a growing evidence base confirming the mental health benefits of physical activity, its integration into psychological treatment remains limited (Heissel et al., 2023; Singh et al., 2023).

While numerous studies affirm the efficacy of physical activity, methodological limitations such as an over-reliance on self-report, short intervention durations, and the exclusion of clients with complex needs, undermine the generalisability of findings, particularly to psychological treatment settings and routine practice with diverse client groups (Schuch et al., 2017a; Richards, 2018; Pearce et al., 2022). Umbrella reviews have reinforced that while structured physical activity can reduce symptoms of depression and anxiety, the overall quality of included reviews is often low, and long-term sustainability remains uncertain (Heissel et al., 2023; Singh et al., 2023). Additionally, most trials are conducted in highly controlled environments, limiting relevance to the complex realities of everyday psychological practice (Rosenbaum et al., 2014).

The literature reviewed in this chapter highlights multiple layers of barriers that contribute to this evidence–practice gap. At the systemic level, policy frameworks and funding mechanisms, such as those underpinning the Better Access initiative, prioritise traditional therapeutic modalities and provide limited incentives for interdisciplinary approaches (Czosnek et al., 2021; Stubbs et al., 2024). Organisationally, fragmented referral pathways and insufficient infrastructure in private practice environments hinder collaboration with exercise professionals (Czosnek et al., 2019; Fibbins et al., 2021). Professionally, psychologists report unclear role boundaries, limited training, and perceived scope-of-practice concerns that restrict their confidence in promoting physical activity (Shrestha et al., 2021; Hirschbeck et al., 2024).

Despite these challenges, the evidence suggests that psychologists are already engaging in relevant behaviour change techniques such as increasing motivation, behavioural activation, and goal setting, that align closely with strategies used in physical activity promotion (Hopko et al., 2003; Michie et al., 2013a; Pearce et al., 2022). Behavioural activation is a structured, evidence-based approach that reduces avoidance and systematically increases engagement in positively reinforcing, value-consistent activities to improve mood and functioning (Hopko et al., 2003; Richards, 2018; Pearce et al., 2022). However, a lack of profession-specific guidance and training in applying these techniques to physical activity contexts may limit their practical use (Shrestha et al., 2021; Hirschbeck et al., 2024). Additionally, psychological and social barriers at the client level, including stigma, self-efficacy issues, and cultural preferences, emphasise the need for tailored, inclusive, and context-sensitive approaches (Fortier et al., 2011; Joseph et al., 2017).

Importantly, implementation research remains scarce. While a handful of Australian case studies offer insight into successful integration within public mental health services, these models are not widely available or scalable (Czosnek et al., 2019; Fibbins et al., 2021), and often overlook the needs of diverse populations. Current research suggests that while the potential for psychologists to embed physical activity into psychological treatment is well supported theoretically, practical and contextual barriers continue to restrict uptake. These include role uncertainty, limited profession-specific guidance, and system-level constraints such as funding models and service design. While emerging evidence indicates that clinician attitudes, professional identity, and training influence uptake, much of this work has not specifically focused on psychologists or routine therapeutic settings. Consequently, there is limited understanding of how these factors interact in practice.

To develop effective strategies that support integration of physical activity into routine psychological treatment, a clearer understanding is needed of the contextual,

relational, and structural factors shaping psychologists' implementation behaviours (Michie et al., 2013; Czosnek et al., 2021). Without this, the theoretical promise of physical activity remains difficult to translate into sustainable and scalable practice.

This thesis aims to address that gap by exploring client and community attitudes toward physical activity in mental health care (Studies 1 and 2) alongside psychologists' perspectives and experiences (Study 3), culminating in a general discussion that synthesises all three standpoints. By drawing on established behaviour change and implementation frameworks, this research aims to enhance understanding of how psychologists' existing therapeutic roles, professional contexts, and systemic influences may shape the integration of physical activity into routine care. This contribution is both timely and necessary, given Australia's growing emphasis on prevention-focused, integrated mental health care (Rosenbaum et al., 2014; Stubbs et al., 2024).

Chapter 3: Theoretical Foundations and Research Design

This chapter outlines the theoretical, epistemological, and methodological foundations of the thesis. The research investigates how physical activity can be integrated into routine psychological treatment, with a particular focus on behaviour change processes and implementation barriers and facilitators. The chapter begins by introducing the key theoretical frameworks used across the studies, then outlines the research's pragmatic epistemological positioning and mixed-methods design, detailing how quantitative and qualitative methods were used in a sequential and complementary fashion. The chapter also presents the reflexive and interpretive analytic approach applied in the qualitative studies, including the integration of reflexive thematic analysis with the Capability, Opportunity, Motivation–Behaviour (COM-B) model. The chapter concludes with a summary of how these elements provide a coherent foundation for addressing the research aims and questions.

3.1 Theoretical Position

This thesis adopts a dual theoretical approach, drawing on the theory of planned behaviour (TPB; Ajzen, 1991) and the Behaviour Change Wheel (BCW; Michie et al., 2011) to guide research design, data collection, and analysis across three sequential studies. Rather than testing or developing an intervention, these frameworks are used to support a theoretically informed exploration of behaviour within a descriptive and exploratory context. For this research, a dual theoretical approach means drawing on the Theory of Planned Behaviour (to specify intention formation via attitudes, subjective norms, and perceived control) together with the Behaviour Change Wheel/COM-B (to capture capability, opportunity, and motivation and to map these to intervention functions and policy options). This section outlines each framework in detail, followed by an explanation of their practical application throughout the thesis.

3.1.1 Theory of Planned Behaviour

The TPB (Ajzen, 1991, 2020), is a widely used psychological model for understanding, predicting, and influencing behaviour across health contexts. It extends the theory of reasoned action by including perceived behavioural control, offering a more comprehensive explanation for behaviours influenced by both internal and external constraints. According to TPB, behavioural intention is the most immediate predictor of behaviour, shaped by three key constructs: attitudes, subjective norms, and perceived behavioural control.

Attitudes. Refer to how favourably an individual evaluates a behaviour. In this research, that includes how community members perceive the value of integrating physical activity into mental health care. For example, those who believe physical activity improves mood or complements therapy are more likely to support its inclusion and act on psychologist recommendations. Conversely, if seen as irrelevant or burdensome during distress, uptake is less likely. Prior research shows that viewing physical activity as beneficial increases the likelihood of engagement, even during low mood (Bélanger-Gravel et al., 2013; Kwan et al., 2012).

Subjective norms. Involve perceived social pressure to perform or avoid a behaviour. These norms may come from family, peers, or broader cultural views on mental health and physical activity. Supportive networks that promote activity as a coping strategy can increase likelihood of engagement, while stigma may discourage it. Studies highlight that perceived approval from others predicts intention to engage in health behaviours, including physical activity (Godin & Kok, 1996; Hamilton et al., 2012).

Perceived Behavioural Control (PBC). Reflects whether individuals feel capable of engaging in a behaviour, based on their resources and circumstances. In this context, this

might include time, energy, confidence, or access to facilities, factors that may be diminished during psychological distress. Low control can prevent follow-through despite good intentions, while feeling resourced and supported can improve uptake. PBC has consistently predicted physical activity engagement, especially when individuals feel both motivated and able (Plotnikoff et al., 2012; Rhodes & de Bruijn, 2013).

The TPB has been widely applied in physical activity research, supporting studies of uptake, adherence, and intervention design (Rhodes & de Bruijn, 2013; Steinmetz et al., 2016). Its strength lies in identifying the psychological determinants of behaviour, particularly attitudes, subjective norms, and perceived control. However, the TPB has been critiqued for its limited capacity to explain the gap between intention and action, especially within clinical or practitioner contexts (Godin et al., 2008). For instance, psychologists may intend to recommend physical activity but feel constrained by time-limited sessions, lack of training, or unclear role expectations. Clients may also struggle to act on intentions due to fatigue, low motivation, or competing demands. Recent meta-analytic findings suggest that a meaningful proportion of people who intend to be physically active do not translate these intentions into behaviour, highlighting the importance of additional processes such as planning and habit formation (Feil et al., 2023). These complexities reinforce the value of incorporating additional frameworks such as the BCW, that more explicitly consider environmental, structural, and systemic factors shaping behaviour (Sniehotta et al., 2014) who argue TPB alone is insufficient for designing behaviour change interventions.

3.1.2 Behaviour Change Wheel

The BCW (Michie et al., 2011) is a comprehensive framework designed to support the systematic understanding and design of behaviour change interventions. It integrates 19 behaviour change theories into a unified model that spans individual, organisational, and

policy levels. At its core is the COM-B model, which conceptualises behaviour (B) as resulting from the dynamic interaction of Capability (C), Opportunity (O), and Motivation (M; Michie et al., 2011, 2014; West & Michie, 2020). The COM-B model enables structured exploration of the conditions required for a behaviour to occur, serving as the foundation for identifying relevant mechanisms of change. Surrounding this core, the BCW outlines nine intervention functions (e.g., education, enablement, persuasion) and seven policy categories (e.g., guidelines, service provision, legislation), offering a practical tool for linking behavioural determinants to intervention strategies and broader system enablers.

Capability refers to the psychological and physical capacity to engage in a behaviour, including the necessary knowledge and skills (Michie et al., 2011). In the context of integrating physical activity into psychological treatment, this includes a psychologist's knowledge of relevant evidence, confidence in discussing activity within their role, and skills in behaviour change counselling. For clients, capability may relate to understanding how to initiate or sustain physical activity during periods of distress, as well as any physical limitations that affect participation. Previous studies have highlighted gaps in clinician training and uncertainty about appropriate approaches as potential constraints on psychological capability (Czosnek et al., 2019; Keyworth et al., 2020b).

Opportunity refers to the external factors that facilitate or hinder a behaviour, encompassing both physical opportunity (e.g., environmental resources, time, access) and social opportunity (e.g., norms, cultural expectations, interpersonal influences) (Michie et al., 2011). In psychological practice, this includes the broader service environment in which clinicians work, such as session length, referral systems, and available resources. For example, time-limited appointments, lack of access to physical activity professionals, or insufficient infrastructure may restrict psychologists' ability to address physical activity meaningfully during psychological treatment. Social opportunity is also relevant, as

prevailing norms within professional communities, perceptions of scope-of-practice, or anticipated client receptivity can shape whether and how physical activity is introduced. When such enabling conditions are absent or unclear, the opportunity to integrate physical activity into care may be constrained, even when clinicians are both capable and motivated (Czosnek et al., 2019; Keyworth et al., 2020b).

Motivation includes the internal processes that energise and direct behaviour, encompassing both reflective motivation (such as conscious beliefs, intentions, and goals) and automatic motivation (such as habits, emotions, and impulses) (Michie et al., 2011). In the context of integrating physical activity into mental health care, psychologists' reflective motivation might involve beliefs about the relevance, appropriateness, or effectiveness of physical activity as part of psychological treatment. For clients, this may relate to beliefs about potential benefits, readiness to change, or perceived alignment with their treatment goals. Automatic motivation is also influential. For example, established clinical routines may reduce the likelihood that psychologists raise the topic of physical activity unless deliberate prompts or training are introduced. Similarly, clients' emotional states such as apathy, shame, or psychological distress can make it harder to begin or maintain activity, even when the intention is present. Identifying these motivational factors helps explain why knowledge and opportunity alone may not lead to behaviour change (Firth et al., 2016; Rhodes et al., 2018)

Intervention functions form the next layer of the BCW and describe broad strategies used to influence behaviour. There are nine categories: education, persuasion, incentivisation, coercion, training, restriction, environmental restructuring, modelling, and enablement (Michie et al., 2011). These functions help translate behavioural analysis into practical intervention design. In mental health care, education can strengthen psychologists' knowledge of how physical activity supports mental health. Training can build confidence in

discussing it during sessions. Environmental restructuring, such as adding prompts to assessment templates, may create more supportive settings. Enablement strategies, including resource provision or collaborative pathways, can reduce external constraints. These functions can be applied alone or in combination, depending on which aspects of capability, opportunity, or motivation are targeted.

Policy categories form the outer layer of the BCW and represent systemic levers that can support or inhibit implementation efforts. These categories include guidelines, service provision, fiscal measures, regulation, legislation, communication and marketing, and environmental and social planning (Michie et al., 2011). In the context of mental health care, policies that incorporate physical activity into clinical guidelines can legitimise its inclusion in treatment. Service provision, such as team-based care or co-location with exercise professionals, can facilitate interdisciplinary collaboration. Funding structures that allow time for health-promoting discussions, and communication strategies that promote physical activity as a valid component of psychological treatment, can further support uptake. These policy-level mechanisms influence how consistently, sustainably, and equitably behaviour change strategies are delivered across services (Keyworth et al., 2020a; Michie et al., 2014).

There is increasing recognition that interventions to support physical activity in mental health contexts must operate across multiple levels, addressing not only individual behaviour but also relational, organisational, and policy-level factors (Czosnek et al., 2022; Hirschbeck et al., 2024). While many studies highlight this need, fewer have applied structured implementation frameworks to guide intervention development. The Behaviour Change Wheel (BCW) has emerged as a useful model for designing multi-level interventions that target practitioner behaviour and systemic conditions. It has been applied to develop person-centred approaches in healthcare settings (Reid et al., 2022), and to support physical

activity interventions tailored to student mental health (Brown et al., 2024), demonstrating its relevance across diverse populations and service contexts.

3.1.3 Practical Application Across the Thesis

Figure 1 illustrates the theory-informed structure of this thesis, showing how the TPB and the BCW were applied across three interconnected studies. The TPB guided the design and analysis of the community survey in Study 1, which examined public attitudes, perceived norms, and behavioural control regarding psychologists recommending physical activity. Findings from this study informed the development of the youth interview protocol in Study 2, ensuring alignment with community beliefs about the role of physical activity in mental health care.

Study 2 used qualitative methods to explore the lived experience of clients who had participated in a physical activity-based intervention, deepening the understanding of attitudes and intentions identified in the survey. The BCW was applied in both Study 2 and Study 3 to guide the interpretation of qualitative data. In Study 3, psychologist focus groups were structured around the COM-B model and further shaped by themes emerging from the client interviews and the public attitudes assessed in Study 1. This ensured that the professional-level discussions in Study 3 were grounded in both client experience and population level perspectives.

Together, these frameworks offered both breadth and depth: the TPB captured individual-level intentions and normative beliefs, while the BCW enabled exploration of broader behavioural, contextual, and systemic influences. Theoretical overlap, for example, perceived behavioural control aligning with psychological capability, and subjective norms mapping onto social opportunity, helped integrate insights across levels. This dual-framework

design ensures theoretical coherence across the thesis, enhancing both analytic rigour and practical relevance.

Figure 1

Conceptual flowchart showing theoretical foundations and study integration for supporting physical activity in psychological treatment.

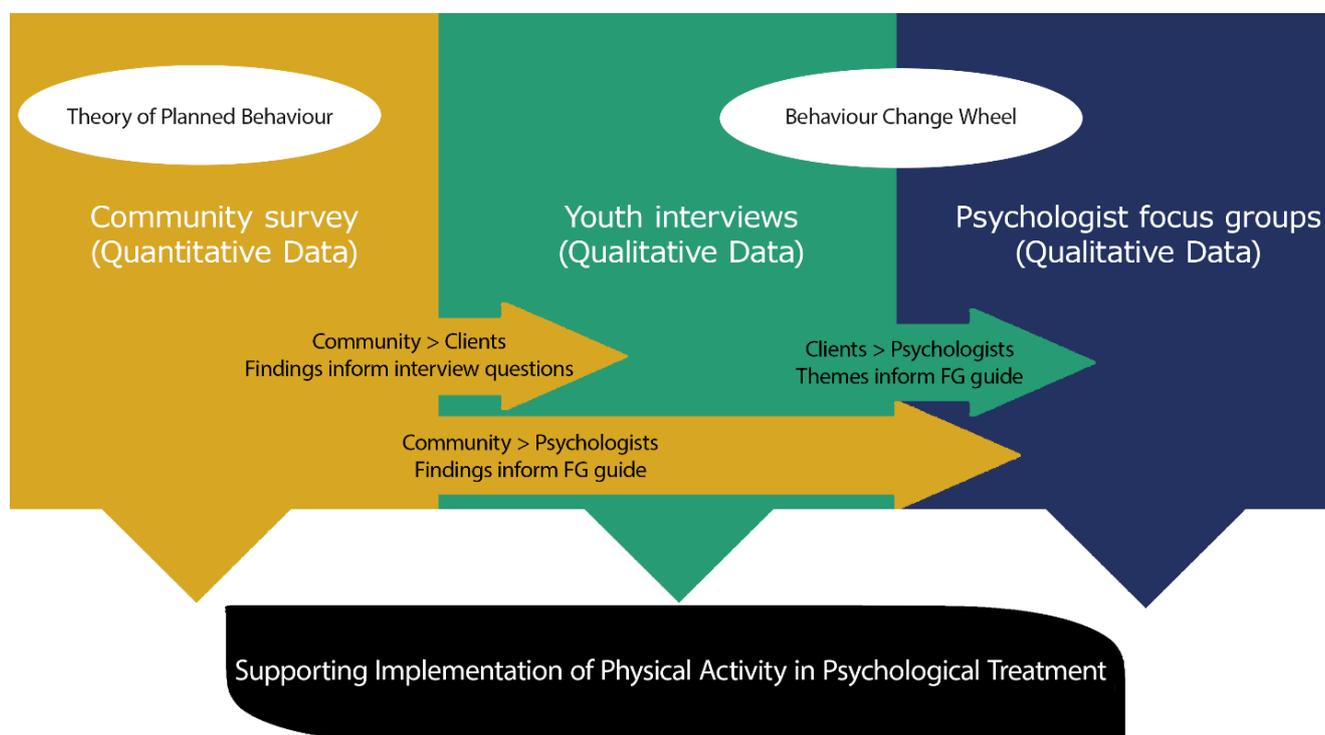


Figure 1 visually illustrates how each study built on the previous one and how the TPB and BCW frameworks were applied at different stages. Community perspectives informed the design of youth interviews, which subsequently shaped the structure of focus group discussions with psychologists. The integration of theoretical frameworks with sequential, multi-perspective data collection supports the overarching aim of the thesis.

3.1.4 Rationale for Theoretical Integration

This thesis draws on both the TPB and the BCW to provide a robust theoretical foundation for examining how physical activity can be integrated into mental health care. The TPB was selected for its strength in explaining individual-level drivers of behaviour, particularly attitudes, norms, and perceived control, making it well suited for quantitative exploration of community beliefs and intentions. In contrast, the BCW offers a broader lens, explicitly addressing systemic, environmental, and policy-level influences. Its structure supports the qualitative investigation of how physical activity can be practically implemented within professional and organisational contexts.

Used across different studies, these frameworks enhance theoretical rigour and inform key design and analytic decisions. The TPB supports understanding of intention formation at the population level, while the BCW enables a layered interpretation of behavioural influences and identifies mechanisms to support change across multiple levels of the system. Together, they provide complementary insights that align well with the thesis's pragmatic orientation and focus on applied outcomes.

Although the research does not evaluate a specific intervention, the integration of TPB and BCW supports the generation of implementation-relevant knowledge. By examining community attitudes, client experiences, and practitioner perspectives through behavioural science frameworks, the thesis offers a nuanced understanding of the conditions under which physical activity can be meaningfully embedded in routine care. This approach addresses the persistent gap between evidence-based interventions and everyday psychological practice.

3.2 Ontology and Epistemology: Position and Application

In this thesis, ontology refers to assumptions about what exists in the domain of interest, and epistemology addresses how we can know about it and the status of that

knowledge. The work adopts a relational–constructivist ontological stance in which psychological phenomena are treated as contextually produced and negotiated through interactions among people, practices, and settings, rather than as fixed attributes residing solely within individuals (Braun & Clarke, 2006). This view aligns with the thesis’s applied focus by foregrounding the ways that behaviour, roles, and meanings are co-constituted by personal, interpersonal, and systemic conditions. Ontologically, the thesis assumes plural, situated realities that are nevertheless tractable for inquiry when theory is used pragmatically to organise observation and interpretation.

Epistemologically, this thesis is pragmatic. Pragmatism views knowledge as provisional and action-oriented, focusing on what works in a given situation to solve applied problems (Morgan, 2007; Yvonne Feilzer, 2010). It accommodates the strengths of both qualitative and quantitative methods, providing the flexibility to draw on different traditions as required (Creswell & Plano Clark, 2017). Within this frame, the study design privileges usefulness for routine psychological treatment while maintaining clarity about the kinds of claims each method can warrant.

The pragmatic orientation allowed methodological flexibility while maintaining a focus on generating practically relevant knowledge about how physical activity might be supported within routine psychological treatment. Quantitative and qualitative components were deliberately chosen to address different, yet interrelated, questions: the community survey (Study 1) used a post-positivist approach, grounded in the Theory of Planned Behaviour, to estimate population-level patterns and predictors; the interviews and focus groups (Studies 2 and 3) drew from constructivist principles to interpret situated meanings in service contexts and everyday life.

Integration occurs across distinct participant groups rather than triangulating quantitative and qualitative findings within a single population. This strategy reflects the pragmatic and context-sensitive goals of the research. It enables each group's beliefs, experiences, and practices to be understood within their own social and therapeutic contexts, while also relating these insights to broader patterns that situate those experiences.

Analytically, reflexive thematic analysis is used to identify patterns of meaning in participant narratives, recognising the active role of the researcher in shaping theme development (Braun & Clarke, 2019, 2021). Rather than seeking fixed categories, this method allowed for flexible interpretation grounded in context. In addition, the COM-B model from the BCW was used interpretively as a conceptual scaffold to organise and make sense of the qualitative findings, rather than as a coding framework. This ensured that the BCW concepts supported, rather than constrained, the inductive development of themes and the identification of feasible leverage points for practice and policy. Taken together, these choices reflect a constructivist commitment to understanding the socially and contextually constructed nature of behaviour, and to producing knowledge that is both situated and practically relevant.

In summary, this thesis links a relational–constructivist ontology with a pragmatic epistemology to justify a mixed-methods program in which a post-positivist survey estimates patterned associations and contextualist qualitative studies generate reflexive interpretations mapped to the Behaviour Change Wheel. On this basis, Study 1 supports conditional claims about population-level associations under stated model and measurement assumptions, whereas Studies 2 and 3 warrant situated, practice-oriented explanations of perceived mechanisms, barriers, and enablers within service contexts. Together, these strands provide integrated, context-sensitive knowledge to guide psychologists in supporting physical activity within psychological treatment.

3.3 Mixed-Methods Approach: Rationale and Design

This research adopts a mixed-methods design to explore the integration of physical activity within psychological treatment from multiple perspectives. Mixed-methods approaches are well suited to addressing complex, real-world questions, as they combine the breadth of quantitative data with the depth and contextual insight offered by qualitative inquiry (Creswell & Plano Clark, 2017). This allows for a more complete understanding of both broad patterns and the nuanced experiences underlying those patterns. An explanatory sequential mixed-methods design was used (QUAN → QUAL → QUAL) with an overall emphasis on qualitative explanation and translation; each phase of data collection and analysis connected to the next (Fetters et al., 2013).

The first phase involved a quantitative community survey (Study 1) that assessed public attitudes, beliefs, and behavioural intentions regarding the integration of physical activity into mental health care. Survey items explored constructs drawn from the TPB (see Section 3.1.3), including attitudes toward psychologists recommending physical activity, normative beliefs, and perceived behavioural control. Survey design followed best practice principles for item development and scaling (Dillman et al., 2014), and analyses applied established approaches such as regression and multivariate modelling (Tabachnick & Fidell, 2018),

The qualitative component of the research included semi-structured interviews with young people (Study 2) and focus groups with psychologists (Study 3). These methods were selected to provide insight into the relational, contextual, and practical aspects of implementation. The qualitative phases were intentionally iterative: themes emerging from Study 2 informed the content of focus group discussions in Study 3, allowing for exploration of how psychologists responded to client experiences and perspectives. Across Studies 2 and

3, the Behaviour Change Wheel was used interpretively as a conceptual scaffold to relate emergent themes to potential intervention functions and policy-level strategies.

Design decisions for the later stages were informed by findings from the earlier phases. For example, results from the community survey were used to develop focus group prompts addressing psychologists' perceptions of public expectations and their sense of role clarity relative to other health professionals. Likewise, the interview guide in Study 2 was informed by prior literature and theoretical frameworks, with the aim of capturing how young people experienced the integration of physical activity into mental health care. Themes from these interviews, in turn, helped shape discussions in Study 3 around issues such as consistency of messaging, motivation support, and role boundaries in practice.

The development of qualitative prompts was further supported by previous research identifying implementation challenges commonly reported by health professionals, including time limitations, training gaps, and the complexity of client presentations (Grol & Wensing, 2004; Hirschbeck et al., 2024). This helped ensure that the interview and focus group guides were grounded in both theoretical constructs and the practical realities of service delivery.

Rather than analysing quantitative and qualitative findings in isolation, this thesis aimed to meaningfully integrate data across phases. This involved using findings from one phase to inform the next and interpreting the insights collectively. Such integration enhances the validity and utility of the research and aligns with best practice guidance for mixed-methods rigour (Bazeley, 2018; Greene, 2007; Onwuegbuzie & Johnson, 2006). By systematically linking general community insights with client and practitioner perspectives, the mixed-methods design supports methodological coherence and the generation of context-sensitive knowledge relevant to psychological treatment.

3.4 Quantitative Data Analysis Approach

Study 1 used standard quantitative procedures consistent with the Theory of Planned Behaviour (TPB) survey design. Descriptive statistics were used to summarise item distributions and scale scores; internal consistency for multi-item scales was assessed; and regression/multivariable models examined associations between TPB constructs (attitudes, subjective norms, perceived behavioural control) and behavioural intentions regarding psychologists' promotion of physical activity. Models were estimated with appropriate covariate adjustment (e.g., age and gender) and routine assumption checks; sensitivity analyses are reported in Chapter 4. Missing-data handling and any item/scale construction steps are described in detail in Chapter 4. Statistical analyses followed established guidance for applied regression and multivariable modelling (Tabachnick & Fidell, 2018).

3.5 Qualitative Data Analysis Approach

This section outlines the overarching analytic and interpretive approach applied to Studies 2 and 3, both of which used qualitative methods. Given that both studies drew on the same analytic framework, the shared approach is presented here to avoid repetition and to ensure coherence in describing how reflexive thematic analysis was conducted. This includes how themes were developed, how researcher reflexivity was maintained, and how the data were interpreted to explore the integration of physical activity into mental health care.

Reflexive thematic analysis (Braun & Clarke, 2006, 2021) was the primary analytic approach, situated within a pragmatic, largely constructivist orientation. Coding proceeded inductively and iteratively to identify patterned meaning across the dataset, with limited organising heuristics used to relate codes for theme development. This approach views the researcher as an active participant in the construction of meaning and emphasises the influence of researcher assumptions and reflexivity throughout the process (Braun & Clarke,

2006, 2021). Procedures followed established guidance for reflexive thematic analysis and qualitative rigour (Braun & Clarke, 2021; Bazeley, 2018; Tracy, 2010).

3.5.1 Data Transcription and Familiarisation.

All interviews and focus groups were transcribed verbatim, including pauses, fillers, and emphasis, to preserve the nuance of spoken communication (Braun & Clarke, 2021; Poland, 1995). Transcripts were read multiple times, with early impressions recorded in reflexive memos and field notes. These annotations helped track emerging thoughts and contextualise participants' narratives, forming the foundation for inductive coding. This familiarisation stage supported grounded and contextually sensitive interpretation.

3.5.2 Initial Coding

Using an inductive, data-driven approach, first-order codes were generated from participants' own language. These codes reflected key ideas and experiences (e.g., "lack of motivation," "clinician support"). Reflexive notes documented evolving interpretations and were used to check for bias or assumptions during early analysis.

3.5.3 Theme Development

First-order codes were grouped into second-order categories based on co-occurrence or conceptual similarity, forming provisional themes. Grounded theory techniques informed this step, with codes linked into broader categories that reflected underlying patterns across the data. Reflexive memos were revisited regularly to ensure analytic clarity and openness to unanticipated insights.

3.5.4 Thematic Refinement and Synthesis

Themes were refined through ongoing analysis, with first-order codes (data-derived), second-order codes (conceptual categories), and themes (overarching patterns) iteratively

reviewed for coherence and clarity. Categories that overlapped or lacked distinctiveness were merged, adjusted, or removed. Salient and conceptually rich patterns relevant to the research aims and questions were identified through iterative, reflexive review and refinement.

Representative quotes were selected to illustrate each theme, ensuring the findings remained grounded in participant accounts.

3.5.5 Reflexivity and Quality Assurance

Reflexivity was maintained through memos and journaling throughout the analytic process. These documents recorded the researcher's reactions, assumptions, and shifts in interpretation, promoting transparency and critical self-awareness (Braun & Clarke, 2006, 2021; Finlay, 2002). Supervisor discussions provided additional opportunities to challenge assumptions, test coding decisions, and explore alternative interpretations. Codes and themes were discussed iteratively with supervisors throughout the analysis to ensure coherence, rigour, and openness to multiple interpretations. This reflects reflexive thematic analysis quality principles (Braun & Clarke, 2021; Nowell et al., 2017).

3.5.6 Researcher Background and Assumptions

The researcher's professional background as a psychologist with a strong interest in behaviour change and physical activity inevitably shaped their approach to this study (Berger, 2015; Finlay, 2002). Prior to commencing data collection, the researcher held an assumption that integrating physical activity into mental health treatment could offer meaningful benefits, an assumption grounded in emerging empirical literature. However, care was taken throughout the research process to remain aware of how this perspective could bias interpretation, particularly in relation to the possibility of downplaying negative or neutral participant experiences.

3.5.6.1 Managing Potential Bias

Interview Approach. Open-ended, semi-structured questions were used to invite participants to discuss both the positive and negative aspects of physical activity. Efforts were made to avoid leading questions, providing space for participants to express frustrations, difficulties, or ambivalence regarding their experiences (Braun & Clarke, 2021).

Question Design and Peer Review. The interview schedule was reviewed by a peer experienced in qualitative research and an expert in youth mental health. Their feedback was used to refine the wording of questions to ensure they were not overly suggestive of favourable outcomes. This review process supported participant-led reflection rather than affirming pre-existing assumptions about the benefits of physical activity (Lincoln & Guba, 1985; Tracy, 2010).

Peer and Expert Debriefs. During data collection and analysis, regular discussions were held with peers and senior colleagues. These conversations served as critical dialogue to help identify and challenge any tendencies to interpret data through a predominantly pro-physical activity lens. For example, when participants described limited motivation or negative experiences, peer reviewers helped ensure these accounts were given appropriate weight in coding and interpretation (Smith & McGannon, 2018). This aligns with a ‘critical friend’ and peer-debrief approach (Lincoln & Guba, 1985; Smith & McGannon, 2018).

Systematic Coding Framework. NVivo software was used alongside a developing codebook, which was refined as new categories emerged during analysis. While some codes (e.g., “mind-body connection,” “collaborative goal setting”) reflected the researcher’s professional interest in behaviour change and physical activity, specific attention was given to codes capturing barriers and less positive experiences (e.g., “pain/injury,” “lack of interest”) to maintain analytic balance. Throughout iterative coding cycles, transcripts were

revisited to ensure that challenging or contradictory data were not overlooked in favour of more affirming content (Saldaña, 2021; Braun & Clarke, 2021).

3.5.6.2 Reflexive Journaling A reflexive journal was maintained throughout the research process to document moments when enthusiasm for physical activity might influence the interpretation of data. These entries prompted the researcher to pause and critically examine whether emerging interpretations were grounded in participant accounts or shaped by personal assumptions. This process facilitated re-examination of transcripts for contradictory evidence or perspectives initially underemphasised, thereby broadening thematic scope and ensuring balanced and reflexively aware analysis (Finlay, 2002; Berger, 2015).

3.5.7 Theme Intersections and Relationships

The analytic process extended beyond identifying discrete themes, including detailed examination of how themes overlapped, interacted, and shaped one another. This interpretive layer was applied across qualitative studies to clarify how thematic intersections and relationships were conceptualised and analysed within the broader framework of reflexive thematic analysis.

3.5.7.1 Themes Intersections. Intersectionality in this thesis refers to analytic attention given to areas where themes overlapped or interacted, forming shared conceptual spaces that were not clearly distinct, consistent with reflexive thematic analysis guidance on attending to intersections and patterned meaning across social positions and contexts (Terry, Hayfield, Clarke, & Braun, 2017; Braun & Clarke, 2021). Rather than treating themes in isolation, the analysis considered how themes coexisted, reinforced, or shaped each other within individual narratives and across the dataset. This approach reflected the complex, layered nature of participants' experiences and perspectives. As others have noted, examining

intersections between themes can strengthen interpretive depth and better reflect the complexity of behaviour and therapeutic practice (Terry & Hayfield, 2021; Terry et al., 2017).

For example, previous research suggests that professional identity often intersects with the uptake of new practices, such as integrating physical activity into mental health care. A psychologist's belief in the value of physical activity may shape how it is incorporated into treatment, while institutional factors like organisational support or policy expectations can influence perceived confidence or legitimacy (Terry & Hayfield, 2021). Similarly, research with young people indicates that motivation to engage in physical activity is closely linked to relational trust, shared goal-setting, and perceived agency. These interpersonal factors interact with broader beliefs about physical activity and mental health, shaping whether it is viewed as relevant or achievable (Lubans et al., 2016; Rickwood et al., 2005). Recognising such intersections enables more layered interpretations, illustrating how individual, relational, and systemic influences may converge.

3.5.7.2 Relationships Between Themes. In addition to thematic overlaps, the analysis considered how certain themes influenced one another in indirect or sequential ways. These relationships reflect instances where one concept or experience may shape another, even without occurring in the same transcript segment or participant narrative. For example, limited organisational support may influence practitioners' perceived confidence and autonomy, which in turn affects their willingness to adopt practices such as integrating physical activity into psychological treatment (Aarons et al., 2011; Grol & Wensing, 2004).

In youth mental health contexts, systemic barriers such as limited service access, previous negative experiences, or the framing of recommendations, can affect a young person's sense of self-efficacy and engagement (O'Dea et al., 2019; Rickwood et al., 2005).

Attending to these relational dynamics enabled a more nuanced understanding of how influences may cascade across individual, relational, and systemic levels. This complements the intersectional focus by highlighting how themes not only coexist, but also reinforce or constrain one another in meaningful ways (Miles et al., 2013; Ryan & Bernard, 2003).

3.5.8 Integrating Thematic Analysis with the BCW

To support a second layer of interpretation, the themes developed through reflexive thematic analysis were mapped onto the BCW, using the COM-B model as a guiding framework. The analytic sequence was primarily inductive during initial coding and theme development, with abductive moves to consider theoretically plausible explanations, followed by a deductive, theory-informed mapping to COM-B. This process extended the initial inductive analysis by exploring how participants' experiences, perceptions, and reflections aligned with capability, opportunity, and motivation as key behavioural drivers. Rather than applying a rigid categorisation, the mapping involved iterative reflection to ensure that behavioural influences were considered within the nuanced and context-rich accounts provided by participants.

Themes were interpreted in relation to the COM-B domains by considering how issues of skill, confidence, or knowledge related to capability; how environmental or structural features such as service constraints and professional dynamics reflected opportunity; and how identity, attitudes, and affective responses spoke to motivational processes. This interpretive approach was informed by previous literature on the implementation of behaviour change strategies in psychological settings (e.g., Keyworth et al., 2020a; Michie et al., 2011; Nilsen, 2015), while remaining grounded in the data. In short: coding and themeing were inductive; explanatory sense-making drew on abductive reasoning;

and the final BCW/COM-B mapping constituted a transparent, deductive alignment of themes with behavioural mechanisms.

By integrating reflexive thematic analysis with BCW informed mapping, this thesis adopts an interpretive approach that connects participants' subjective accounts with broader systemic and behavioural influences. Rather than stopping at the identification of barriers and enablers, this synthesis supports the development of theoretically grounded strategies that can inform future efforts to embed physical activity into psychological practice.

3.6 Chapter Summary

This chapter outlined the theoretical, epistemological, and methodological foundations of the research. The TPB and the BCW were introduced as complementary frameworks for understanding how physical activity might be integrated into mental health care. The TPB informed the investigation of attitudes, beliefs, and intentions in the community survey, while the BCW guided interpretation of qualitative data, particularly in identifying behavioural and systemic influences across professional and client perspectives.

A pragmatic epistemological stance, incorporating constructivist and post-positivist elements, supported the use of mixed methods and justified the integration of qualitative and quantitative approaches. Each study built on the previous, contributing layered insights across community, client, and psychologist perspectives.

Reflexive thematic analysis, supported by grounded theory principles, was applied across the qualitative studies to identify and interpret themes. These themes were examined for their intersections and relationships, reflecting the complexity of behaviour and therapeutic context. Thematic findings were then mapped onto the BCW using the COM-B model to explore how capability, opportunity, and motivation may act as behavioural

determinants. This interpretive synthesis was used to identify potential strategies for supporting the integration of physical activity into routine care.

Together, these methodological decisions provided a coherent analytic structure that connects thematic insights to theoretical and practical considerations. The following chapters present the empirical findings, applying these frameworks to explore how physical activity is understood, experienced, and addressed within mental health care across clients, community members, and psychologists.

Chapter 4: Study 1 - Community Perspectives on Integrating Physical Activity into Psychological Care: A Cross-Sectional Survey

4.1 Introduction

Chapter 2 highlighted that despite growing evidence supporting physical activity as a therapeutic tool for improving mental health, its integration into routine psychological treatment remains limited. One contributing factor is the lack of clarity around how the public perceives psychologists as providers of physical activity support, especially in comparison to other health professionals. Understanding public attitudes toward this role is essential to inform efforts to embed physical activity guidance within psychological services.

Guided by behaviour-change theory, this study focuses on behaviour-specific beliefs as proximal determinants of intention. In the health domain, constructs such as attitudes toward the specific behaviour and perceived feasibility of engaging in the behaviour typically explain intention more strongly than broad dispositions (e.g., general help-seeking or mental-health literacy). Accordingly, the study examines how treatment-specific attitudes toward physical activity relate to intention when a psychologist recommends the strategy, and whether these proximal beliefs account for or attenuate associations between stigma and intention in cross-sectional models.

Because workforce implementation hinges on credible messengers, the study also assesses perceived provider appropriateness across psychologists, accredited exercise physiologists, general practitioners, and mental health nurses. Direct comparisons among these roles in this specific context are limited, so the analysis maps perceived role fit to inform service planning and brief recommendation practices.

In this study, stigma refers specifically to perceived public stigma toward receiving psychological help; mental health literacy reflects individuals' knowledge and beliefs about

mental health conditions and support options, while help-seeking attitudes refer to general openness toward engaging with psychological services. Together, these factors may shape how the public responds to the idea of physical activity being included as part of psychological treatment. Accordingly, the next section sets out the study aims and three research questions that operationalise this focus.

4.2 Research Aims and Questions

4.2.1 Aim

The aim of this study was to examine community members' intentions to engage in physical activity when recommended by psychologists, focusing on stigma, mental health literacy, help-seeking attitudes, and perceptions of health professionals.

4.2.2 Research Questions

1. To what extent do treatment-specific attitudes toward physical activity, stigma, mental health literacy, and general help-seeking orientations predict intentions to engage in a psychologist-recommended physical activity intervention?
2. Do attitudes toward physical activity statistically mediate (i.e., account for or attenuate) the bivariate associations of (a) stigma and (b) mental-health literacy with intentions to engage?
3. How do community perceptions of provider appropriateness for recommending physical activity compare across psychologists, accredited exercise physiologists, general practitioners, and mental health nurses?.

4.3 Method

As outlined in Section 3.2 (Ontology and Epistemology), the quantitative strand adopts a pragmatic epistemology with a post-positivist orientation. Guided by the Theory of Planned Behaviour, the survey operationalised attitudes, normative beliefs, and perceived behavioural control to model associations with intention at the population level. The objective was to estimate the direction and magnitude of associations under the stated model and measurement assumptions, while acknowledging the inferential limits inherent to a cross-sectional survey design. This positioning complements the interpretive strands that follow in later studies included in this thesis by providing a structured account of population-level tendencies relevant to psychological treatment.

Design. Study 1 used a cross-sectional online survey of Australian adults to estimate associations with intention to engage in physical activity as part of psychological treatment. Recruitment combined online and offline strategies via community networks and social media; data were collected on a secure web platform. assessed with the International Physical Activity Questionnaire - Short Form (IPAQ-SF); stigma assessed with the Stigma Scale for Receiving Psychological Help (SSRPH); mental-health literacy assessed with the Mental Health Literacy Scale (MHLS); general attitudes toward seeking psychological help assessed with the Attitudes Toward Seeking Professional Psychological Help - Short Form (ATSPPH-S); treatment acceptability of physical activity as a treatment option assessed with the Treatment Acceptability and Adherence Scale (TAAS); and perceived appropriateness/competence of key provider types (study-specific items). Analyses followed a pre-specified plan (descriptives, scale reliability, correlations, multivariable regression, mediation using PROCESS, and repeated-measures ANOVA for provider comparisons); full details appear in Sections 4.3.3–4.3.5.

4.3.1 Participant Recruitment

Recruitment utilised a combination of online and offline strategies. Online posts were disseminated via the investigator's social networks and public forums (e.g. Facebook, Twitter, Instagram, Reddit), and flyers and posters were distributed in selected community spaces (such as libraries, community centres, and local sporting facilities). The recruitment materials (study blurb and flyers) are available in Appendix A and Appendix B, respectively. This dual online and offline approach broadened the sample beyond typical social media users. However, individuals who respond to online recruitment or engage with community sporting venues may be more health-conscious or more inclined to reflect on physical activity. This may lead to an overrepresentation of favourable attitudes toward physical activity, which should be considered when interpreting the findings. Research suggests that physically active individuals may be more likely to engage in online health-related surveys (Curtis et al., 2020), and that online recruitment can introduce sampling biases by overrepresenting younger, more health-engaged participants (Vandelanotte et al., 2021).

Recruitment primarily targeted Australian residents and study materials described the topic in an Australian service and policy context. Formal residency verification was not undertaken; however, server-side IP information indicated that responses were submitted from within Australia, and findings are interpreted within the Australian context. Eligibility was restricted to adults aged 18 years or older. At survey entry, participants confirmed they were 18+ as part of providing informed consent, after which they proceeded to the questionnaire. Inclusion criteria were age ≥ 18 , residence in Australia, ability to complete the survey in English, and provision of informed consent. Exclusion criteria were incomplete key outcome items required for analysis, self-reported non-residency in Australia, or age under 18.

4.3.2 Participants

Study 1 used a cross-sectional online survey of Australian adults. The primary outcome was intention to engage in physical activity as part of psychological treatment. An a priori check in G*Power 3.1 (Faul et al., 2007) used $\alpha = .05$ and power = .80. For the hierarchical multiple regression predicting intention, a medium incremental effect ($f^2 = .15$) was specified for R^2 -increase tests, consistent with conventional benchmarks (Cohen, 1988, 1992) and typical belief–intention magnitudes in health behaviour research (Jones et al., 2005; Rhodes & Courneya, 2005). For the within-subject comparison of provider appropriateness (four providers), a medium effect ($f = .25$) was assumed for planned between-profession contrasts in a repeated-measures design (Cohen, 1988). In total, 308 individuals consented; after screening (see section 4.4.1), $N = 211$ were retained, exceeding the minimum sample sizes under these assumptions and supporting the planned regression, mediation, and provider-comparison analyses in a repeated-measures framework.

4.3.3 Measures

Demographics and Mental Health Treatment Experience Participants provided age, gender, education, relationship status, country of birth, and employment data. Three items (adapted from Bobevski et al., 2017) asked whether participants had sought mental/emotional health help, when, and from which provider (e.g., psychologist, GP, psychiatrist, counsellor, pastor, or other)

Current levels of physical activity. The International Physical Activity Questionnaire Short-Form (IPAQ-SF) was used to measure the current physical activity levels of participants. The 7-item scale provides estimates of self-reported vigorous-intensity activity, moderate intensity activity, walking, and sitting-time over a seven-day period. Total MET-minutes per week were calculated according to established guidelines (IPAQ, 2005).

Bouts greater than 3 hours were truncated before computing MET-minutes, consistent with scoring guidance. Although self-report measures may overestimate physical activity relative to objective measures (e.g. accelerometers; Lee et al., 2011), the IPAQ-SF was deemed most appropriate for this online sample. Scores on the IPAQ-SF have been shown to be a reliable and valid measure (Craig et al., 2003; Hagströmer et al., 2006).

Stigma. The 5-item self-report Stigma Scale for Receiving Psychological Help (SSRPH) (Komiya et al., 2000) measures perceived public stigma towards receiving psychological help. Items are rated on a 3-point Likert scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*), for example “It is advisable for a person to hide from people that he/she has seen a psychologist”. Total scores are the sum of all items (range 0- 15), where higher scores indicate greater perceptions of public stigma associated with receiving psychological treatment. Previous research has provided support for the psychometric properties of the scale including the factor structure, stability of scores over an 8-week period indicated high test-retest reliability (Pinto et al., 2015), and adequate internal consistency (Komiya et al., 2000). Cronbach’s α was .77 in the present study.

Mental health literacy Mental health literacy was assessed using the Mental Health Literacy Scale (MHLS; O'Connor & Casey, 2015), a 35-item self-report measure designed to assess a range of knowledge and beliefs about mental health. The scale includes items across several domains: ability to recognise disorders (8 items), knowledge of where to seek information (4 items), knowledge of risk factors and causes (2 items), knowledge of self-treatment (2 items), knowledge of professional help available (3 items), and attitudes that promote recognition or appropriate help-seeking behaviour (16 items).

Fifteen items are rated on a 4-point Likert-type scale according to perceived helpfulness (ranging from 1 = *very unhelpful* to 4 = *very helpful*), such as “How helpful do

you think it is to talk to a friend about mental health problems?” The remaining 20 items are rated on a 5-point Likert-type scale according to agreement or willingness (ranging from 1 = *strongly disagree* to 5 = *strongly agree* or *definitely unwilling* to *definitely willing*), such as “A mental illness is a sign of personal weakness.” Twelve items are reverse-scored, and total scores are calculated by summing all item responses, producing a possible range of 35 to 160, with higher scores indicating greater mental health literacy. The MHLS has demonstrated good internal consistency and test–retest reliability (O'Connor & Casey, 2015). Cronbach’s α for the current study was .71.

General Attitudes to Help Seeking The Attitudes Toward Seeking Professional Psychological Help- Short Form (Fischer & Farina, 1995) was used to assess individuals’ general attitudes toward seeking help for psychological problems. The scale consists of 10 items rated on a 4-point Likert scale ranging from 0 (*Disagree*) to 3 (*Agree*). A sample item is, “If I thought I was having a mental breakdown, my first thought would be to get professional attention.” Five negatively worded items are reverse-scored, and total scores are obtained by summing all items, resulting in a possible range of 0 to 30, with higher scores indicating more favourable attitudes toward seeking professional help.

The ATSPPH-S has demonstrated acceptable psychometric properties across diverse populations and has been used extensively in both Western and Eastern settings (Fischer & Farina, 1995; Nam et al., 2010; Razali & Najib, 2000; Sheikh & Furnham, 2000). In the current study, Cronbach’s α was .79 in the present study.

Attitudes Towards Physical Activity as a Treatment Option The 10-item Treatment Acceptability/Adherence Scale (TAAS) (Milosevic et al., 2015) was used to assess individual’s attitudes towards physical activity as a treatment option for mental health. The current research adapted the original version by including the statement “Imagine you were

seeking help for mental health condition and physical activity was suggested as part of your treatment” as an introduction to the scale. Items are rated on a 7-point Likert scale ranging from 1 (*Disagree strongly*) to 7 (*Agree strongly*) to assess the degree to which participants agree with a variety of statements about a given treatment. A sample item is, “I would prefer to try another type of psychological treatment instead of this one.”

Total scores were calculated by summing all item responses after reverse-scoring six negatively worded items. Possible scores range from 10 to 70, with higher scores indicating greater acceptability of the treatment and greater anticipated ability to adhere to it. The original TAAS has demonstrated good internal consistency (Milosevic et al., 2015), and Cronbach’s α in the current study was .88 in the present study.

Intentions to use Physical Activity for Mental Health. To assess intentions to use physical activity as a mental health treatment, a 7-item measure was developed for this research. Item development was based on Ajzen’s TPB (1985) and aligned with recommendations from Francis et al. (2004) suggesting that measures of generalised intentions should include multiple items rather than a single item.

Participants were presented with the following contextualising statement:

Psychologists may develop a treatment plan with their clients that includes implementing physical activity in mental health treatment. This may include goal setting, advice on how to incorporate physical activity outside of sessions, monitor your progress etc. Imagine you were seeing a psychologist for mental health concerns, and they suggested physical activity as part of your treatment plan.

Participants then rated seven statements on a 7-point Likert scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). “I would intend to use physical activity as a treatment for my mental health”; “I would plan to use physical activity as a treatment for my

mental health”; “I would expect to use physical activity as a treatment for my mental health”; “I would be willing to try physical activity as a treatment for my mental health”; “I would be determined to use physical activity as a treatment for my mental health”; “I would prioritise the use of physical activity as a treatment for my mental health”; “I would put in the effort to use physical activity as a treatment for my mental health.” Total scores were calculated by summing all items, resulting in a possible range from 7 to 49, with higher scores indicating greater intentions to use physical activity as a treatment for mental health. The Intentions scale showed excellent internal consistency ($\alpha = .90$). Convergent patterns were as expected: intentions correlated strongly and positively with acceptability of physical activity as treatment (TAAS), $r = .58, p < .001$; negatively with stigma (SSRPH), $r = -.20, p < .01$; and positively with attitudes to professional help (ATSPPH-S), $r = .18, p < .05$. Correlations with current physical activity (IPAQ-SF; $r = .13, ns$), mental health literacy (MHLS; $r = .07, ns$), and prior treatment experience ($r = .07, ns$) were small and non-significant, consistent with expectations for non-TPB constructs in a cross-sectional sample.

Comparison of Health Professionals. To inform implementation, we assessed lay perceptions of which provider types are appropriate (role/scope fit) and competent (perceived capability/training) to support physical activity within psychological treatment. These ratings index public acceptability and expectations; they are not judgements of formal scope of practice. A 6-item, provider-referenced matrix asked respondents to rate accredited exercise physiologists (AEPs), psychologists, general practitioners (GPs), and mental health nurses (MHNs) on parallel items. Four items captured role/utility judgements (appropriate, useful, expected, time-suitable) and two captured perceived capability (competent, able to provide). All items used 5-point Likert-type scales with matched anchors across providers

(1=*inappropriate, not useful, unexpected, not suitable, no ability, incompetent*) to 5 (*appropriate, very useful, expected, very suitable, high ability, competent*).

Items were summed within provider to yield a provider-specific composite ranging from 6 to 30 used for within-person comparisons across professions (see §4.3.5 Data Analysis). Internal consistency reliability was strong across providers, (with Cronbach's $\alpha = .87$ for AEPs, $\alpha = .82$ for psychologists, $\alpha = .82$ for GPs, and $\alpha = .84$ for MHNs) supporting use of the summed composites.

4.3.4 Procedure

Ethical approval was granted by the Victoria University Human Research Ethics Committee (HRE18-222). Data were collected during 2018. Participants accessed a Qualtrics survey (a secure web-based platform commonly used for academic research), read the participant information statement, provided consent, and then completed measures assessing demographics, physical activity, prior mental health treatment, intentions, professional comparisons, and the various psychosocial scales. Survey completion took approximately 15 minutes, and no incentive was provided.

4.3.5 Data Analysis

All statistical analyses were conducted using IBM SPSS (Version 25.0). Pearson's correlation analyses were performed to examine bivariate relationships among continuous variables. To assess the cross-sectional predictive value of stigma, mental health literacy, and help-seeking attitudes on intentions, a three-step hierarchical regression analysis was conducted. In Step 1, current physical activity levels and prior mental health treatment were entered as control variables. Step 2 introduced stigma, mental health literacy, and help-seeking attitudes as predictor variables, and Step 3 included attitudes toward physical activity to determine their additional predictive value. Mediation analyses were conducted using

Hayes' PROCESS macro (Model 4, 5000 resamples) to test whether attitudes toward physical activity as a treatment mediated the relationship between stigma, mental health literacy, and intentions. The hierarchical model evaluated block-wise increases in explained variance, consistent with the a priori assumption of a medium incremental effect ($f^2 = .15$).

Because each participant rated all four professions on the same six items, Profession was treated as a within-subject factor. Provider-specific perceived-performance composites (six items; range 6–30) were analysed using repeated-measures ANOVA. Sphericity was tested with Mauchly's test; where violated, Greenhouse–Geisser corrections were applied. Bonferroni-adjusted pairwise comparisons followed significant main effects. Effect sizes (e.g., R^2 , η^2_p) are reported where relevant. All inferential analyses used the final analytic sample derived after data screening (see 4.4.1).

4.4 Results

4.4.1 Data Screening

Of the 308 individuals who accessed the survey and consented, 75 were excluded due to having more than 30% missing data, leaving 233 participants. Little's MCAR test indicated that the remaining missing data (under 4%) were randomly distributed ($p = 1.00$), supporting the decision to retain cases with partial data. Cases with non-disclosed age were retained because eligibility (18+) was confirmed at consent. An independent-samples t -test showed no significant age difference between completers and non-completers, $t(181) = -1.19$, $p = .24$. A chi-square test also found no significant association between gender and completion status, $\chi^2(2, N = 267) = 0.96$, $p > .05$, suggesting minimal dropout bias. Box plots of physical activity responses flagged 22 outliers: 7 participants reported zero physical activity, and 15 reported extremely high values (exceeding 3 hours per day), which

fall outside IPAQ scoring recommendations. These outliers were removed, resulting in a final analytic sample of $N = 211$.

4.4.2 Participant Characteristics

Among the final analytic sample ($N = 211$), the mean age was 38.88 years ($SD = 10.49$), with ages ranging from 21 to 79. However, 63 participants declined to specify their age. The majority identified as female (73.5%), and 66.6% reported holding tertiary qualifications. Nearly half (48.1%) had received prior treatment for mental health problems, most commonly from psychologists (71.3%). Most participants were born in Australia (79.5%) and were currently employed (89.3%). Recruitment was conducted via convenience sampling through social media (e.g., Facebook, Twitter) and community channels over two months, precluding the calculation of a formal response rate.

To assess whether demographic factors may have confounded participants' prior exposure to mental health treatment – which could, in turn, influence attitudes or intentions – two comparisons were conducted. An independent-samples t test showed no significant age difference between participants with prior mental health treatment ($M = 37.94$, $SD = 10.02$, $n = 101$) and those without ($M = 39.77$, $SD = 10.80$, $n = 110$), $t(209) = -1.32$, $p = .19$. Similarly, a chi-square test found no significant association between gender and treatment history, $\chi^2(1, N = 207) = 0.27$, $p = .60$. These findings suggest that age and gender did not systematically influence the likelihood of having received treatment and are unlikely to confound subsequent analyses. Table 2 presents detailed demographic frequencies, recency of treatment, and main provider of care.

Table 2*Demographic Characteristics Shown as Frequencies and Percentages*

		Men		Women		Total	
		N	%	N	%	N	%
Total		52	25.1	155	74.9	208	100
Experience of mental health treatment	Yes	23	11.1	75	36.2	98	47.3
	No	29	14.0	80	38.6	109	52.7
Recency of treatment (<i>n</i> =98)	Currently	1	7.7	12	92.3	13	13.3
	Last 6 months	6	23.1	20	76.9	26	26.6
	Last 12 months	4	26.7	11	73.3	15	15.3
	Last 5 years	9	26.5	25	73.5	34	34.7
	Other	3	30.0	7	70.0	10	10.2
Provider of support (<i>n</i> =88)	Psychologist	14	21.9	50	78.1	64	72.7
	General Practitioner	1	16.7	5	83.3	6	6.8
	Psychiatrist	1	14.3	6	85.7	7	8.0
	Counsellor	3	33.3	6	66.7	9	10.2
	Pastor	0	0.0	0	0.0	0	0.0
	Other	1	50.0	1	50.0	2	2.2

Note. Categories such as “Pastor” denote sources of personal or community support (e.g., pastoral care, peer or family support) rather than regulated clinical treatment. Responses reflect perceived sources of support and do not imply endorsement, scope of practice, or regulatory status.

Current Levels of Physical Activity

Self-reported data from the IPAQ-SF indicated that the average physical activity level across the sample was 2,838.59 MET-minutes per week ($SD = 1,791.22$). Approximately 64% of participants reported activity levels exceeding 1,500 MET-minutes per week, consistent with moderate-to-high physical activity. In contrast, 11% reported activity levels below 600 MET-minutes per week, a commonly used threshold for identifying insufficient activity. There was no significant difference in total MET scores between men and women,

$t(205) = 0.37, p = .72$. On average, men reported 2,930.35 MET-minutes per week ($SD = 1,552.94$), while women reported 2,824.56 MET-minutes per week ($SD = 1,880.51$).

4.4.3 Descriptive Statistics and Correlations

Table 3 presents Pearson correlations among the key study variables. As hypothesised, greater intentions to use physical activity for mental health were significantly associated with more positive attitudes toward physical activity as a treatment, lower stigma, and more favourable help-seeking attitudes. Correlations among other variables reflected anticipated patterns, with stigma showing inverse associations with both mental health literacy and help-seeking attitudes.

Table 3

Correlation Matrix showing Pearson's r for Variables Related to Intentions to Engage in Physical Activity for Mental Health Treatment

Variable	1	2	3	4	5	6	7
1. Intentions	-						
2. Physical activity levels	.125	-					
3. Experience of treatment	.070	.099	-				
4. Stigma	-.200**	.124	.051	-			
5. Mental health literacy	.069	.005	-.190	-.376***	-		
6. Attitudes to professional help	.175*	-.046	-.264***	-.343***	.370***	-	
7. Attitudes to physical activity as a treatment	.584***	.160*	.262***	.260***	.127	.146*	-

Note. * $p < .05$ (two-tailed). ** $p < .01$ (two-tailed). *** $p < .001$ (two-tailed)

4.4.4 Predictors of Intentions

A three-step hierarchical multiple regression was conducted to examine whether stigma, mental health literacy, and help-seeking attitudes were associated with intentions to engage in physical activity for mental health treatment, after accounting for current physical activity levels and prior experience of psychological treatment (Research Question 1).

In Step 1, neither physical activity levels nor prior treatment experience significantly explained variation in intentions, $F(2, 165) = 1.60, p = .204$. Adding stigma, mental health literacy, and help-seeking attitudes in Step 2 significantly improved the model, $F(5, 162) = 3.09, p = .011$, explaining an additional 6.8% of the variance, $\Delta R^2 = .059, F(3, 162) = 4.02, p = .009$.

The final model, which included attitudes toward physical activity as a treatment option in Step 3, accounted for 35.9% of the variance in intentions, $F(6, 161) = 15.04, p < .001$, with the addition of this variable significantly improving model fit, $\Delta R^2 = .335, F(1, 161) = 68.34, p < .001$.

In the final model, only attitudes toward physical activity were uniquely associated with intentions, with more positive attitudes corresponding to stronger intentions. Other variables, including stigma, mental health literacy, and help-seeking attitudes, did not account for significant unique variance once attitudes toward physical activity were included. Summary statistics are presented in Table 4.

Table 4

Summary statistics for Hierarchical Multiple Regression Analysis Predicting Intentions to Engage in Physical Activity (PA) for Mental Health Treatment

Variable	<i>B</i>	<i>SE B</i>	β	<i>sr</i>²	<i>R</i>²	ΔR²
Step 1					.019	.007
Current levels of PA	0.00	0.00	.12	.01		
Experience of mental health	0.88	1.17	.06	.00		
Step 2					.087	.059
Current levels of PA	0.00	0.00	.15	.02		
Experience of mental health	1.50	1.19	.10	.01		
Stigma	-0.57	0.26	-.18*	.03		
Mental Health Literacy	-0.04	0.09	-.04	.00		
Attitudes to help seeking	0.25	0.13	.16	.02		
Step 3					.359	.335
Current levels of PA	0.00	0.00	.05	.00		
Experience of mental health	-1.13	1.05	-.08	.00		
Stigma	-0.15	0.23	-.05	.00		
Mental Health Literacy	-0.07	0.07	-.07	.00		
Attitudes to help seeking	0.12	0.11	.08	.01		
Attitudes to physical activity as treatment	0.46	0.06	.58**	.27		

Note. The dependant variable was Intentions. *sr*² is the squared semi-partial correlation. *n* =168; **p* < .05, ***p* < .001

4.4.5 Mediation Analyses

To test Hypothesis 2 (Research Question 2) mediation analysis was conducted to determine whether attitudes toward physical activity mediated the relationship between stigma and intentions and would also mediate the relationship between mental health literacy and intentions. Since mental health literacy was not significantly correlated with intentions, mediation analysis was conducted only for the stigma and intentions relationship.

Using Hayes' PROCESS macro (Model 4, 5,000 resamples), the indirect effect of stigma on intentions via attitudes toward physical activity was significant ($b = -0.43$, $SE = 0.15$, 95% CI: -0.74 to -0.16). Without the mediator, stigma negatively predicted intentions ($b = -0.63$, $SE = 0.26$, 95% CI: -1.10 to -0.17 , $p = .007$). When attitudes were included, the direct effect of stigma on intentions was no longer significant ($b = -0.20$, $SE = 0.21$, 95% CI: -0.62 to 0.22 , $p = .340$), indicating full mediation.

4.4.6 Comparison of Health Professionals

Perceived provider appropriateness and competence were summarised as a single composite per profession (six items; range 6–30; see §4.3.3), enabling within-person comparisons across accredited exercise physiologists, psychologists, general practitioners, and mental health nurses.

Descriptive statistics indicated that exercise physiologists received the highest mean performance ratings ($M = 26.60$, $SD = 3.80$), followed by psychologists ($M = 24.26$, $SD = 3.91$), mental health nurses ($M = 23.46$, $SD = 4.31$), and general practitioners ($M = 23.00$, $SD = 4.43$).

A repeated-measures analysis of variance (ANOVA) was conducted to examine differences across professions. Mauchly's test indicated a violation of sphericity ($p < .01$), so the degrees of freedom were corrected using the Greenhouse–Geisser estimate. The analysis

revealed a statistically significant difference in ratings across professional groups, $F(2.67, 589.09) = 65.71, p < .001, \eta^2_p = .24$, reflecting a large effect size.

Bonferroni-adjusted pairwise comparisons (adjusted $\alpha = .006$) indicated that exercise physiologists were rated significantly higher ($p < .001$) than all other professions.

Psychologists were also rated significantly higher than both general practitioners and mental health nurses ($p < .001$), while no significant difference between general practitioners and mental health nurses ($p = .761$).

4.4.7 Summary of Key Results

Overall, participants reported moderate-to-high intentions to adopt physical activity when recommended by a psychologist ($M = 39.80, SD = 4.92$). Attitudes toward physical activity as a treatment option showed the strongest association with intentions, explaining an additional 27% of variance after accounting for demographic and psychosocial factors. When this variable was included in the model, the previously significant negative association between stigma and intentions was no longer evident, suggesting that positive attitudes toward physical activity may attenuate the influence of stigma on behavioural intentions. Mental health literacy and help-seeking attitudes were not significantly associated with intentions once attitudes toward physical activity were included.

In relation to professional roles, exercise physiologists were perceived as most competent in delivering physical activity interventions for mental health, followed by psychologists. General practitioners and mental health nurses received comparable ratings, which were lower than those for both psychologists and exercise physiologists.

4.5 Discussion

This chapter examined community attitudes and behavioural intentions towards engaging in physical activity as a mental health treatment when recommended by

psychologists. These findings are situated in the Australian context and should be interpreted with reference to Australian service and policy settings. Findings demonstrated that treatment-specific attitudes were most strongly associated with intentions, and that this relationship was shaped more by perceived acceptability and effectiveness of physical activity than by general stigma or mental health literacy. These results align closely with the TPB (Ajzen, 1991, 2020), suggesting that encouraging engagement with physical activity may be more effective when clinicians focus on changing people's beliefs about the specific benefits and relevance of physical activity, rather than attempting to shift broad attitudes about mental health or treatment in general. Consistent with this inference, meta-analytic tests of the TPB indicate that attitudinal belief strength reliably explains intention variance across health behaviours (Armitage & Conner, 2001; Hagger et al., 2002; McEachan et al., 2011), and evidence specific to physical activity shows that targeting expected affective and clinical outcomes enhances intention formation beyond generic health messaging (Heissel et al., 2023; Kandola & Osborn, 2022; Rosenbaum et al., 2014). Framing physical activity as a credible, low-stigma adjunctive intervention within psychological care therefore maps onto belief-change mechanisms rather than broad attitude change, aligning with contemporary behaviour-change syntheses (Michie et al., 2011; Sheeran et al., 2016).

4.5.1 Interpretation of Key Findings

The regression analysis revealed that while stigma was initially associated with lower intentions to engage in physical activity, this effect was fully mediated by positive treatment-specific attitudes. This pattern accords with theory-consistent evidence that proximal, behaviour-specific beliefs frequently attenuate the unique contribution of distal constructs once entered in hierarchical models (Ajzen, 2020; Armitage & Conner, 2001; McEachan et al., 2011). It also resonates with work positioning physical activity as a comparatively low-stigma, empowering strategy in mental health care (Corrigan et al., 2014; Kandola & Osborn,

2022; Rosenbaum et al., 2014), wherein perceived usefulness, relevance, and feasibility within therapy predict intention more strongly than general literacy or help-seeking attitudes. In practice, highlighting concrete, therapy-aligned benefits (e.g., mood regulation, anxiety reduction, stress recovery, etc) may therefore be a more potent lever for intention than global anti-stigma or literacy campaigns alone (Heissel et al., 2023; Singh et al., 2023; Sheeran et al., 2016). This suggests that individuals holding stigmatising views of mental health care may still be open to physical activity interventions when they perceive them as helpful, familiar, or less clinical. The non-significant role of mental health literacy in the final model further supports the view that knowledge alone is insufficient to shift behaviour, as favourable beliefs about the activity itself are more influential. These patterns are consistent with convergent meta-analytic evidence that physical activity reduces depressive and anxiety symptoms across diverse groups, supporting its therapeutic relevance (Cooney et al., 2013; Schuch et al., 2016; Kandola et al., 2023; Solmi et al., 2025). These findings support the growing emphasis on reframing physical activity as a low-stigma, empowering intervention (Corrigan et al., 2014). In particular, promoting favourable beliefs about physical activity may be more effective in encouraging uptake than increasing general mental health literacy alone (Kandola & Osborn, 2022).

The study also explored comparative public perceptions of various health professionals. As expected, exercise physiologists were rated most competent for delivering physical activity interventions, but psychologists were rated second highest, indicating community support for their role in facilitating these interventions. This reflects a growing awareness of psychologists' expertise in behaviour change and motivation, even if structural barriers (e.g., funding models, professional scope) limit practical delivery. These findings echo calls for collaborative care models and expanded professional guidelines to support psychologist involvement (Happell et al., 2011; Radovic et al., 2017). That public preference

patterns favour professionally embedded advice aligns with evidence that brief, structured clinician recommendations can increase physical activity uptake, particularly when delivered routinely in care (Orrow et al., 2012; Pears et al., 2021).

4.5.2 Theoretical and Practical Implications

The findings offer empirical support for the TPB (Ajzen, 2020), particularly the idea that behaviour is shaped by intention, which in turn is driven by beliefs about the expected consequences of that behaviour. Meta-analytic tests of the TPB in health contexts similarly show that attitudes and perceived behavioural control are robust predictors of intention to engage in a specific behaviour (McEachan et al., 2011). In this study, attitudes toward physical activity as a treatment emerged as the strongest predictor of intention, exceeding the contribution of mental health literacy, general help-seeking attitudes, and stigma. This supports the TPB construct of behavioural beliefs, which refers to an individual's beliefs about the outcomes of engaging in a behaviour and the value they place on those outcomes.

Although the study did not explicitly measure subjective norms or perceived behavioural control, the findings suggest that these constructs may still play an indirect role. For instance, improving the way physical activity is presented within therapeutic settings may enhance perceived relevance and reduce barriers, which could influence individuals' sense of control and perceived support. The specificity of beliefs also appears critical. Even when general attitudes toward mental health care are neutral or negative, individuals may still intend to engage with a psychologist-recommended treatment if they believe the specific behaviour is effective and meaningful. This underscores TPB's emphasis on belief specificity and extends its application to novel treatment modalities in mental health care.

Importantly, the finding that attitudes toward physical activity accounted for variance in intention over and above stigma suggests that targeted belief-change interventions may

hold promise regardless of an individual's broader attitudes towards psychological help. While stigma was initially associated with lower intention, this relationship was no longer significant once attitudes toward physical activity were entered into the model. This suggests that clients who hold stigmatised views about mental health treatment may still be open to physical activity-based interventions if they perceive them as credible and personally relevant. In mental-health services, programs that pair recommendation with brief, routine support report superior engagement compared with advice alone (Firth et al., 2019; Rosenbaum et al., 2014).

From a practical perspective, these findings have clear implications for mental health professionals and public health messaging. Psychologists aiming to integrate physical activity into care may be more effective when they focus on shaping treatment-specific beliefs, rather than relying solely on anti-stigma campaigns or mental health literacy initiatives. Psychoeducation and other engagement strategies that emphasise collaboration, autonomy, and therapeutic relevance may help shift client beliefs, particularly when they address both the mental health benefits and accessibility of physical activity. For example, discussing physical activity in flexible terms, such as "movement" or "activity" that aligns with a client's lifestyle may lower the perceived threshold for engagement and improve perceived fit with treatment. Aligning activity options with client preferences and values is a consistent determinant of acceptability and adherence in mental-health contexts (Rebar et al., 2015; Mammen & Faulkner, 2013).

Public-facing campaigns and psychologist conversations should also emphasise the evidence-based mental health benefits of physical activity, such as mood improvement, reduced anxiety, and stress regulation. Brief interventions in routine care can function as effective cues to action when they clearly link physical activity to salient outcomes (Orrow et al., 2012; Pears et al., 2020). Messaging that makes these outcomes explicit, rather than

assuming people will generalise from physical health knowledge, may be particularly important. Psychoeducation grounded in current literature (Singh et al., 2023) may be useful in correcting misconceptions and reinforcing the relevance of physical activity for mental health support.

Together, these theoretical and practical insights highlight the value of focusing on treatment-specific belief formation within psychological care. Encouraging psychologists to support these belief shifts through routine conversation, education, and personalised strategies may be a key step toward more widespread adoption of physical activity within mental health treatment. However, sustained implementation is shaped by service- and system-level constraints, including training, role clarity and referral pathways, which are frequently reported barriers to routine use (Czosnek et al., 2021; Shrestha et al., 2021; Stubbs et al., 2024).

Taken together, these implications situate the present findings within the broader evidence base on translating physical activity into psychological treatment. This study extends existing evidence regarding the benefits of physical activity for mental health (e.g., Heissel et al., 2023; Rosenbaum et al., 2014) by focusing on factors that may help explain the gap between clinical efficacy and uptake in practice. Specifically, the findings contribute to implementation research by examining how treatment-specific attitudes are associated with individuals' willingness to engage when physical activity is recommended by psychologists. The results support growing recognition that bridging the evidence–practice gap may require greater emphasis on promoting specific beliefs about the acceptability and perceived benefit of interventions, rather than relying solely on general awareness or education.

4.5.3 Limitations and Future Directions

Future research could build on these associations by adopting longitudinal or experimental designs to examine whether intentionally targeting treatment-specific beliefs is associated with changes in behaviour over time. Qualitative investigations may also help illuminate why some individuals remain hesitant to incorporate physical activity into psychological care. Exploring concepts such as identity, perceived relevance, and cultural fit could offer deeper insight into the mechanisms that shape openness to behaviour change and reveal strategies for increasing alignment between interventions and client needs. In addition, the use of objective physical activity measures such as accelerometry would help reduce reliance on self-reported data and improve the validity of future findings (e.g., Prince et al., 2008)

It is worth noting that the sample included a relatively high proportion of participants with tertiary education and prior exposure to mental health services, which may have influenced intention scores by reflecting greater familiarity with psychologists or pre-existing openness to a broader range of treatment strategies. The non-significant role of general help-seeking attitudes, once treatment-specific beliefs were considered, also warrants further exploration. One interpretation is that general willingness to seek psychological support may not be strongly linked to interest in a particular recommendation such as physical activity. For example, a person who is ambivalent about traditional therapy might still consider physical activity as a more familiar, less clinical, and potentially less stigmatising option. This possibility aligns with emerging views that physical activity may serve as a lower-barrier entry point into psychological care for individuals who are reluctant to engage with conventional services. Future research could examine whether such recommendations promote initial engagement among populations underrepresented in mental health services.

4.6 Chapter Summary

This chapter examined community attitudes and intentions regarding the use of physical activity as part of mental health care, particularly when recommended by psychologists. The findings indicated that treatment-specific attitudes were the strongest correlates of intention, accounting for a large proportion of explained variance and attenuating the negative association between stigma and willingness to engage. In contrast, general help-seeking beliefs and mental health literacy contributed little additional explanatory value once beliefs about physical activity as a treatment were considered.

The study also compared perceptions of different health professionals and found that, although exercise physiologists received the highest ratings, psychologists were also viewed positively in terms of their appropriateness and suitability to recommend physical activity. These findings highlight the potential for psychologists to advocate for and support the use of physical activity within therapeutic care. Chapter 5 builds on this by examining how physical activity is experienced within youth mental health services from young people's perspectives.

Chapter 5: Study 2 - Client Experience of Integrating Physical Activity into Psychological Care: A Qualitative Study

5.1 Introduction

Following the examination of community attitudes in Chapter 4, this chapter explores how young people personally experienced the integration of physical activity into their mental health care, offering insights into the acceptability and impact of such approaches from the client perspective. While substantial evidence, including recent umbrella and meta-analytic reviews, supports the role of physical activity in improving mental health outcomes (Heissel et al., 2023; Singh et al., 2023), research has primarily focused on efficacy trials and clinical outcomes, with limited exploration of how clients themselves experience such interventions in therapeutic settings. Understanding client perspectives is critical to ensuring that physical activity can be meaningfully and sustainably integrated into psychological treatment.

This chapter addresses this gap by investigating the lived experiences of young people who participated in a physical activity intervention as part of their routine care through youth mental health services. Adolescence and early adulthood are key periods for intervention, as most mental health conditions emerge during this time (Patton et al., 2016; Sawyer et al., 2012). However, much of the existing evidence for physical activity in youth mental health treatment has been derived from controlled trials led by exercise professionals, with limited insights into how such strategies are experienced when delivered within community-based services by mental health clinicians (Lubans et al., 2016; Czosnek et al., 2021; Shrestha et al., 2021).

The study explores how clients perceived, engaged with, and made sense of physical activity during their treatment, and how these experiences were shaped by individual, relational, and contextual factors. Rather than evaluating efficacy outcomes, the focus here is

on how physical activity is encountered, supported, and embedded within everyday therapeutic environments.

By centring the client experience, this chapter contributes to a deeper understanding of how physical activity can be integrated into psychological treatment in ways that are relevant, acceptable, and aligned with client needs and therapeutic relationships.

5.2 Research Context: The IMPACT Trial

This study was conducted as a qualitative sub-study within the broader IMPACT trial (Improving Mood with Physical Activity), a two-arm, cluster-randomised controlled trial designed to evaluate a physical activity behaviour change intervention embedded within routine youth mental health care. The IMPACT trial was based in six headspace centres across Australia (see 5.2.1). While the broader trial focused on clinical outcomes, and those results had not been published at the time of writing, this thesis reports an independently conducted qualitative investigation. With approval from the lead investigators, a subgroup of young people from the physical activity arm of the trial was invited to participate in semi-structured interviews. These interviews were conducted independently of the trial's main outcomes to explore participants' lived experiences of receiving a physical activity intervention within routine clinical care. This qualitative lens adds important depth to understanding how the intervention was perceived, integrated, and sustained in routine mental health care settings.

5.2.1 Setting

Headspace is a national network of youth mental health services in Australia and serves as the clinical service platform of the National Youth Mental Health Foundation. These centres are designed as a 'one-stop shop' for young people aged 12–25 years, offering a broad range of support services. Care is delivered by multidisciplinary teams comprising

general practitioners, psychologists, psychiatrists, youth workers, and allied health professionals, and includes psychological treatment, general health care, and vocational and educational support (McGorry et al., 2007; Rickwood et al., 2014).

5.2.2 Participants

Eligible participants were help-seeking young people aged 12–25 years who met clinical criteria, namely moderate-to-severe depressive symptoms as assessed by the *Quick Inventory of Depressive Symptomatology – Adolescent version, clinician-rated* (QIDS-A17-C). This tool assesses the core symptom domains for a diagnosis of Major Depressive Episode (MDE) based on DSM criteria (Haley et al., 2023). All participants were receiving care under a Mental Health Treatment Plan. Exclusion criteria included the presence of a psychotic disorder, an eating disorder, physical limitations preventing safe physical activity, or already meeting Australian physical activity guidelines. Full details are provided in [Appendix C](#).

5.2.3 Procedure and Ethics

Ethical approval for the IMPACT trial was obtained from the Human Research Ethics Committee at the University of Melbourne (approval number: 1442228.16), with additional support provided by headspace National Office. The current researcher was listed as a member of the research team under this approval and conducted the follow-up interviews as part of the broader trial protocol. Mature-minor capacity was assessed by the treating service in line with the approved protocol. The research team then obtained consent or assent accordingly: participants aged 18 years and over provided their own consent; participants aged 15 to 17 provided their own consent where assessed as mature minors, otherwise provided assent with parental or guardian consent; participants under 15 provided assent with parental or guardian consent. The trial tested two conditions; both delivered within the

routine care (psychological treatment, most commonly cognitive behavioural therapy) at participating headspace centres:

1. A physical activity intervention, based on behavioural activation principles and designed to support increased movement through personalised goal setting and clinician support.
2. A psychoeducation condition, in which participants received general information about physical activity alongside their usual care.

Allied health professionals, such as psychologists and youth workers, delivered the physical activity intervention over a maximum of 10 sessions. Clinicians received training in behaviour change techniques aligned with a behavioural activation framework, ensuring delivery was both evidence-based and adaptable to client needs. In this thesis, behavioural activation is a structured, evidence-based approach that reduces avoidance and systematically increases engagement in positively reinforcing, value-consistent activities to improve mood and functioning (Hopko et al., 2003; Richards, 2018; Pearce et al., 2022).

For the current study, a qualitative sub-study of the IMPACT trial, only participants from the physical activity arm who had provided prior consent to be contacted for follow-up research were invited to participate in semi-structured interviews. This component focused on exploring their experiences of engaging in physical activity as part of their mental health care.

5.3 Research Aims and Questions

5.3.1 Aim

This study aimed to explore the lived experiences of young people who received a physical activity intervention within a clinical trial as part of their mental health treatment.

The study focused on three key areas: (1) the perceived psychological and physical benefits of physical activity, along with the barriers to sustained engagement; (2) the role and perceived effectiveness of clinician-facilitated strategies in supporting engagement in physical activity; and (3) the influence of individual preferences and social contexts on the acceptability and uptake of physical activity during psychological treatment.

5.3.2 Research Questions

1. How do young people perceive and experience physical activity as part of their mental health treatment?
2. What barriers and facilitators influence young people's sustained engagement with physical activity?
3. What role do clinicians play in supporting young people's engagement with physical activity?

5.4 Method

Design. Study 2 used an interview-based qualitative design to examine young people's experiences of a physical activity intervention delivered within routine youth mental health services. Following the IMPACT trial, individuals in the physical activity arm who consented to re-contact were invited to participate in semi-structured telephone interviews. Analysis used reflexive thematic analysis; the Behaviour Change Wheel was applied interpretively to relate themes to feasible intervention functions and policy levers. See Sections 5.4.1–5.4.3 for recruitment, data collection, and analysis details; reflexivity is addressed in 5.4.4.

5.4.1 Design and Recruitment

An interview-based qualitative design was utilised to gain an in-depth understanding of young people's experiences with the physical activity intervention. Following completion of the IMPACT trial, the student researcher received a list of participants from the physical activity arm who had previously consented to re-contact. Eligible participants were invited to take part in semi-structured telephone interviews. The contact list was not ordered by location or intervention start date; invitations proceeded in a quasi-random sequence shaped by availability responsiveness. Up to three contact attempts were made per individual, and those who declined or did not respond were replaced by another eligible participant until the target sample was reached.

Consistent with Section 3.2, this qualitative strand adopts a relational–constructivist stance within a pragmatic frame, using semi-structured interviews and reflexive thematic analysis to generate context-sensitive interpretations, with the Behaviour Change Wheel applied interpretively to relate themes to feasible intervention functions and policy levers (see also Section 5.4.4 for reflexivity and positionality).

Inclusion criteria were: participation in the IMPACT trial physical activity arm; prior consent to re-contact; telephone access and ability to participate in English; and capacity to provide verbal consent. Exclusion criteria were: withdrawal from the trial or re-contact list; three unsuccessful contact attempts; active risk identified at screening that precluded interview; or inability to secure a private space for a telephone interview.

5.4.1.1 Sample Size and Data Adequacy Recruitment concluded when the dataset was judged adequate to address the research aims, consistent with reflexive thematic analysis' emphasis on analytic depth rather than saturation (Braun & Clarke, 2019). This point was observed after coding and reviewing approximately ten interviews, at which time

recurring themes, such as the perceived benefits, barriers, and clinician strategies were consistently reported.

Although 13 interviews were completed, the recruitment and scheduling process required persistence. Many young people did not respond to initial contact, and several rescheduled their interviews multiple times. These logistical challenges may reflect characteristics of those who ultimately participated, potentially favouring individuals who were more organised, more engaged with services, or more willing to reflect on their experiences.

On average, interviews lasted approximately 15 minutes (range 10–30 minutes), a duration consistent with prior headspace qualitative procedures for access and engagement studies involving young people (Rickwood et al., 2015, p. 156). Durations were shaped by the level of detail each participant chose to share. Some provided focused responses, while others offered more extensive personal reflections. The decision to conclude recruitment was guided by the repetition of core themes and the absence of new insights in later interviews, indicating analytic adequacy for meaningful thematic analysis (Braun & Clarke, 2019).

5.4.2 Data Collection

Semi-structured interviews were conducted via telephone to maximise accessibility across regions. Prior to each interview, verbal information about the study was provided, and verbal consent was obtained in addition to the original trial consent. Each participant received a \$20 reimbursement for their time. Telephone interviews increased accessibility (scheduling flexibility and inclusion of participants across regions) and privacy (no shared clinic spaces) but constrained non-verbal cues and required additional rapport-building; these limitations were mitigated through extended warm-up, explicit verbal check-backs, and reflective summaries during the interview.

The interview schedule explored a range of topics, including participants' perceptions of how physical activity influenced their mental health and well-being, specific techniques or approaches that facilitated or hindered their engagement, and the role of mental health clinicians in supporting physical activity (see [Appendix D](#) for the complete interview schedule). In line with site conventions and to protect confidentiality, "mental health clinician" was used as a neutral umbrella term in prompts; the analytic focus of this study is psychologists' practice, and participants did not refer to other clinician types in interviews. All interviews were audio-recorded using a Dictaphone and transcribed verbatim, allowing for detailed analysis of participants' language and phrasing to support nuanced interpretation in line with the study's reflexive thematic approach.

5.4.3 Data Processing and Analysis

As outlined in Chapter 3, this study used reflexive thematic analysis (Braun & Clarke, 2006, 2021), with limited, pragmatic organising steps to relate codes and categories where useful. Interview data were analysed in NVivo 15 following Braun and Clarke's six-phase process. Coding was iterative and reflexive, and relationships among themes, including conceptual overlaps and cross-influences, were examined. Themes were then interpreted using the Behaviour Change Wheel to identify barriers and enablers to physical activity engagement and to specify relevant intervention functions and policy categories (Michie et al., 2011). Consistent with Chapter 3 procedures, trustworthiness was supported through reflexive journaling and memos, an audit trail of analytic decisions, peer-debrief/"critical friend" meetings, thick, contextualised quotation to evidence claims, deliberate attention to boundary/negative cases, and an adequacy argument based on information power rather than "saturation" (see 3.4.5–3.4.6; Braun & Clarke, 2021; Finlay, 2002; Lincoln & Guba, 1985; Tracy, 2010).

5.4.4 Reflexivity and Positionality

Situated within a relational–constructivist ontology and a pragmatic epistemology (Section 3.2), reflexivity in this study focused on how the researcher’s positioning shaped the production and interpretation of knowledge. The student researcher’s prior work with adolescents in private practice and advocacy for physical activity in mental health care may have oriented attention toward acceptability and perceived benefits. To mitigate this, the interview guide explicitly invited divergent and non-uptake experiences, and analysis incorporated negative-case consideration. Memos were used to reflect on points where theoretical language (e.g., BCW terms) might have shaped interpretation, with attention to keeping coding grounded in participants’ accounts. An audit trail documented shifts in interpretive focus across coding cycles, and peer debriefs with supervisors were used to test alternative readings and examine the influence of disciplinary assumptions. Reflexive thematic analysis treated themes as analytic outputs rather than discovered entities, with credibility supported through transparency of decisions, attention to context, and consistency with the stated philosophical stance.

5.5 Results

5.5.1 Demographics

Thirteen participants took part in the study (10 women, 3 men), ranging in age from 13 to 23 years ($M = 17.5$). Most participants resided in South Australia or New South Wales, with none located in Victoria. This is reflected of the higher recruitment rates to the IMPACT study from headspace centres located in these states. The gender composition of this sample also aligns with the broader IMPACT trial, in which approximately 75% of participants identified as women. Table 5 provides an overview of participant demographics, including general location and interview length.

Table 5*Participant Demographics, Location and Interview Length*

Participant ID	Age (years)	Gender	Location	Interview Length (mins)
Participant 1	23	Woman	New South Wales	17.48
Participant 2	16	Woman	South Australia	20.48
Participant 3	20	Man	Queensland	10.42
Participant 4	23	Woman	South Australia	13.34
Participant 5	15	Woman	South Australia	13.28
Participant 6	19	Woman	New South Wales	11.01
Participant 7	19	Woman	South Australia	12.04
Participant 8	17	Man	South Australia	27.34
Participant 9	16	Woman	South Australia	23.47
Participant 10	13	Woman	South Australia	10.46
Participant 11	16	Man	South Australia	15.03
Participant 12	17	Woman	New South Wales	12.41
Participant 13	14	Woman	South Australia	10.19

5.5.2 Thematic Analysis

Reflexive thematic analysis generated six closely connected themes. The following section outlines each theme, highlighting how participants described their experiences of engaging in physical activity within the context of mental health care. The relationships and points of intersection between these themes are explored further in Section 5.5.3.

Theme 1: Perceived Benefits of Physical Activity Participants described a wide range of benefits associated with engaging in physical activity, spanning both physical and psychological domains. Frequently cited outcomes included improvements in mood, increased energy, and a greater sense of accomplishment, reflecting the interplay between physical and mental wellbeing. Enhanced self-esteem was frequently mentioned, with several participants linking progress in fitness to a broader sense of personal capability. As one participant explained, exercising “gave me more energy to get up and do things ... I felt

better about myself each time” (Participant 2), illustrating how physical activity can foster a stronger sense of control and self-efficacy in daily life.

Participants also emphasised psychological shifts such as stress relief, improved mental clarity, and a move from rumination to solution-focused thinking. For example, Participant 13 noted “cleared my head a lot more ... I had more time to think about solutions instead of problems”. Physical health improvements such as increased fitness, weight management, and reduced sedentary behaviour were also reported. In some cases, social connectedness emerged as a benefit, with physical activity offering opportunities for companionship and shared experiences.

Theme 2: Perceived Changes in Physical Activity Levels This theme captures the progression in participants’ physical activity levels over the course of the study, illustrating how many transitioned from largely sedentary lifestyles to more active routines. Although some participants engaged in low to moderate activity prior to treatment, most described a gradual increase in physical activity following clinician encouragement or personal realisation that movement could be beneficial. Reported changes ranged from brief daily walks to structured exercise classes (e.g., yoga, Pilates). Notably, these shifts were rarely instantaneous; rather, participants spoke of gradual increments such as moving from “doing nothing” to taking regular 15-minute walks, and eventually joining a gym or sports club, over the course of their treatment period.

Despite starting from various baseline positions in terms of engagement in physical activity, the majority noted tangible increases in their activity. Small steps like walking a dog, or opting to ride a bike, often served as gateways to more substantial commitments, such as joining new sports teams or attending daily Pilates sessions. One participant recalled, “I was doing nothing at first ... then I started doing Pilates every day and walking every day”

(Participant 1). Others described increasing either the duration or intensity of their activity over time. For instance, one participant noted starting with short walks and gradually building to longer or more brisk walks: “I’d do a short walk around the block, and then that turned into longer walks or sometimes a jog” (Participant 8). These narratives reflect gradual habit formation, supported by a combination of intrinsic motivation and external encouragement.

Theme 3: Perceived Barriers to Physical Activity Despite recognising benefits, participants identified several barriers concentrated in COM-B: Physical Opportunity (time, transport, cost; disrupted routines) and Motivation (low energy, mood shifts), which together interrupted or prevented sustained activity. One participant shared: “When you have those down days, it’s really hard to do anything, let alone exercise” (Participant 9). External obstacles such as school or work demands, unsafe environments (e.g., lack of lighting or footpaths), or inclement weather, were also common. For example, Participant 10 explained “Sometimes, I wouldn’t go for a walk because I was scared ... but if it was daylight, I’d just push myself to do it”. Furthermore, physical limitations, including injuries and chronic pain, constrained some individuals’ physical activity options. These findings highlight the interplay between psychological and contextual barriers that can interrupt or prevent sustained physical activity.

Theme 4: Enablers of Physical Activity Participants identified a range of factors that enabled and supported their engagement in physical activity. Social support was frequently cited as a crucial enabler, with some participants attributing their success to exercising alongside friends, family members, or even pets. One participant explained, “If I didn’t feel like going, my sister would say, ‘Come on, we’ll do 20 minutes together,’ and that’s what got me outside” (Participant 2). This companionship appeared to enhance

motivation and enjoyment, while structured group activities such as joining a local sports team or attending fitness classes, provided additional accountability and fun.

Other enablers included accessible environments (e.g., local parks), enjoyment of specific activities, and personal motivation. Some participants cited a sense of pride or achievement as contributing to sustained engagement. As one noted, “I just woke up one day and went, ‘Today is the day’ ... once I started, I felt so good about it” (Participant 1). These enablers often helped counteract the barriers discussed in Theme 3.

Theme 5: Clinician-Facilitated Strategies Clinician support was widely reported as influential in establishing or maintaining activity routines. Participants described strategies initiated or guided by their clinician such as goal setting, behavioural activation, activity scheduling, and regular check-ins. For example, “We set up a little sheet of paper for my activity goals, and I’d try beating the last number of steps each time” (Participant 9).

Clinicians were also noted for providing encouragement, personalising recommendations, and helping clients troubleshoot barriers. These strategies appeared to strengthen motivation and reinforce the idea that physical activity was an integral, rather than incidental, component of care.

An important aspect of these clinician-facilitated strategies was the normalisation of setbacks and the reinforcement of small achievements. As one participant reported, “He reminded me that any bit of exercise was good, even if it was just walking the dog for ten minutes” (Participant 13). Such affirmations also contributed to signalling that physical activity constituted a key component of mental health care, rather than a peripheral consideration. Additionally, clinicians provided education on different types of physical activities and offered personalised recommendations based on participants’ preferences,

abilities, and health conditions, ensuring that physical activity plans were both feasible and sustainable.

Theme 6: Clinician-Directed Session Integration The timing and positioning of physical activity discussions within treatment sessions varied. Some participants described consistent and early integration, which reinforced the importance of movement. “They brought it up in the beginning, so it never felt like an afterthought” (Participant 8). By positioning physical activity as a recurring agenda item, clinicians reinforced its importance and helped participants to maintain momentum from week to week.

However, the extent of integration varied. Several participants felt the topic was “tacked on” near the end of sessions, overshadowed by “bigger” concerns such as anxiety or work troubles. One participant recounted, “We’d talk about my anxiety or work troubles for most of the session, then quickly switch to ‘Have you walked this week?’ at the end. It felt disjointed” (Participant 3). These responses suggest that embedding physical activity within the therapeutic conversation, rather than treating it as an add-on, may improve uptake and alignment with mental health goals.

Together, these six themes reflect the multifaceted ways in which young people experienced physical activity as part of their mental health care. Consistent with reflexive thematic analysis, the narrative focuses on the themes. Second and first-order codes are provided for transparency and evidencing and are not exhaustively discussed in the text. Table 6 presents the overarching themes identified in the reflexive thematic analysis, alongside second- and first-order codes and illustrative quotes that reflect the lived experiences of young people engaging in physical activity as part of their mental health treatment.

Table 6

Themes, Codes, and Illustrative Quotes from Interviews with Young People Who Participated in the Physical Activity Intervention

Theme	Second-order code	First-order code	Illustrative quotes
Perceived Benefits of Physical Activity	Mental health improvements	Connecting physical activity with positive mental health outcomes	"Physical activity gave me a sense of accomplishment, I guess. Something to be proud of as well as bettering my self-image to increase my self-esteem as well." (Participant 1) "When I started doing more exercise ... I felt like I was actually accomplishing something, and it lifted me up for the rest of the day." (Participant 2)
		Sense of control	Experiencing greater mental clarity and control over emotional responses "It cleared my head a lot more ... I had more time to think about solutions instead of problems." (Participant 13)
		Initial openness to intervention	"I would never even considered it before they mentioned the study to me. Yeah." (Participant 1)
		Client belief in physical–mental health connection	"I think physical and mental health go together... if you're not mentally feeling well, you can't physically feel well." (Participant 2)
Perceived Changes in Physical Activity Levels	Increase in activity levels	Moving from sedentary to regular movement	"I was doing nothing at first. Then I started Pilates every day and walking every day." (Participant 1)
	Gradual evolution	Small steps becoming long-term habits	"I'd do short walks, then one day it was a whole kilometre ... it just kind of grew from there." (Participant 8)
	Reduction in sedentary time	Decreasing time spent inactive	"Before, I just kind of didn't really go outside that much, because depression and stuff, so stayed home most of the time. And now, after the whole study, I go out..." (Participant 2)
	Incorporating activity into daily routines	Active transport, walking or cycling into daily routines	"I started physical activity that helped me be more energetic throughout the day to not just sitting on my phone." (Participant 5)

Theme	Second-order code	First-order code	Illustrative quotes
Perceived Barriers to Physical Activity	Motivation and mood	Mood-related limitations	"When you have those down days, it's really hard to do anything, let alone exercise." (Participant 9)
	Work/study commitments	Time constraints from competing demands	"Balancing school and work life, especially now that I've obviously sort of finished school and I'm actually in full-time work." (Participant 8)
	Environmental factors	Unsafe areas, poor weather	"I lived in a pretty rough neighbourhood ... I didn't want to walk at night." (Participant 10)
Enablers of Physical Activity	Social support	Friends, family, pets	"I started off by myself, and then once I joined the gym, my sister was already going, so now, I go with her, and now I have a group of girls that I go with." (Participant 1)
		Walking or exercising together	"I just woke up one day and said, 'Mum, come with me. Let's go for a walk.' She was happy to do it." (Participant 1)
	Motivational drivers	Feeling energised	"I actually liked skipping around the block ... it was weird but fun." (Participant 9)
	Access to resources	Safe paths, local gyms	"I have a park nearby, and that really made it easier to just walk out and do something." (Participant 3)
Clinician-Facilitated Strategies	Support and encouragement	Goal setting	"She asked me what my schedule was between work and everything, and then so she helped me out with that. So she really helped me set schedules and times to do the activities or at least whenever I had time." (Participant 5)
		Overcoming challenges with specific plans	"We sort of discussed in detail how we would overcome certain challenges and achieve certain goals." (Participant 8)
	Behavioural activation	Planning movement in weekly routine	"She really helped me set schedules and times to do the activities or at least whenever I had time." (Participant 5)
	Behavioural scheduling	Accountability through follow-up	Checking in

Theme	Second-order code	First-order code	Illustrative quotes
	Motivation	Boosting energy and mood	<p>“Every fortnight, we’d talk about what I’d done and where I got stuck.” (Participant 8)</p> <p>"Physical activity probably gave me more energy to get up and do things and the more I did the better I felt." (Participant 1)</p>
Clinician-Directed Session Integration	Timing of physical activity discussions	Positioning physical activity in treatment - variance in timing	<p>"Yeah, it felt like a bit of a jump between sort of talking about how my week was in terms of mental health, and then sort of pulling right back out to then jumping into fitness." (Participant 8)</p> <p>“They brought it up in the beginning, so it never felt like an afterthought.” (Participant 8)</p>
	Therapeutic emphasis and consistency	Perceived as secondary or rushed topic	<p>"It felt a little bit out of place, honestly." (Participant 3)</p> <p>“We’d talk about all my stressors first, then, last minute, be like, ‘Did you walk this week?’ It felt kinda tacked on.” (Participant 3)</p>
		Affirming physical activity as core to mental health	<p>“Having them say it’s part of mental health was huge ... it wasn’t just an extra chore.” (Participant 2)</p>

5.5.3 Theme Intersections and Relationships

This section makes integration explicit by examining intersections and relationships among themes, consistent with reflexive thematic analysis guidance to attend to patterned meaning across themes (Braun & Clarke, 2021). The six themes identified in this study were not experienced in isolation; rather, they interacted in dynamic and meaningful ways. Participants' experiences of physical activity were shaped by overlapping influences, including internal, social, and structural factors that converged across multiple themes. This section explores how key themes intersected and how these intersections informed engagement with physical activity.

5.5.3.1 Theme Overlaps: Exploring Intersectionality

Benefits and Barriers (Themes 1 and 3): Participants frequently recognised the psychological and physical benefits of physical activity, including improved mood, energy, and self-esteem. However, they also reported that these benefits were difficult to maintain in the face of barriers such as during periods of low motivation, fatigue, or poor mental health. As one participant explained, “Some days I’d just feel too down to go, even though I know it helps” (Participant 3). This highlights a common tension between intention and action, reinforcing the importance of addressing both enablers and inhibitors to sustain engagement.

Changes and Enablers (Themes 2 and 4): Increases in activity were often tied to the presence of strong enablers such as social support, environmental accessibility, and intrinsic enjoyment. Participants described how friends, family, pets, or team sports helped transform physical activity from a solitary task into a more sustainable habit. For instance, “doing it with a friend kept me going” (Participant 2) illustrates how social contexts facilitated the progression from minimal to regular activity.

Clinician Strategies and Session Integration (Themes 5 and 6): Themes 5 and 6 address the clinician's role from two perspectives: what strategies were used and how they were positioned within treatment. Goal setting, encouragement, and behavioural activation (Theme 5) were seen as helpful only when they were consistently and meaningfully integrated into the session structure (Theme 6). For example, participants noted that physical activity felt more important when discussed early in sessions or linked to broader therapeutic goals, whereas rushed or late-session mentions were perceived as less effective: "Yeah, it felt like a bit of a jump between sort of talking about how my week was in terms of mental health, and then sort of pulling right back out to then jumping into fitness." (Participant 8)

5.5.3.2 Theme Dynamics: Exploring Relationships.

Benefits, Barriers, and Clinician Influence. The interplay between Perceived Benefits (Theme 1) and Perceived Barriers (Theme 3) directly influences the extent to which clinicians can intervene effectively (Themes 5 and 6). When participants recognised physical activity as crucial for mood regulation yet felt blocked by low motivation, targeted clinician strategies such as collaborative discussion, values-based exploration, or goal-oriented dialogue helped them push past ambivalence. This often required dedicated time in session to align physical activity recommendations with individual barriers.

Sustaining Changes Through Enablers and Session Integration. Participants who reported sustaining Perceived Changes in Physical Activity (Theme 2) typically cited strong Enablers (Theme 4) (e.g., family involvement, self-driven motivation) combined with explicit Clinician-Facilitated Strategies (Theme 5). One participant remarked, "Having actual check-ins every week made me keep the walking routine; I had to report back" (Participant 8). Effective Session Integration (Theme 6) thus reinforced those enablers, ensuring physical activity was not a fleeting recommendation but a consistent component of psychological treatment.

Interaction Between Barriers and Enablers in Clinical Contexts. Finally, Barriers (Theme 3) and Enablers (Theme 4) were frequently experienced together, with participants describing how personal or environmental obstacles were offset by tailored solutions. For instance, a participant living in an unsafe area adjusted their walking schedule to daylight hours and used supportive family involvement to remain active. This interplay highlights the need for flexible, context-responsive interventions that acknowledge the real-life constraints faced by young people. Structured clinical support ranged from self-monitoring worksheets to psychoeducation on smaller “entry-level” physical activities.

Additionally, some participants also expressed a desire for more detailed guidance on selecting or modifying specific activities, especially if they had unique health considerations or limited knowledge of safe activity progressions.

5.5.4 Thematic Summary

This synthesis draws the six themes together, foregrounding their convergences and divergences, and prepares the ground for the subsequent COM-B/BCW interpretation (Braun & Clarke, 2021). Together, the six themes and their interactions offer a nuanced account of how young people experience physical activity when it is integrated into routine mental health care. Participants consistently described psychological, physical, and social benefits of physical activity, yet these were shaped and sometimes constrained by individual circumstances, contextual barriers, the degree of clinician support they received and the skill with which the clinician integrated physical activity seamlessly into treatment.

Although many participants initially led sedentary lifestyles, gradual increases in activity were reported, often supported by intrinsic motivation, social networks, and practical strategies introduced by clinicians. At the same time, barriers such as low mood, time pressures, and environmental limitations remained persistent obstacles to engagement.

Crucially, the manner in which clinicians introduced, framed, and revisited physical activity within therapy sessions played a pivotal role in shaping its relevance and sustainability. When integrated seamlessly and aligned with the client's therapeutic goals, physical activity was more likely to be seen as meaningful and maintainable. Conversely, when treated as an afterthought, its perceived value diminished.

This thematic analysis highlights the importance of embedding physical activity within a supportive therapeutic context that balances behaviour change strategies with flexibility, rapport, and a client-centred approach. The next section builds on these findings by interpreting them through the BCW framework, identifying specific intervention functions and policy-level mechanisms to enhance the integration of physical activity into youth mental health care.

5.5.5 Overview of the BCW Analysis

Building on the preceding thematic findings, this section applies the BCW (Michie et al., 2011) framework to organise and interpret the factors influencing young people's engagement with and experience of physical activity during mental health treatment. Consistent with the analytic sequence outlined in Chapter 3 (inductive coding, abductive sense-making, and theory-informed mapping), as summarised in Table 7, the six themes are mapped against the COM-B model to illustrate how psychological and physical capability, social and physical opportunity, and reflective and automatic motivation influenced behaviour. This mapping provides a foundation for identifying relevant intervention functions and policy strategies to support implementation within youth mental health care. Implications and recommendations are considered in the Discussion (see section 5.6).

Table 7

Summary of Themes and Alignment with COM-B Components

Theme	Key features of theme	COM-B Component
1. Perceived Benefits of Physical Activity	Mental health improvements Sense of accomplishment Social advantages	Capability (Psychological) Motivation (Reflective)
2. Perceived Changes in Physical Activity	Increased activity levels Reduced sedentary time Active transport	Capability (Physical) Motivation (Automatic)
3. Perceived Barriers to Physical Activity	Fluctuating mood/motivation Competing demands Physical limitations	Opportunity (Physical and Social) Motivation (Automatic)
4. Enablers of Physical Activity	Social support (friends, family, pets) Enjoyment Structured programs	Opportunity (Social) Motivation (Reflective/Automatic)
5. Clinician-Facilitated Strategies	Goal setting Behavioural activation Regular check-ins	Capability (Psychological) Opportunity (Social)
6. Clinician-Directed Session Integration	Timing and frequency of physical activity discussions Therapeutic focus alignment	Opportunity (Social) Motivation (Reflective)

From a capability perspective, participants' engagement with physical activity was shaped by their knowledge, confidence, and access to practical tools. The *Perceived Benefits of Physical Activity* and *Clinician-Facilitated Strategies* themes reflected the importance of understanding how physical activity could support mental health and having concrete strategies to initiate and sustain behaviour. Participants who had received psychoeducation, behavioural activation, or structured planning support from clinicians generally felt more capable of engaging. In contrast, others described difficulty initiating activity due to limited clarity, internal doubts, or a lack of resources. These insights point to the need for consistent integration of capability-building strategies, such as goal-setting and skills development, within therapeutic work.

Opportunity-related influences included both social and physical dimensions. The *Enablers of Physical Activity* and *Clinician-Directed Session Integration* themes highlighted the important role of interpersonal support, particularly encouragement from clinicians, peers, or family members, and the environmental contexts that shaped activity feasibility. Access to safe outdoor spaces, availability of structured programs, and competing life demands all impacted engagement. Within COM-B, social opportunity refers to interpersonal influences, social cues and cultural norms that enable behaviour (Michie, van Stralen, & West, 2011). In this study, clinician behaviours such as the timing, consistency and framing of physical activity discussions are treated as part of social opportunity because they operate as proximal interpersonal affordances during therapy. This is an interpretive extension used to foreground routine therapeutic interactions as social influences on behaviour. Clinician behaviours also influenced social opportunity: when discussions of physical activity were consistent and aligned with broader therapeutic goals, participants reported greater motivation and accountability. Conversely, when these conversations were brief or poorly timed, they were often perceived as tokenistic or disconnected from clients' broader therapeutic goals.

Motivation, both reflective and automatic, was a key determinant of sustained engagement. The *Perceived Changes in Physical Activity* and *Perceived Barriers to Physical Activity* themes captured this dynamic. Many participants acknowledged the psychological benefits of being active but described challenges related to mood, energy, and fluctuating motivation. Those who experienced gradual improvements often moved from cognitively driven decisions to more automatic routines. In several cases, this shift was facilitated by repeated encouragement, behaviourally focused conversations, and the internalisation of activity as part of identity and wellbeing. Clinicians played a variable role in reinforcing these motivational shifts, depending on how integrated and personalised their strategies were.

As summarised in Table 7, these findings align with the COM-B model by illustrating how psychological and physical capability, social and physical opportunity, and reflective and automatic motivation collectively influence engagement. These components provide a foundation for identifying targeted intervention function.

5.5.6 Intervention Functions and Detailed Mapping

To extend the COM-B analysis, Table 8 outlines how each theme and corresponds with intervention functions and policy categories from the BCW. This table highlights functions such as education, training, enablement, persuasion, environmental restructuring, and modelling. These mappings help translate the thematic findings into practical implementation guidance to support young people's engagement with physical activity in therapeutic contexts.

Table 8

Mapping Themes to BCW Intervention Functions and Policy Categories

Theme	Intervention Functions	Policy Categories
Perceived Benefits of Physical Activity	Education, Persuasion	Communication/Marketing, Guidelines
Perceived Changes in Physical Activity	Training, Enablement	Service Provision, Guidelines
Perceived Barriers to Physical Activity	Environmental Restructuring, Enablement, Incentivisation	Environmental/Social Planning, Service Provision
Enablers of Physical Activity	Modelling, Enablement, Incentivisation	Communication/Marketing, Service Provision
Clinician-Facilitated Strategies	Education, Training, Enablement, Persuasion	Guidelines, Service Provision
Clinician-Directed Session Integration	Environmental Restructuring, Modelling, Enablement	Service Provision, Communication/Marketing

Clinicians contributed to education by providing psychoeducation about the mental health benefits of physical activity, while co-developing strategies and action plans supported

training and enablement. Framing physical activity in personally meaningful ways aligned with persuasion and helping clients identify safe or enjoyable options reflected environmental restructuring. Modelling was evident when clinicians normalised physical activity as part of care, such as by offering relatable examples or integrating it into session routines.

These findings suggest that behaviour change strategies are most effective when they are personalised, repeated, and meaningfully embedded within therapy, rather than presented as one-off suggestions. Mapping themes against intervention functions and policy categories provides a conceptual foundation for identifying practitioner and system-level supports. Building on the foundational mappings in Tables 7 and 8, Table 9 presents a more detailed synthesis that integrates theoretical constructs with practical intervention strategies relevant to youth mental health care.

Table 9

Detailed Mapping of COM-B Component to Themes, Second-Order Codes, Intervention Functions, Policy Categories, and Example Interventions

BCW Component	Theme	Second-order codes	Explanation	Intervention function(s)	Policy category	Example interventions
Capability (Psychological & Physical)	Perceived Benefits of Physical Activity (1)	Mental health improvements, sense of accomplishment	Clients described experiencing improved mood, energy, and a stronger sense of control as a result of physical activity, reflecting enhanced psychological and physical capability.	Education, Persuasion	Communication/ Marketing, Guidelines	Provide written and online video resources on mental health benefits of physical activity. Include a brief “wellness check” in treatment to reinforce these links.
Capability (Psychological)	Clinician-Facilitated Strategies (5)	Goal setting, behavioural activation, regular check-ins	Clinicians helped build client confidence and skills by introducing structured strategies like goal setting and activity scheduling.	Training, Enablement, Education, Persuasion	Service Provision, Guidelines	Create protocols for discussing activity goals in sessions; offer CPD workshops on enhancing client motivation, goal planning, and behaviour change support.
Opportunity (Physical & Social)	Perceived Barriers to PA (3)	Time constraints, unsafe environments, low mood days	Participants described barriers related to environment, routine, and lack of support, which limited their opportunity to engage in activity.	Environmental Restructuring, Enablement, Incentivisation	Service Provision, Environmental/ Social Planning	Partner with local services to provide free/subsidised activity options; advocate for youth-friendly, safe spaces for movement, encourage co-participation with peers, family members, or support workers to increase social opportunity and accountability.
Opportunity (Social)	Enablers of PA (4)	Social support (family, friends, pets), structured programs,	Social connection and enjoyment were key enablers, often linked to group activities and positive reinforcement.	Modelling, Incentivisation, Enablement	Communication/ Marketing, Service Provision	Facilitate access to team-based activities with peer support. Introduce simple reward systems for sustained attendance.

BCW Component	Theme	Second-order codes	Explanation	Intervention function(s)	Policy category	Example interventions
		enjoyment				
Motivation (Automatic)	Perceived Changes in PA (2)	Incremental habit formation, new routines	Participants described building momentum through small, repeatable actions that became habitual.	Training, Enablement	Guidelines, Service Provision	Encourage use of wearable trackers or apps to reinforce routine and track progress. Offer therapy schedules that allow for daily PA. Share success stories or introduce relatable role models who have benefited from physical activity, helping to normalise the behaviour and boost motivation.
Motivation (Reflective)	Clinician-Directed Session Integration (6)	Timing and focus of physical activity discussions, alignment with mental health goals	Regular, meaningful discussion of physical activity helped participants connect PA with their broader mental health goals.	Modelling, Enablement, Environmental Restructuring	Communication/ Marketing, Service Provision	Begin sessions with a “Movement and Mood Check-In” to support reflection and signal that physical activity is a valued part of care; consider walk-and-talk sessions to model activity as a normalised therapeutic practice.

Note. Intervention examples are informed by participant-reported experiences, perceived needs, and contextual enablers or barriers, and are mapped to relevant BCW components to illustrate potential practical applications.

5.5.7 Synthesis of BCW Key Findings and Implications

The BCW analysis identifies key factors influencing young people's experience of and engagement with physical activity during mental health treatment, highlighting the role of Capability, Opportunity, and Motivation.

Capability (Psychological and Physical). Participants' ability to engage in physical activity was shaped by their understanding, confidence, and access to practical tools. Psychological capability was strengthened when clinicians used strategies such as psychoeducation, behavioural activation, and co-developed action plans. These approaches helped young people move from intention to action. However, some participants described feeling uncertain or overwhelmed when support lacked structure or specificity. Practical resources such as visual schedules, templates, or relatable examples were viewed as helpful for building confidence and supporting follow-through. These findings point to the importance of equipping clinicians with behaviour change strategies and practical tools that support both psychological and physical capability.

Opportunity (Social and Physical). Social supports, including family, friends, pets, and clinicians, played a key role in enabling physical activity by providing encouragement, accountability, and emotional reinforcement. When clinicians provided ongoing check-ins or helped with planning, physical activity became more integrated into the therapeutic process. Physical opportunity was influenced by access to safe and convenient spaces, time availability, and competing demands. While some participants faced clear external barriers, others described a lack of flexible or tailored solutions that made it difficult to maintain activity. These insights highlight the importance of environmental restructuring and collaborative planning to create feasible and supportive conditions for engagement.

Motivation (Reflective and Automatic). Motivation to engage in physical activity was shaped by internal states and external supports. Reflective motivation, grounded in an understanding of the benefits for mental health, often prompted initial engagement. However, low energy, fluctuating mood, and competing demands sometimes made it hard to follow through. Clinician encouragement, collaborative goal setting, and positive reinforcement helped to maintain motivation. Over time, some participants described a shift towards automatic motivation, where physical activity became more habitual and less effortful. This was more likely when the activity was enjoyable, aligned with personal values, or easily integrated into daily routines. Clinicians who supported these transitions through regular reinforcement and value-based conversations were described as particularly helpful.

Systemic and Policy Considerations. Broader service structures also shaped how consistently physical activity was addressed in therapy. Some participants described it as a regular feature of their sessions, while others said it was only mentioned occasionally or not at all. This variability reflects a lack of formal service protocols and prioritisation. Several participants described gaps in access to physical activity supports outside therapy, such as limited allied health involvement or unclear referral pathways. These gaps highlight the potential value of interprofessional collaboration, community partnerships, and service-level policies that promote physical activity as a component of mental health care.

Collectively, the BCW mapping illustrates how targeted intervention functions, such as education, enablement, and modelling, can support young people's engagement with physical activity when delivered through psychologically informed and context-sensitive strategies. This analysis highlights the need for integrated, theory-informed approaches to embedding physical activity within psychological treatment. The findings point to clear opportunities for improving practice through clinician training, structured behavioural strategies, and service delivery models that embed physical activity as a routine component of

youth mental health care. Policy supports, such as clinical guidelines, workforce training pathways, and flexible service provision, are also needed to reinforce these efforts and reduce system-level barriers. The mapping provides a foundation for developing integrated implementation strategies, which are further considered in the general discussion that follows.

5.6 Discussion

This study explored the experiences of young people participating in a physical activity intervention that was integrated into their routine mental health care. Specifically, it aimed to (1) identify how young people perceived the benefits of increased physical activity for their mental well-being, (2) examine the barriers and facilitators that shaped their engagement, and (3) determine how clinicians' involvement and session structure supported, or at times hindered, participants' sustained commitment to physical activity. By placing the voices and direct experiences of these young people at the forefront, this qualitative inquiry yields practical considerations for future program design and a deeper understanding of how personal preferences and contextual factors converge to influence outcomes. These findings align with a growing body of literature highlighting the importance of client-centred, personalised approaches when embedding physical activity into youth mental health care (Heissel et al., 2023; Rosenbaum et al., 2016). Such approaches recognise that individual preferences, support needs, and contextual factors significantly shape engagement and outcomes.

5.6.1 Positive Impacts and Preferences

A central finding was the positive impact of physical activity on mental well-being, with many participants reporting improvements in mood and reductions in distress. These outcomes corroborate current meta-analytic evidence showing that physical activity is

associated with reduced symptoms of depression, anxiety, and psychological distress (Heissel et al., 2023; Solmi et al., 2025; White et al., 2024). Notably, the current study extends prior research by showing that participants responded most positively when their preferences were incorporated and physical activity decisions were made collaboratively through shared decision-making. This sense of ownership appeared to enhance motivation and relevance, aligning with broader evidence that autonomy supports adherence in clinical populations (Edmunds et al., 2008; Ryan & Deci, 2017).

Client preferences regarding activity type, scheduling, and intensity emerged as significant determinants of engagement and satisfaction. Many participants noted that clinicians helped tailor activities to align with their daily routines, personal interests, and accommodate fluctuations in mental health symptoms. These nuanced accounts align with client-centred care models, which indicate that interventions accommodating individual constraints yield higher acceptance and effectiveness (Coles & Coleman, 2010). In addition, an enhanced “mind–body” awareness was reported, suggesting that incorporating physical activity into therapy fosters a psychoeducational effect, helping clients internalise the broader mental health benefits of being active. This is consistent with existing research demonstrating the benefits of physical activity for cognitive function and emotional regulation in people experiencing mental health conditions (Kandola et al., 2019; Lubans et al., 2016). Where activity was discretionary and framed as leisure-time (rather than occupational), participants described clearer mood and motivation gains, consistent with domain-specific evidence of the mental health benefits of physical activity (Vella et al., 2023; Teychenne et al., 2025).

Open-goal approaches set non-prescriptive, flexible targets that invite people to “do what you can today,” prioritising self-selected type, duration, and intensity rather than fixed prescriptions (Swann et al., 2021). Although mostly examined in general-population samples, the present findings indicate a good fit for youth mental health care as participants responded

positively to preference-aligned activity and day-to-day flexibility. Integrating open-goal strategies with clinician scaffolding for planning, reflection, and adaptive adjustment could provide a feasible and engaging behaviour-change framework that supports autonomy and builds self-efficacy.

In reflecting critically, it is important to note that while preference-driven interventions show considerable promise, they do not guarantee success in isolation. Contextual factors, such as socioeconomic status and access to safe neighbourhoods, may significantly constrain feasibility, particularly among young people navigating complex life circumstances. Nonetheless, the positive reception by participants in this study, along with reported increases in physical activity and improved mental well-being, underscores the importance of honouring client preferences. These findings extend prior research by highlighting that preference-aligned approaches are not merely beneficial; they are a critical component of feasibility and engagement when integrating physical activity into mental health care.

5.6.2 Changes in Activity Levels and the Role of Facilitators

Participants described tangible shifts from predominantly sedentary routines to more active daily habits. Regular walks, cycling, and even modest “active transport” goals (e.g., walking for errands) contributed to increased overall activity, a finding of clinical significance given the well-established links between inactivity and poorer mental health (Solmi et al., 2025; Teychenne et al., 2017). These observations are consistent with behavioural-activation frameworks, which posit that engaging in health-promoting or enjoyable activities can improve psychological outcomes (Hopko et al., 2003; Richards, 2018). Recent evidence also confirms the effectiveness and scalability of behavioural activation in clinical treatment of depression (Pearce et al., 2022).

Clinician support, delivered through strategies such as collaborative goal setting, activity scheduling, and regular check-ins, was frequently cited as pivotal in overcoming motivational dips and contextual barriers. In the context of this study, behavioural activation refers to a structured approach that reduces avoidance and increases engagement in positively reinforcing, value-consistent activities to improve mood and functioning (Hopko et al., 2003; Richards, 2018; Pearce et al., 2022). These strategies reflect core elements of behavioural activation (Hopko et al., 2003) and align with established behaviour change techniques outlined in implementation frameworks (Michie et al., 2011). This personalised facilitation demonstrates the importance of integrating physical activity meaningfully into mental health sessions rather than treating it as a peripheral add-on. Prior research suggests that embedding physical activity into therapeutic practice increases engagement and promotes long-term adherence (Rosenbaum et al., 2014; Schuch et al., 2017b). The current findings reinforce the role of clinicians not only as behavioural facilitators but as key enablers of tailored, values-aligned engagement with physical activity.

5.6.3 Barriers, Contextual Challenges, and Social Support

Despite recognising the benefits of physical activity, participants encountered a range of barriers. Time constraints, competing personal commitments, and fluctuating motivation (especially during periods of low mood) were commonly reported obstacles. These challenges align with existing research on the unique vulnerabilities and contextual barriers experienced by young people with mental health conditions (Glowacki et al., 2017). External factors such as adverse weather and financial constraints further compounded these difficulties, aligning with broader evidence that socioeconomic and environmental conditions can significantly hinder sustained engagement in physical activity (Bauman et al., 2012; Firth, Solmi, et al., 2020). While previous studies have noted these barriers, the current findings extend the literature by illustrating that when interventions are tailored to individual

preferences, many of these obstacles can be mitigated. This suggests that a one-size-fits-all prescription of physical activity may be less effective than a flexible, context-sensitive approach.

The current study builds on existing literature by showing that while social support is a well-established enabler of physical activity (Bauman et al., 2012), its effectiveness depends heavily on how well it aligns with individual preferences. Some participants valued one-on-one support from trusted friends or family, while others were more motivated by group-based or team settings. A few described how support from pets transformed solitary activities like walking into enjoyable, shared routines. These insights are supported by Méndez-Aguado et al. (2023) who, through a systematic review, identified that tailoring physical activity programs to individual needs and incorporating social components can significantly enhance engagement among individuals with severe mental disorders. Recent youth-focused studies have similarly underscored the importance of aligning support with individual preferences (Parker et al., 2022; Pascoe et al., 2020). The present study adds to this work by showing how these preferences can vary not only in form (e.g., group-based versus one-on-one) but also in source, with young people highlighting the role of pets or informal social interactions in sustaining activity. Rather than treating social support as a universal solution, these findings underscore the value of tailoring social pathways to meet diverse needs. For clinicians and program designers, this suggests that matching the form of support to the client's preferences may help address both emotional and structural barriers to physical activity.

5.6.4 Embedding Physical Activity: Clinician-Led Strategies and Session Structure

Clinician-facilitated strategies, including behavioural activation, goal setting, and regular check-ins, played a pivotal role in fostering sustained engagement. Young people

particularly valued clinicians working with them to address personal obstacles, such as scheduling conflicts or mood fluctuations, making it easier to integrate physical activity in a way that felt manageable and tailored to their needs. While some young people noted that discussions about physical activity were occasionally rushed, many appreciated the time spent on collaborative problem-solving. This finding challenges the notion that young people are resistant to discussing physical activity in clinical settings (Martins et al., 2015) and suggests that well-structured sessions, underpinned by enhanced clinician training and multidisciplinary approaches (e.g., involving psychiatrists, psychologists, and physical activity specialists), can further strengthen these interventions (Firth et al., 2015; Happell et al., 2011)

5.6.5 Insights Through the BCW

Aligning the findings from the current study with the BCW (Michie et al., 2011) demonstrates how the core COM-B components interact with intervention functions and policy-level strategies to promote physical activity among young people

Capability Tailored psychoeducation and practical guidance from clinicians enhanced participants' psychological capability. Focused education about the mind–body connection and explicit guidance on incorporating physical activity into everyday routines built young people's knowledge and confidence to engage. These findings reinforce research showing that psychoeducation improves mental health literacy and supports behaviour change among youth (Kandola et al., 2019; Shanshan et al., 2025; Suwanwong et al., 2024). By illustrating how this support was embedded in ongoing therapeutic relationships, the current study extends existing evidence by showing how mental health clinicians, not only

educators or exercise professionals, can meaningfully support psychological capability through structured, personalised discussions.

Opportunity Participants described greater engagement when activities were accessible, enjoyable, and suited to their preferences. Interventions that offered flexibility, safe spaces, and both social and solitary activity options helped young people overcome practical and perceptual barriers. These findings align with broader literature on youth engagement, where supportive environments and social connection have been shown to increase adherence (Firth, Solmi, et al., 2020; Joseph et al., 2017; Connolly et al., 2023). The study also adds nuance by showing that effective “opportunity” supports may come from informal sources, such as walking with pets, as well as formal service-based programs. These insights suggest that environmental restructuring and social support, key BCW intervention functions, must be adapted to youth preferences and circumstances. At the policy level, this supports calls for subsidised access, infrastructure planning, and inter-agency partnerships that expand opportunities for physical activity within community and clinical contexts.

Motivation Clinician-facilitated strategies such as collaborative goal setting, personalised encouragement, and regular check-ins supported both reflective and automatic motivation. Participants valued having their preferences respected and described a sense of ownership that reduced resistance and increased self-efficacy. These findings are consistent with autonomy-supportive models of behaviour change, which link perceived choice with sustained engagement (Rhodes & de Bruijn, 2013; Vancampfort et al., 2018b). They also extend the literature by showing that these motivational processes are not just individual or cognitive but relational, embedded within ongoing therapeutic exchanges. This positions motivation-enhancing techniques (e.g., modelling, enablement, and persuasion) as central to

psychological treatment, with potential to be further normalised through clinical guidelines and training programs.

System-Level Considerations Despite these promising strategies, a key deficit identified in the current study was the lack of structured pathways for integrating physical activity into mental health services. This contributed to variability in clinician engagement and participant support. The absence of clear systems or processes limited the extent to which even motivated clinicians could sustain physical activity support in practice. These observations align with recent literature highlighting policy-level barriers, including the absence of formal guidelines, targeted funding, and institutional infrastructure, all of which hinder the delivery of structured physical activity interventions within routine care (Czosnek et al., 2022; Lederman, Rosenbaum, et al., 2017). Although individual clinicians may endorse the value of physical activity, the lack of formal guidelines, dedicated funding, and institutional support often constrains their ability to deliver structured or sustained physical activity interventions. By providing youth-specific insights into how this inconsistency affects engagement, the current study reinforces calls for policy action, such as developing funded training pathways, referral protocols, and structured time allocations that allow for physical activity to be discussed meaningfully in sessions.

By offering client-centred insights into how and why engagement occurs, this study contributes a more nuanced understanding of physical activity implementation in youth mental health care. The findings demonstrate that meaningful and sustained support depends on aligning individual-level strategies (e.g., psychoeducation, goal setting) with system-level conditions (e.g., infrastructure, clinician training, policy reform). Using the BCW framework helps connect these relational and systemic dimensions, offering a foundation for designing approaches that support clinicians to integrate physical activity in ways that are both feasible in psychological treatment and responsive to young people's needs.

5.7 Limitations and Future Directions

Several methodological limitations should be considered when interpreting the findings of this study. The sample was relatively small and drawn from a specific clinical context within the headspace network, which may limit generalisability. Although headspace offers a structured environment for integrated care, this infrastructure may not reflect the conditions of private practice, rural services, or other settings with fewer resources.

Participants were also self-selected, having consented to a physical activity intervention as part of their mental health care. This may indicate a greater openness to behaviour change or more positive attitudes towards physical activity compared to clients who chose not to participate. As a result, the findings may not fully reflect the experiences of young people with more ambivalence or different clinical presentations. Future studies should seek more diverse samples, including clients with varying levels of motivation, symptom severity, and service access.

The study relied on retrospective self-report, which can be affected by recall bias and social desirability. While participants offered detailed accounts, they may have under- or over-reported aspects of their engagement. Incorporating more immediate or real-time data collection methods, such as digital journals or post-session reflections, may enhance the accuracy and depth of future insights.

Although clinicians received training within the trial, delivery varied across sites (e.g., clinician mix, session structure, and local supports), which may have shaped participants' experiences and limits transferability beyond similar youth mental health services. This variation likely influenced participant experiences and highlights the need to explore how therapist style, organisational support, and service context contribute to implementation quality.

Future research should also investigate which elements of physical activity support are most effective for sustaining engagement, particularly in routine care. Components such as preference alignment, autonomy, and collaborative planning emerged as meaningful to participants, but further work is needed to determine how these can be adapted across service types and population groups. Co-design approaches that involve both young people and clinicians may offer valuable guidance for developing implementation strategies that are responsive to real-world constraints while preserving therapeutic value.

5.8 Chapter summary

This chapter explored the experiences of young people who received physical activity support as part of their mental health care. Engagement was strongest when physical activity was meaningfully integrated into therapy through clear goals, individual tailoring, and sustained clinician support. While the benefits of physical activity are well established, participation was influenced by clients' perceived relevance to their treatment, fluctuating motivation, and access to therapeutic scaffolding. Using the Behaviour Change Wheel as an interpretive framework, the study highlights how capability, opportunity, and motivation interact to shape participation, reinforcing that structured and personalised support is often necessary to translate positive attitudes into action. These insights support embedding physical activity into youth mental health care in ways that are clinically relevant, flexible, responsive, and collaborative. The next chapter presents Study 3, which examines psychologists' perspectives on integrating physical activity into therapy, providing a complementary view of the professional, organisational, and systemic influences shaping implementation.

Chapter 6: Study 3 - Psychologists' Perspectives on Integrating Physical Activity into Psychological Care: A Qualitative Study

6.1 Introduction

This chapter shifts the focus to psychologists, examining how they perceive and engage with the integration of physical activity into therapeutic care. While substantial evidence supports physical activity as a beneficial strategy for mental health (Kandola et al., 2023; Heissel et al., 2023), its translation into routine psychological practice remains inconsistent (Czosnek et al., 2021; Shrestha et al., 2021; Garvey et al., 2023; Keyworth et al., 2019; Stubbs et al., 2024). This is due, in part, to limited research on how psychologists understand their role in supporting physical activity within therapy, and how professional and systemic factors influence implementation.

Psychologists are well positioned to support clients in initiating and maintaining physical activity through behaviour change strategies, yet they often encounter practical barriers such as time constraints, limited training, and uncertainty around scope of practice (Shrestha et al., 2021). These challenges can restrict their ability to integrate physical activity into sessions, despite their behavioural expertise and regular therapeutic contact with clients. Research to date has rarely explored these issues in depth or from the perspective of psychologists themselves, limiting understanding of how best to support clinicians in making changes to their practice.

This study addresses that gap by exploring the barriers and enablers to supporting physical activity from the perspective of practising psychologists. It draws on the BCW to examine how individual capabilities, motivational drivers, and environmental opportunities shape practice, and how intervention strategies and system-level changes might better support psychologists in embedding physical activity into mental health care. By foregrounding psychologists' voices, this chapter complements the preceding studies on community attitudes

(Chapter 4) and client experiences (Chapter 5), offering a clinician perspective that is essential for bridging the gap between evidence and implementation.

Chapter 2 details the evidence base and translational challenges that motivate this study, including client, clinician, and system factors relevant to integrating physical activity into psychological treatment. Building on that rationale, this chapter narrows to psychologists' capability, opportunity, and motivation (COM-B) to support clients' physical activity in routine services, which led to the following aims.

6.2 Research Aims and Questions

6.2.1 Aims

The primary aim of this study was to examine psychologists' perspectives on integrating physical activity into mental health care, focusing specifically on identifying barriers and facilitators, and mapping these to the BCW to inform practical intervention strategies.

6.2.2 Research Questions

1. What barriers and facilitators do psychologists perceive in relation to integrating physical activity into therapeutic practice?
2. How do these barriers and facilitators align with the BCW to identify potential intervention points and inform policy recommendations?

6.3 Methods

Design. Study 3 adopted a qualitative focus-group design to examine psychologists' perspectives on integrating physical activity within psychological treatment. Practising psychologists who met inclusion criteria were invited to small-group discussions using a semi-structured guide. Analysis used reflexive thematic analysis; The Behaviour Change

Wheel was applied interpretively to relate themes to feasible intervention functions and policy strategies. See Sections 6.3.1–6.3.6 for recruitment, data collection, and analysis details; reflexivity is addressed in Section 6.3.

6.3.1 Recruitment

This study used a purposive sampling strategy to recruit registered psychologists actively engaged in mental health care across Australia, excluding those employed within inpatient facilities. Recruitment notices (see [Appendix E](#)) were disseminated through professional forums, including the Australian Psychological Society (APS) and the Australian Association of Psychologists Inc. (AAPi), and supplemented by outreach via email distribution lists from networks like the Mental Health Professionals Network (MHPN). Inclusion criteria were registration with the Australian Health Practitioner Regulation Agency (AHPRA), proficient in English, and currently providing individual psychological treatment. Exclusion criteria were: employment within inpatient facilities; any clear conflict of interest or potential dual relationship with the student researcher/facilitator; and inability to participate in the focus-group session.

6.3.2 Ethical Considerations

The study received approval from Victoria University's Human Research Ethics Committee (HRE23-121). Participants were informed about their rights, including confidentiality, voluntary participation, and the option to withdraw at any time. Given the video-based nature of the focus groups, full anonymity could not be guaranteed. This limitation was clearly explained during the consent process and reiterated during participation. All data were securely stored, with identifying details removed during transcription and analysis.

6.3.3 Consent Process

Potential participants accessed a landing page on the online survey platform Qualtrics containing detailed study information. Informed consent was provided electronically, including completion of contact details and professional registration verification, followed by a scheduling form for focus group availability.

6.3.4 Participants and Characteristics

Ten registered psychologists participated in the study. The sample was predominantly women (80 percent), with most working part-time in their clinical roles (60 percent). Participants represented diverse registration and endorsement types (e.g., general, clinical, sport and exercise, and clinical neuropsychology) and various training pathways, including the 4+2 model¹ and Master's entry. Participant demographic characteristics, including gender, age range, employment status, geographical location, pathway into psychology, and type of registration, are summarised in Table 10.

Table 10

Participant Demographic Information (N = 10)

Characteristic	<i>n</i>	%
Gender		
Woman	8	80
Man	2	20
Age Range (years)		
25–34	3	30
35–44	3	30
45–54	2	20
55–64	1	10
65+	1	10
Employment Status		
Full-time	4	40
Part-time	6	60

¹ The 4+2 model refers to an Australian psychology training route involving a four-year accredited undergraduate psychology sequence followed by two years of supervised practice to achieve general registration as a psychologist

Characteristic	<i>n</i>	<i>%</i>
Geographical Location		
New South Wales	2	20
Victoria	1	10
Western Australia	4	40
South Australia	1	10
Queensland	2	20
Pathway into Psychology		
Master's pathway	5	50
4+2 model	4	40
Other	1	10
Type of registration		
General psychologist	7	70
Clinical psychologist	1	10
Sport and exercise psychologist	1	10
Clinical neuropsychologist	1	10

Note: Percentages may not total 100 due to rounding.

Participants were based across five Australian states and practiced in both metropolitan and in regional areas. Three participants also provided therapy via telehealth (a mode of service delivery that uses video or telephone consultations to provide psychological treatment remotely, often increasing accessibility for clients in rural or remote areas). Participants reported working with diverse client groups, including children, adolescents, adults, older adults, couples and families, and addressing a broad spectrum of mental health conditions such as anxiety, depression, post-traumatic stress, substance use, relationship issues, family conflict, and coping with chronic illness or pain. Some participants specialised in neurodevelopmental disorders (e.g., attention-deficit/hyperactivity disorder, autism spectrum disorders), eating disorders, and personality disorders. This breadth of professional contexts and clinical presentations provided a rich basis for examining the integration of physical activity into psychological treatment.

In addition to demographic details, participants completed a pre-focus group survey via Qualtrics. The survey included an adapted version of the Exercise in Mental Illness Questionnaire for Health Professionals (EMIQ-HP), which assessed knowledge, confidence,

beliefs, and behaviours regarding physical activity in mental healthcare. Responses were captured using 5-point Likert-type scales ranging from 1 (*very poor*) to 5 (*excellent*) for knowledge and confidence and from 1 (*significantly less effective than no treatment*) to 5 (*significantly more effective than no treatment*) for beliefs about the value and effectiveness of physical activity. Frequency of physical activity prescription was measured on a 4-point scale from 1 (*never*) to 4 (*always*).

The pre-focus group survey characterised the sample (demographics, roles) to provide a brief snapshot to contextualise the subsequent qualitative analysis. Table 11 provides a summary of participants' self-rated knowledge, confidence, beliefs, and prescribing behaviours. Most psychologists rated their knowledge of physical activity prescription as average (70 percent), while confidence ratings were variable. All participants endorsed positive beliefs about the value and effectiveness of physical activity for mental health. These ratings help contextualise the subsequent qualitative themes by illustrating participants' familiarity, confidence, and attitudes prior to the focus group discussions.

Table 11*Descriptive Characteristics: Knowledge, Confidence, Beliefs, and Behaviours (N = 10)*

Measure	Response	n	%
Knowledge of physical activity prescription*	Very poor (1)	0	0.0
	Poor (2)	0	0.0
	Average (3)	7	70.0
	Good (4)	1	10.0
	Excellent (5)	2	20.0
Confidence to prescribe physical activity	Very poor (1)	0	0.0
	Poor (2)	2	20.0
	Average (3)	2	20.0
	Good (4)	3	30.0
	Excellent (5)	3	30.0
Belief in value of physical activity	Significantly Less than No Treatment (1)	0	0.0
	Somewhat Less than No Treatment (2)	0	0.0
	About the Same as No Treatment (3)	0	0.0
	Somewhat Better than No Treatment (4)	3	30.0
	Significantly Better than No Treatment (5)	7	70.0
Belief in effectiveness of physical activity	Significantly Less than No Treatment (1)	0	0.0
	Somewhat Less than No Treatment (2)	0	0.0
	About the Same as No Treatment (3)	0	0.0
	Somewhat Better than No Treatment (4)	4	40.0
	Significantly Better than No Treatment (5)	6	60.0
Physical activity prescription frequency	Never (1)	0	0.0
	Occasionally (2)	3	30.0
	Most of the Time (3)	5	50.0
	Always (4)	2	20.0

Note: Data were available for 10 participants due to missing responses from one participant.

*Although this thesis does not conceptualise physical activity as something psychologists should *prescribe*, the term *prescription* was retained in the pre-focus group survey to reflect the original wording of the validated measure used (EMIQ-HP). This decision ensured the integrity and comparability of responses. However, it is acknowledged that the term *prescription* implies a directive, medicalised model that does not align with the collaborative, client-centred approach promoted in psychological practice. As such, responses were interpreted

with this nuance in mind, recognising the tension between the survey language and the theoretical positioning of this research.

6.3.5 Data Collection

In addition to the pre-focus group survey, data collection involved two core components: (1) online focus group discussions, and (2) a brief post-session survey. The post-session survey (2–3 minutes) captured perceived relevance and usefulness of the discussion to practice, self-reported intention to support clients' physical activity, and optional consent for follow-up. These data supported the qualitative analysis and are summarised alongside participant demographics to support contextual understanding.

Three focus groups were facilitated by the student researcher and conducted via Zoom. Sessions were video recorded and lasted approximately 70 minutes. Group sizes were three, three and four participants, respectively. This range aligns with common recommendations for professional focus groups that balance diversity of viewpoints with adequate speaking time (Krueger & Casey, 2015; Guest, Namey, & McKenna, 2017). Adequacy was judged using an information power rationale given the specific aim, professional homogeneity, and rich discussions (Malterud, Siersma, & Guassora, 2016); across the final group no substantively new codes emerged compared with the preceding group.

A semi-structured format guided discussions, exploring topics such as the perceived role of physical activity in therapy (e.g., "What comes to mind when you think about integrating physical activity into routine mental health care?"), associated benefits and limitations (e.g., "What do you think are some benefits and limitations of using physical activity as part of mental health treatment?"), client and psychologist acceptability (e.g., "In your opinion, how acceptable is incorporating physical activity into mental health care?"), practical challenges, (e.g., "What are the potential barriers or challenges that may arise when

integrating physical activity into treatment?”), and perceived professional responsibilities (e.g., “In the future, how do you see the role of mental health professionals in the promotion of physical activity?”). This structure ensured consistency across groups while allowing for open and reflexive dialogue. These questions were informed by the aims of the study and guided by the BCW framework. A complete version of the discussion guide, including additional prompts and probes, is provided in [Appendix F](#).

6.3.6 Data Analysis

Transcripts were analysed using reflexive thematic analysis (Braun & Clarke, 2006, 2021), as detailed in Chapter 3. NVivo 15 was used for coding and data management. Pre-focus group and post-session survey items were summarised descriptively (counts and percentages for categorical variables; means and standard deviations. These summaries contextualised the qualitative analysis and were not used to generate or weight themes. Codes were developed inductively and iteratively refined into themes. Thematic interpretation was informed by the BCW (Michie et al., 2011), with reflexivity maintained throughout the analysis process. Procedures for rigour followed those outlined in Chapter 3, including an analytic trail, reflexive memo-writing, and peer debriefing; thick description and quotations are provided in the Results.

6.3.6.1 Theme intersections and BCW mapping To enhance interpretation of key themes, intersectionality (how themes overlap) and relationships (how one theme indirectly influences another) were considered in line with Braun and Clarke (2019). Recognising these overlaps and indirect influences allowed a more nuanced understanding of the dynamic factors that shape psychologists’ willingness and ability to integrate physical activity into mental health care. Consistent with the approach outlined in Chapter 3, each theme was mapped onto relevant components of COM-B, linking specific barriers and facilitators (e.g.,

knowledge gaps, organisational constraints, motivational issues) to intervention functions (e.g., education, environmental restructuring) and policy categories within the BCW.

6.3.7 Reflexivity and Positionality

Situated within a relational–constructivist ontology and a pragmatic epistemology (Section 3.2), reflexivity in this study addressed how the facilitator’s professional background and views on physical activity might shape data production and interpretation. The facilitator is a practising psychologist with experience in behaviour change in clinical contexts, which may orient attention to feasibility, role boundaries, and perceived benefits. To mitigate this influence, the focus-group guide explicitly invited divergent views and non-uptake experiences; the facilitator used neutral probes, checked for minority perspectives, and summarised competing interpretations before moving on. Memos recorded immediate reflections after each group, with attention to group dynamics (e.g., dominance, consensus pressure, professional identity talk) and how these might have influenced contributions. An audit trail documented analytic decisions across coding cycles, and supervisory debriefs were used to test alternative readings and surface disciplinary assumptions. Consistent with reflexive thematic analysis, themes were treated as analytic outputs rather than discovered entities. The Behaviour Change Wheel was applied interpretively after theme development to relate insights to potential intervention functions and policy strategies without constraining inductive analysis.

6.4 Results

6.4.1 Thematic Analysis

This section presents findings from the thematic analysis of psychologists’ perspectives on integrating physical activity into mental health care. The analysis revealed six interrelated themes (as shown in Table 12) capturing the behavioural, relational, and systemic

conditions that shape physical activity integration into psychological care. These themes are *professional identity and scope, therapeutic integration of physical activity, client-centred approach, barriers to implementation, facilitators of implementation, and professional advocacy and growth*. Table 12 provides an overview of each theme, including the second- and first-order codes that informed theme development and interpretation. For example, the second-order code *client-specific challenges* reflects client factors as they emerge in therapeutic interactions, shaped by relational and contextual dynamics rather than fixed traits, diagnoses, or access-related limitations.

Table 12

Themes, Second-Order Codes, First-Order Codes and Definitions from Thematic Analysis

Themes	Second-order code	First-order code	Operational definition
1. Professional Identity and Scope			Encompasses psychologists' perceptions of their professional role and boundaries, influenced by their training and experiences.
	Professional boundaries and competency	Outside of competency	Segments where psychologists state or imply that advising on or designing physical activity exceeds their professional competence or scope (e.g., “that’s for an AEP/physio”). Include liability/registration concerns and referrals based on competence. Exclude time/priority constraints without competence concerns.
		Scope of psychology	Statements defining what is legitimate for psychological treatment (assessment, formulation, behaviour change support) as distinct from prescribing exercise plans or parameters. Include boundary-setting rationales; exclude general workload or funding comments unless linked to scope.
		Psychology's role in healthcare	Understandings of how psychology fits into the broader healthcare landscape and collaborates with other disciplines (e.g., supporting motivation, habit formation, referral pathways) relative to roles of AEPs, GPs, or nurses. Include interprofessional delineation; exclude personal exercise habits unless tied to perceived role.
	Educational and career pathways	Educational backgrounds/pathways of psychologists	The diverse educational and training experiences that shape psychologists' approaches to therapy and physical activity integration.
Educational foundation		The foundational knowledge and skills acquired during formal education that influence attitudes towards physical activity in therapy.	

Themes	Second-order code	First-order code	Operational definition
		Professional backgrounds	The specific experiences and specialisations within psychology that inform approaches to integrating physical activity.
		Career evolution	The dynamic process of professional development and how it shapes views on incorporating physical activity into therapy.
2. Therapeutic Integration of Physical Activity			The strategies and considerations involved in incorporating physical activity as a therapeutic tool.
	Methods and techniques	Therapeutic techniques (methods)	The specific interventions and approaches used to integrate physical activity into therapy sessions.
		Specific physical activities used in sessions	The types of physical activities recommended or incorporated into therapy, such as walking, yoga, or strength training.
		Strategies and suggestions	Practical tips and recommendations for integrating physical activity, Practical tips and recommendations for integrating physical activity that emerged as common or collectively exchanged practices.
	Tailoring to client needs	Individually tailored activity suggestions	Segments describing adaptation to client preferences, abilities, context, or identities (e.g., swapping gym for dog-walking; sensory-friendly options). Include tailoring rationales; exclude generic “client-centred” statements without an adaptation.
		Use with specific populations	Considerations for adapting physical activity interventions for specific client groups, such as those with chronic conditions or disabilities.
		Client-centred adaptations	Modifying therapeutic approaches based on individual client contexts, including their environments, cultural backgrounds, and personal preferences.

Themes	Second-order code	First-order code	Operational definition
		Timing and goals within sessions	Strategies for determining when and how to introduce physical activity within the therapeutic process, considering the overall goals of therapy.
3. Client-Centred Therapeutic Approach			Prioritises the client's perspective and active involvement in therapy, adapting interventions based on their feedback and needs.
	Client-therapist collaboration	Client relationship (collaborative)	The quality and nature of the therapeutic relationship, particularly how trust, rapport, and shared decision-making influence openness to discussing physical activity.
		Therapeutic approach	How therapists adapt established models (e.g., CBT, ACT) to introduce or integrate physical activity in ways that remain responsive to clients' individual goals, capacities, and timing within therapy.
		Client feedback on intervention strategies	Deliberate efforts by psychologists to seek and respond to client input regarding physical activity-related suggestions, ensuring strategies are acceptable, motivating, and appropriately paced.
		Client-centred therapy	A broad orientation toward respecting client autonomy, preferences, and lived context in shaping therapeutic content and direction, including whether and how physical activity is addressed.
	Client-specific challenges	Client interactions	Relational dynamics during therapy sessions that influence whether physical activity is introduced or engaged with, shaped by communication patterns and therapist responsiveness.
		Low client self-awareness and/or self-efficacy	Situations where clients struggle to recognise their own physical or emotional needs or doubt their ability to engage in physical activity meaningfully or consistently.
		Low client motivation	Presentation of apathy, ambivalence, or low readiness for change in relation to physical activity, requiring tailored strategies to enhance engagement.

Themes	Second-order code	First-order code	Operational definition
		Client resistance	Active opposition, scepticism, or discomfort expressed during therapy in response to physical activity suggestions.
4. Barriers to Implementation	Barriers		Encompasses the factors that hinder the integration of physical activity in therapeutic practice.
		Client barriers	Client-specific barriers such as low motivation, low self-efficacy, reluctance, or psychological resistance often influenced by depression, anxiety, or hopelessness.
		Psychological barriers perceived by psychologists	Clinicians' internal doubts, fears of overstepping scope, or concerns about client receptivity that affect their confidence in recommending physical activity.
		Structural barriers in practice settings	Practical and organisational constraints such as lack of time in sessions, limited resources, funding issues, or restricted environments (e.g., corrections).
		Stigma and societal norms related to physical activity	The influence of public judgement, stigma, or misconceptions around physical activity and mental health that discourage clients from participating or being seen engaging in physical activity.
		Impact of societal context on therapy	Broader societal factors, including structural stigma and cultural expectations, that shape the perceived appropriateness or feasibility of integrating physical activity within mental health treatment.
5. Facilitators of Implementation	Facilitators		Encompasses the factors that promote or enhance the integration of physical activity in therapeutic practice.
		Benefits observed in client health	Positive shifts in clients' mental or emotional wellbeing attributed to engaging in physical activity, reinforcing its value in treatment.

Themes	Second-order code	First-order code	Operational definition
		Psychologists' positive beliefs and experiences	Psychologists' engagement with or belief in physical activity that enhances their confidence and motivation to integrate it into therapy.
		Organisational support	Workplace conditions such as positive culture, flexible policies, and resource availability that make integration feasible and encouraged.
		Supportive peer networks	Collegial support and informal sharing of knowledge that contribute to psychologists feeling more equipped and supported in recommending physical activity.
6. Professional Advocacy and Growth	Advocacy and leadership		Reflects the importance of ongoing learning, leadership, and peer support in advancing the integration of physical activity within psychological treatment.
		Champions in workplaces	Individuals within organisations who actively promote and normalise the use of physical activity in therapy, helping to influence team culture and practices.
		Future role of psychologists	Evolving perceptions of psychologists' scope, including their ability to support behaviour change related to physical activity while remaining within therapeutic boundaries.
		Influence and advocacy	Individual or collective efforts to raise awareness, shift norms, and influence practice or policy around integrating physical activity in mental health.
	Leadership	The influence of senior or respected professionals in shaping workplace environments that support the integration of physical activity.	
	Professional development	Formal training sessions	Structured learning opportunities (e.g., workshops, training programs) aimed at enhancing psychologists' skills and confidence in this area.
		Informal learning and growth	Self-directed learning, experiential insight, and engagement in peer networks that foster confidence, normalise practice, and reduce professional isolation.

Note. First-order codes = semantic labels from segments; second-order codes = patterned clusters across participants; themes = interpretive domains. Operational definitions specify inclusion/exclusion for coding.

1. Professional Identity and Scope. Psychologists described grappling with the perceived boundaries of their profession, particularly when considering whether and how to encourage physical activity within therapy. For many, this hesitation was shaped by a sense that offering physical activity advice risked moving beyond their training or breaching ethical guidelines regarding scope of practice. Concerns about litigation, dual relationships, or scrutiny from regulatory bodies such as AHPRA often underpinned this reluctance. One participant shared, “I want to do walk-and-talk therapy, but I’m worried someone might report me for dual relationships or crossing a boundary” (Participant 1).

Participants reflected on how their education shaped what they felt qualified to do, and how this influenced their comfort levels with integration. Some drew on specific training or professional experiences that enhanced their willingness to engage in health-focused discussions, while others felt siloed in more traditional psychological roles. As one psychologist noted, “We are often quite solitary... There should be more of a role for us... I think about that referral thing or that rebate, the chronic disease management plan” (Participant 3).

The evolving nature of psychological practice, career development, and increasing focus on holistic care led several participants to re-evaluate their professional identity. This reflection prompted some to advocate for clearer guidance and expanded models of care that include physical health within psychological scope.

2. Therapeutic Integration of Physical Activity. This theme captures how psychologists used their existing therapeutic skillsets to support clients in becoming more physically active. Rather than introducing physical activity as an adjunct or external recommendation, clinicians embedded it within their established modalities, particularly behavioural activation, collaborative goal setting, and strategies to explore ambivalence and

support behaviour change. These tools enabled them to address low mood, build momentum, and scaffold manageable behavioural shifts.

Psychologists used clinical judgement to determine when and how to introduce physical activity. “I try to time the introduction of physical activity when I know the client is more receptive... usually after they've made some progress in therapy” (Participant 6). Participants described using a graded approach, tailoring interventions to each client’s capacity, readiness, therapeutic stage, and psychological state.

Psychologists often encouraged small, achievable activities rather than specific prescriptions. Practical strategies included connecting movement with emotional regulation goals, reinforcing attempts at moving more regardless of outcome, and helping clients link activity to their own values. “It's important to break down the activity into small, achievable steps, especially for clients with severe depression who struggle to even get out of bed” (Participant 3).

Sustainability was often framed around fitting within routines and self-efficacy. One psychologist shared, “I find that usually it has to be something that works into their routines, their daily routines. Otherwise it's not going to stick at all... but once they find that it does fit... their confidence is growing, and they're feeling better. Then they can go on to maintain that” (Participant 4).

While individual tailoring was discussed, this theme foregrounds how psychologists drew upon core therapeutic principles to promote behaviour change in a way that complemented, rather than disrupted or deviated from, the broader treatment plan.

3. Client-Centred Therapeutic Approach. While therapeutic integration focuses on clinicians’ skills, the client-centred approach emphasises the importance of adapting physical

activity discussions and interventions based on each client's individual context. Psychologists spoke of working collaboratively, adjusting recommendations based on the client's mental and physical health status, socioeconomic factors, and prior experiences with movement. One participant explained, "It really depends on the symptomatology of the client. Some are very active... others are not. So, you have to tailor it to them" (Participant 5).

This personalisation was shaped by each client's preferences, goals, and barriers. Some clients faced social stigma or discomfort around physical activity, which psychologists worked to navigate sensitively. Others encountered structural barriers such as financial limitations or restricted access to safe environments. One participant reflected, "If they're stuck at a desk for 10 hours a day, or they're worried about people judging them for stepping out, it's a real barrier" (Participant 2).

Participants shared how therapeutic techniques were adapted in response to this complexity. Walk-and-talk sessions were described as one example of co-created solutions that blended physical movement with psychological support. One psychologist noted, "We started doing more walk-and-talk therapy sessions, which helped clients get moving while also maintaining their mental well-being" (Participant 3).

Open conversations about previous experiences were also seen as essential. "I spend time exploring how clients feel about physical activity, especially if they've had negative experiences in the past" (Participant 5). This flexible, client-led approach ensured that interventions were feasible, acceptable, and more likely to be sustained.

4. Barriers to Implementation. Participants identified a range of internal and external barriers that hindered the integration of physical activity into therapy. Internal, client-related challenges such as resistance, low self-efficacy, and reluctance to engage in physical activity were prominent. These issues were often exacerbated by mental health

symptoms like depression, anxiety, or feelings of hopelessness. For instance, participant 5 observed that clients might already be self-critical: “They're already chastising themselves that they are not able to do it. That's why they are in this space and they're in front of a therapist.” Such self-deprecating attitudes made it difficult for clients to consider incorporating new activities into their routines, reflecting the psychological barriers that must be addressed to support behaviour change.

External barriers such as limited resources, time constraints, and societal stigma related to both mental health and physical activity emerged as significant obstacles to engagement. Psychologists noted that financial constraints could be a substantial hurdle, especially for clients uncomfortable with physical activity or lacking access to facilities. Participant 4 highlighted this concern: “For me, it's probably with the clients. I think cost can be a problem, especially if they're not someone who's comfortable with physical activity or exercise.” Resource limitations affected not only clients but also the settings in which psychologists worked. One psychologist working in a correctional facility explained: “I'm working in a prison... there are some limitations... operational constraints can be a real barrier.”

Time constraints within clinical practice further limited psychologists' capacity to offer sustained support for physical activity interventions. With pressing therapeutic issues often taking precedence, there was little opportunity to focus on integrating physical activity. The cumulative effect of these barriers underscored the complexity of promoting physical activity within mental health care, requiring practitioners to navigate both individual client challenges and systemic obstacles.

Social stigma and societal expectations further complicated these efforts. Several psychologists reflected on how clients feared public judgement when engaging in physical

activity. Participant 5 explained, “People don't want to be judged. So, when you say ‘go and walk,’ they say ‘I'm going to be judged.’ You know, people see me walking and think I should be doing something else.” This fear of visibility in public spaces acted as a powerful deterrent. Similarly, participant 3 noted how societal narratives around wellness could limit client engagement: “Sometimes there's this stigma that if you're doing well enough to be exercising, you must not be that unwell. So clients don't want to be seen doing physical activity while they're in therapy.”

5. Facilitators to Implementation. Despite these challenges, several facilitators emerged that promoted the integration of physical activity into therapeutic practice. A significant motivator for psychologists was observing tangible improvements in clients' mental health when physical activity was incorporated. Witnessing positive outcomes reinforced their belief in the value of such interventions. As Participant 3 shared, “People anecdotally talk about how much it's helped their depression.” This direct feedback from clients encouraged psychologists to continue recommending physical activity as part of their therapeutic repertoire.

Personal engagement with physical activity also played a crucial role. Psychologists who were personally active or had a passion for physical activity were more inclined to integrate it into therapy. Participant 7 expressed this connection: “I have a ton of stuff myself and I started up a local park run over 10 years ago this year... So, to me all this stuff just comes naturally.” Their enthusiasm and firsthand experience made advocating for physical activity with clients feel intuitive.

Psychologists often cited the emotional uplift, such as “joy,” “relief,” or “a lighter mood,” that clients experienced after movement. One explained: “After just 10 minutes of walking outdoors, they said they felt calmer already... it was a really nice boost for them”

(Participant 3). These experiential shifts motivated both clients and psychologists to persist in incorporating physical activity, reinforcing its perceived efficacy beyond the cognitive or behavioural domains.

Moreover, supportive environments within workplaces and professional networks facilitated integration. Psychologists emphasised the value of peer interactions, organisational backing, and the expanding evidence base supporting the mental health benefits of physical activity. Together, these factors contributed to a climate conducive to adopting new approaches. In particular, positive workplace cultures promoted knowledge sharing and provided resources that enhanced psychologists' confidence in implementing physical activity interventions. Some psychologists also described building interdisciplinary relationships as an important facilitator. Collaborating with GPs, physiotherapists, or exercise physiologists enabled them to align their therapeutic goals with broader health plans, without stepping outside their scope of practice. Participant 1 explained, "I actually went to a session with the exercise physiologist to understand what they were prescribing... it made it easier for me to reinforce it in our therapy." While time constraints and siloed systems could pose challenges, those who engaged in this kind of collaboration felt more confident supporting clients with consistent, practical guidance around physical activity.

6. Professional Advocacy and Growth. Participants highlighted the importance of ongoing professional development and advocacy in enhancing the integration of physical activity into mental health care. Several psychologists expressed a strong interest in building their confidence and knowledge base in this area. Participant 4 reflected this sentiment, explaining, "I'm really interested in gaining more knowledge and confidence in prescribing

exercise.” This desire for upskilling was often linked to an evolving understanding of the psychologist's role in supporting broader aspects of client well-being.

Professional learning was not limited to formal education. Many participants valued experiential and peer-based learning opportunities that offered both skill development and insight into practical implementation. For example, Participant 7 suggested, “We can have workshops or getaways where you can have that experiential guidance, and you can see for yourself how it works.” Such opportunities were perceived as a way to normalise the integration of physical activity within therapy by allowing clinicians to experience its benefits firsthand.

Leadership within organisations was also seen as critical. Psychologists described how senior team members who were vocal advocates for physical activity helped to shift workplace culture and empower others to engage. Participant 6 noted, “If you've got a senior person in the team that is advocating for it and... has a passion for it, it really filters down.” Leadership endorsement helped legitimise conversations about physical activity within therapy and created a more supportive environment for clinicians to explore this space.

Finally, professional connection and community helped psychologists feel less isolated in their efforts. Several participants described the importance of being part of communities of practice where they could discuss their interest in physical activity without fear of judgement. As Participant 3 explained, “So now I'm in a local group... It feels good to be in a group of people when you're not frightened to talk about that or feeling judged.” These supportive networks reinforced a sense of professional identity that aligned with broader, holistic care approaches and encouraged ongoing advocacy at both personal and organisational levels.

6.4.2 Theme Intersections and Relationships

The analysis revealed that the identified themes are interconnected, often overlapping and influencing one another in shaping the integration of physical activity into psychological treatment. This intersection reflects how various aspects of psychologists' work, such as therapeutic strategies, professional identity, and client engagement, are closely linked. In addition to these overlaps, relationships between distinct themes also emerged, highlighting how foundational elements such as organisational support or leadership can indirectly influence other factors, including psychologists' confidence in recommending physical activity or their ability to adopt integrated approaches. The following sections explore these overlaps and relationships in more detail, offering a nuanced perspective on their impact within therapeutic settings.

6.4.2.1 Intersection of Therapeutic Integration and Client-Centred Approach. A significant overlap exists between the themes of *Therapeutic Integration of Physical Activity* and *Client-Centred Therapeutic Approach*. Psychologists described the challenge of tailoring physical activity strategies to individual client needs while navigating practical constraints such as limited session time, complex clinical presentations and clinical risks, insurance requirements, and administrative demands. In some workplaces, strict guidelines around documentation and treatment modalities further restricted flexibility.

Psychologists described needing to align clients' preferences and readiness with these structural realities. One participant explained:

The mere fact of just taking a shower and dressing up for your psychologist is an effort, especially for work cover clients. So, tailoring [interventions] according to the needs, and a lot of that's to do with the symptomology of the presenting sort of issues. (Participant 5).

This overlap underscores the importance of flexible, adaptable approaches that respect client autonomy while acknowledging the constraints of practice settings.

6.4.2.2 Intersection of Professional Identity and Growth. The themes of *Professional Identity and Scope* and *Professional Advocacy and Growth* often intersected. Many participants reflected on how their identity as psychologists, shaped by traditional conceptions of psychological practice, limited their confidence in integrating physical activity. Yet, there was also a desire to upskill and expand their scope. One psychologist expressed “Probably not seeing myself as the expert to recommend physical activity... but definitely encouraging them to increase their physical activity for their mental well-being.” (Participant 4)

...again coming back to that code of ethics ... your scope of your professional your abilities. So, I'm not an exercise expert. I'm not trained in prescribing specific courses of exercise. So, my general recommendations are, you know, you know, getting an assessment of knowing what, where your clients are, what they're capable of, what their health's like, and then suggesting something that is within their abilities.

(Participant 3)

This intersection highlights that clarity around scope, coupled with professional development opportunities, may support psychologists in confidently incorporating a behaviour change approach to physical activity into therapeutic work.

6.4.2.3 Intersection of Client-Centred Care and Motivation. The *Client-Centred Therapeutic Approach* emphasises collaboration, autonomy, and respect for clients' preferences. However, these values often intersect with challenges related to the *Therapeutic Integration of Physical Activity* particularly when clients show resistance or low motivation. While psychologists recognised the importance of upholding client autonomy, they also

highlighted that limited client motivation can hinder engagement with physical activity strategies. As Participant 6 reflected, “Even when we collaborate, some clients just aren't motivated, and it's tough to balance their preferences with what's beneficial.”

This intersection highlights an ongoing tension between supporting client choice and promoting evidence-based practices. Psychologists reported using autonomy-supportive and collaborative strategies to maintain respect for client preferences while gently guiding engagement. These techniques allowed them to encourage behaviour change without compromising the therapeutic alliance, reinforcing the importance of tailoring physical activity discussions to each client's readiness and personal context.

6.4.2.4 Intersections Between Professional Identity and Perceived Barriers and Facilitators. Professional identity shaped how psychologists perceived both the *barriers* and the *facilitators* to integrating physical activity. Participants who viewed their role as encompassing both mental and physical wellbeing described feeling more comfortable using physical activity interventions. As one participant explained, “I think primarily because I wanted to challenge myself to be able to use other strategies. Aside from the lazy route of medication, not to say that medication is not needed... but I find that if it's not part of my toolbox, then I would have to dig deeper and actually make this very meaningful for myself as a clinician” (Participant 5). This perspective underscores how professional identity frames the conditions under which integration is perceived as more or less feasible. By broadening their sense of professional remit, psychologists may reduce perceived obstacles and adopt a more comprehensive approach to client care.

Notably, some psychologists who saw themselves as holistic providers, supporting both mental and physical aspects of client wellbeing, also expressed greater willingness to advocate for system-level changes. However, this inclination was tempered by concerns

about ethical boundaries, regulatory ambiguity, and the risk of professional complaints. One participant acknowledged, “I would absolutely push for walk-and-talk or gym sessions if I knew AHPRA wasn’t going to come knocking” (Participant 1). This theme intersection suggests that while an expanded professional identity can support the integration of physical activity, clear systemic guidance and ethical reassurance are essential for psychologists to act with confidence.

6.4.2.5 Relationship between Professional Identity and Advocacy. Psychologists with a strong, holistic professional identity were more likely to advocate for physical activity integration, often engaging in interdisciplinary collaboration or speaking up within their organisations. One participant noted, “I see it as part of my job to help them physically as well as mentally, but sometimes it feels like I’m stepping out of my lane... we can do a lot with physical activity ourselves” (Participant 6).

Confidence in this broader scope appeared to support innovation, while concerns about regulation or role boundaries hindered action. Supportive workplace cultures, particularly those with active leadership endorsement, further enabled advocacy, helping psychologists align their evolving professional identity with tangible strategies like walk-and-talk sessions or structured referral pathways.

6.4.2.6 Relationship between Client-Centred Approach and Therapeutic Integration. The relationship between client-centred care and the therapeutic integration of physical activity was evident in psychologists’ efforts to personalise interventions to each client’s context. Rather than offering standardised strategies, participants described tailoring their approaches to match clients’ readiness, routines, preferences, and capacities. As

Participant 6 explained, “We don’t just say, ‘Go for a run.’ We first figure out their living situation, their schedule... Once those pieces are in place, it’s less daunting.”

This flexibility enabled the use of behavioural techniques, such as collaborative goal setting, behavioural activation, and cognitive reframing, which helped to enhance clients’ perceived behavioural control and motivation. Rather than undermining evidence-based practice, personalisation was viewed as essential for meaningful engagement. Aligning the intervention with the client’s own priorities and barriers was viewed as helping to sustain motivation and behaviour change over time.

Professional identity also played an important role in how these strategies were implemented. Psychologists who felt confident in integrating physical activity into their practice reported pacing interventions more gently, providing tailored recommendations, and facilitating collaborative decision-making. As Participant 5 noted, “All these small steps, guided by the client’s own readiness, add up to bigger results than if I imposed a rigid exercise program from the outset.”

Together, this relationship highlights how a client-centred lens enables more effective therapeutic integration of physical activity. When clinicians view clients as experts in their own lives and draw on structured strategies in a responsive way, they foster greater engagement and more enduring outcomes.

6.4.2.7 Relationship between Barriers and Facilitators Influencing Professional Identity and Therapeutic Strategies. *Barriers* and *Facilitators* significantly shaped both *professional identity* and *therapeutic strategies*. From the perspective of constraints, participants described how constrained environments and insufficient organisational support often restricted their ability to extend their practice to include physical activity. For example, one psychologist working in a correctional facility stated, "At the moment I'm working in a

prison... there are some limitations, operational constraints can be a real barrier sometimes. It's hard to get clients moving or exercising when the environment isn't set up for it" (Participant 2). This reflects how structural and logistical limitations within practice settings can significantly impede the implementation of innovative, holistic therapeutic strategies. Additionally, bureaucratic processes such as brief referral pathways or limited session allocations further constrained opportunities to embed physical activity in care. These constraints often undermined psychologists' confidence and capacity to deliver integrated approaches.

Conversely, workplace cultures that supported interdisciplinary collaboration and resource-sharing emerged as key enablers. As Participant 1 described, "We have a team lead who really believes in holistic care. She set up a monthly case conference with a physio and dietitian, so now we share ideas for integrating exercise and see great outcomes."

These organisational commitments allowed psychologists to develop a more expansive sense of professional identity that included physical and mental health promotion. When internal motivation was matched with external support, clinicians reported greater success in implementing holistic strategies. This alignment between structural enablers and individual initiative ultimately contributed to improved therapeutic engagement and enhanced client outcomes.

6.4.2.8 Relationship between Professional Development and Client Outcomes. In a less significant theme, participants indicated that professional development was linked to improved client outcomes in physical activity interventions. New skills, particularly in

behaviour change and interprofessional communication, gave psychologists the tools to tailor activity-based goals more effectively and confidently.

One participant explained, “I’m really interested in doing more PD [professional development] so I can give clients strategies... and I’ll feel less like I’m winging it” (Participant 4). These insights reinforce the importance of professional development in equipping psychologists to deliver nuanced, client-responsive support. In this way, upskilling served as a mechanism for expanding intervention repertoires and fostering more personalised, effective strategies for supporting physical activity engagement, possibly contributing to stronger client outcomes.

6.4.3 Thematic Summary

Thematic analysis revealed a complex interplay of factors influencing psychologists’ integration of physical activity into mental health care. These included role clarity, confidence, therapeutic style, organisational constraints, and access to professional development. Importantly, these themes interacted across individual, relational, and systemic levels, highlighting that effective integration depends not only on clinician intent but also on context and structural support.

These findings establish the foundation for applying the Behaviour Change Wheel (BCW) framework in the next section. By mapping thematic insights to the COM-B model, intervention functions, and relevant policy categories, the BCW analysis offers a structured means of identifying practical pathways to enhance integration. This includes improving individual capability and motivation, restructuring environmental and organisational conditions, and informing system-level changes to support sustained practice development.

6.4.4 Overview of the BCW Analysis

Building on the preceding thematic findings, this section draws on the BCW framework to organise and interpret the factors influencing psychologists' integration of physical activity into therapy. As shown in Table 13, the themes are mapped against the COM-B model to illustrate how various capability, opportunity, and motivation-related influences may inform intervention design. This mapping provides a conceptual foundation for identifying relevant intervention functions and policy supports to guide implementation efforts.

Table 13

Mapping of Themes and Key Features to COM-B Components

COM-B Component	Theme	Key Features of Theme
Capability	Professional Identity and Scope	Professional Boundaries and Competency Educational and Career Pathways Methods and Techniques
	Therapeutic Integration of Physical Activity	
Opportunity	Barriers and Facilitators to Implementation	Institutional Support and Resources
	Professional Advocacy and Growth	Peer Support and Collaboration
	Client-Centred Therapeutic Approach	Client-Therapist Collaboration
Motivation	Professional Advocacy and Growth	Professional Development
	Client-Centred Therapeutic Approach	Client Engagement and Motivation

From a capability perspective, psychologists expressed concerns regarding their professional identity and scope, particularly a perceived lack of training and confidence in prescribing or integrating physical activity. The *Professional Identity and Scope* theme captured these uncertainties, especially around boundaries and role expectations. Participants described hesitations stemming from limited exposure during clinical training and concerns about stepping outside traditional psychological practice. The *Therapeutic Integration of*

Physical Activity theme further highlighted the absence of structured approaches and limited familiarity with how to embed physical activity meaningfully into sessions. These issues underscore the need for targeted education and training initiatives. As shown in Table 13, these themes map onto the Capability component of the COM-B framework.

Improving capability may require clearer guidelines and the inclusion of physical activity in psychology curricula and continuing professional development. These needs align with common BCW intervention functions such as Education and Training, supported by broader service-level strategies. A detailed mapping of these alignments is presented in Section 6.4.5.

In relation to opportunity, the analysis identified several external factors that shaped psychologists' capacity to integrate physical activity into therapy. Structural constraints, such as time limitations, restricted referral pathways, session caps, and limited organisational support were reflected in the *Barriers and Facilitators to Implementation* theme. These environmental barriers often hindered psychologists from adopting more holistic approaches, even when they were personally motivated to do so. Conversely, the *Professional Advocacy and Growth* theme illustrated how peer support and leadership advocacy created enabling conditions for integration. For example, shared case conferences and team-based initiatives provided platforms for interdisciplinary collaboration. The *Client-Centred Therapeutic Approach* theme also underscored the role of contextual and environmental factors in shaping client engagement and the feasibility of tailoring physical activity recommendations.

To address these opportunity-related barriers, strategies such as environmental restructuring and enablement may be required. These include workplace, funding, and infrastructure supports that can assist psychologists in embedding physical activity into standard care.

Motivational factors were observed at two interconnected levels: clinicians' own motivation to include physical activity in care, and their efforts to support client motivation to engage. At the clinician level, the *Professional Advocacy and Growth* theme demonstrated an intrinsic belief in the benefits of physical activity, but this was often undermined by competing priorities and limited time. While some psychologists described strong professional interest and commitment to upskilling, these intentions were not always operationalised without systemic backing.

At the client level, motivational strategies were embedded in collaborative work, such as using open goal setting, behavioural activation, and reframing physical activity in personally meaningful terms. These approaches were often tailored to individual readiness and preferences, reinforcing the *Client-Centred Therapeutic Approach* theme. As shown in Table 13, these motivational factors relate to both clinician- and client-level processes.

Supporting motivation may require the use of COM-B interventions Persuasion, Incentivisation, and Modelling at the clinician level, particularly when coupled with policy-level strategies such as Communication/Marketing and Fiscal Measures. These functions may help facilitate the shift from reflective to automatic motivation, thereby enabling more consistent integration of physical activity alongside other psychological interventions.

6.4.5 Intervention Functions and Detailed Mapping

To extend the COM-B analysis, Table 14 outlines how each theme and sub-theme corresponds with intervention functions and policy categories from the BCW. This table provides a concise overview, highlighting the relevance of functions such as education, training, environmental restructuring, and enablement for supporting psychologists' integration of physical activity into care. These mappings begin to translate theoretical constructs into practical guidance for implementation.

Table 14*Mapping of Themes and Sub-Themes to Intervention Functions of the BCW*

Intervention Functions	Themes	Sub-Themes
Education	Professional Advocacy and Growth	Professional Development
Persuasion	Client- Centred Therapeutic Approach	Psychoeducation about Physical Activity
	Client- Centred Therapeutic Approach	Advocacy for Physical Activity Integration
Incentivisation	Barriers and Facilitators to Implementation	Emphasising Positive Client Outcomes
	Professional Advocacy and Growth	Encouraging Professional Growth
Training	Therapeutic Integration of Physical Activity	Methods and Techniques
		Tailoring Physical Activity to Client Needs
Environmental Restructuring	Barriers and Facilitators to Implementation	Organisational Support and Resources
		Creating Supportive Organisational Policies
Modelling	Professional Advocacy and Growth	Peer Support and Collaboration
		Champions in Workplaces
Enablement	Barriers and Facilitators to Implementation	Providing Resources and Tools
	Client- Centred Therapeutic Approach	Professional Boundaries and Competency Enhancing Client Engagement and Motivation

Note. All BCW functions were considered; coercion and restriction were examined but not evidenced in participants' accounts and are therefore not reported as findings.

Building on this foundation, Table 15 presents a more detailed synthesis by linking BCW components to themes, second-order codes, and explanatory insights. This synthesis identifies relevant intervention functions and policy categories, accompanied by example strategies that reflect participant perspectives. Together, Tables 14 and 15 demonstrate how interventions at the individual, organisational, and systemic levels can address key barriers and enablers, supporting evidence-informed and contextually relevant approaches to embedding physical activity within psychological practice.

Table 15

Mapping of BCW Components to Themes and Second-Order Codes, with Explanations, Intervention Functions, Policy Categories, and Example Interventions

BCW Component	Theme	Second-Order Code	Explanation	Intervention Function(s)	Policy Category	Example Intervention
Capability	Professional Identity & Scope	Professional Boundaries and Competency	Psychologists require greater confidence and clarity in promoting physical activity.	Education, Training, Modelling	Service Provision, Guidelines	Training on physical activity, ethics, and scope included in CPD and graduate education.
Capability	Therapeutic Integration of Physical Activity	Therapeutic Techniques	Lack of structured techniques for embedding physical activity in therapy.	Education, Training, Enablement	Service Provision, Guidelines	Toolkits and guidelines for integrating physical activity into therapy sessions.
Capability	Therapeutic Integration of Physical Activity	Client Psychoeducation	Enhancing client knowledge and understanding of the benefits.	Education	Communication/Marketing	Psychoeducational materials and in-session discussions to explain benefits to clients.
Opportunity	Barriers & Facilitators to Implementation	Organisational Support and Resources	Organisational factors, resources, and time constraints impacting feasibility.	Environmental Restructuring, Service Provision, Guidelines	Service Provision, Environmental/Social Planning	Organisational support such as time allocation and system-level workflow changes.
Opportunity	Therapeutic Integration of Physical Activity	Resources for Practice Implementation	Ensuring psychologists have resources for various interventions.	Environmental Restructuring, Service Provision	Service Provision, Environmental/Social Planning	Referral options, basic equipment, and partnerships with community providers.

BCW Component	Theme	Second-Order Code	Explanation	Intervention Function(s)	Policy Category	Example Intervention
Motivation	Client-Centred Therapeutic Approach	Client Motivation and Engagement	Clients' motivation and readiness to engage.	Enablement, Persuasion, Incentivisation, Modelling	Service Provision, Communication/Marketing	Use of collaborative goal setting, behaviour change strategies, and values-based discussions to enhance motivation and support sustained engagement.
Motivation	Professional Advocacy & Growth	Professional Learning and Leadership	Psychologists' internal drive to learn and advocate for change.	Incentivisation, Modelling, Enablement	Fiscal Measures, Service Provision	Incentives for CPD, access to mentors, and visible leadership support.
Motivation	Barriers & Facilitators to Implementation	Cultural Attitudes and Societal Norms	Societal and cultural factors that influence attitudes.	Communication/Marketing, Modelling, Environmental Restructuring, Guidelines	Communication/Marketing, Guidelines	Stigma reduction campaigns and co-designed guidelines from professional bodies.

Note. This table maps psychologists' perspectives to BCW components. Intervention functions and policy categories are derived using the BCW framework (Michie et al., 2011; Michie et al., 2014). Example interventions reflect suggestions, perceived needs, or existing practices discussed by psychologists.

6.4.6 Synthesis of BCW Key Findings and Implications

The BCW analysis identifies key factors shaping psychologists' ability to integrate physical activity into mental health practice, with a focus on Capability, Opportunity, and Motivation.

Capability (Psychological and Physical). Psychologists often lack expertise in prescribing physical activity, indicating a need for targeted education and training. Clear guidelines and structured professional development can enhance confidence and competence, ensuring that physical activity becomes a standard part of psychological practice.

Opportunity (Social and Physical). Institutional constraints, limited resources, and rigid organisational structures present significant barriers. However, peer support and professional collaboration can help mitigate these challenges. Organisational restructuring and policy interventions are needed to create a more supportive environment for integrating physical activity into mental health care.

Motivation (Reflective and Automatic). Although many psychologists recognise the benefits of physical activity, competing priorities often prevent implementation. Strategies that enhance motivation such as collaborative goal setting, and behaviour change techniques can help sustain engagement. Ongoing professional development and clear communication strategies are necessary to reinforce these efforts.

Overall, the BCW analysis underscores that education, training, enablement, and environmental restructuring are needed to enhance psychologists' capability, opportunity, and motivation for integrating physical activity. Policy changes, such as embedding physical activity

within clinical guidelines and professional training, along with incentives for further education, may strengthen the psychologist's role in supporting clients' engagement in physical activity.

6.5 Discussion

This study explored psychologists' perspectives on integrating physical activity into mental health care and identified a range of barriers and facilitators that influence practice. Psychologists acknowledged the value of physical activity for treating mental health conditions but highlighted concerns about professional boundaries, ethical uncertainty, and limited training. Organisational constraints, including time pressures and lack of service-level support, further restricted implementation. Client-related factors such as ambivalence, low motivation, and diverse preferences added complexity to therapeutic planning. Despite these challenges, many psychologists described adapting strategies such as open goal setting and motivation enhancing techniques to support client engagement. Some also reflected on systemic and cultural factors, including societal stigma and perceptions of what constitutes appropriate therapeutic content.

Rather than being isolated, these influences often interacted in ways that shaped psychologists' comfort and capacity to incorporate physical activity within therapeutic care. Mapping the findings to the BCW provided a structured way to interpret these influences and highlighted opportunities for capacity building, service redesign, and supportive policy. The following discussion integrates these findings with existing literature and considers their implications for clinical practice, professional training, and systems-level reform.

6.5.1 Professional Boundaries and Training Needs

A central finding was the tension between recognising the value of physical activity and feeling uncertain about whether supporting it falls within a psychologist's professional scope. Participants expressed hesitation that stemmed not only from limited training, but also from

concerns about ethical boundaries and traditional conceptions of psychological practice. These concerns reflect interpretive ambiguity within existing professional codes, such as the Australian Psychological Society's Code of Ethics (APS, 2017) and have been identified in previous research as barriers to engaging with broader health behaviours (Stubbs et al., 2018; (Shrestha et al., 2021; Stubbs et al., 2018)

Importantly, this uncertainty was not always due to a lack of skill or knowledge. Many psychologists described confidence in behaviour change techniques but remained unsure whether it was appropriate to raise or support physical activity within therapy. This distinction suggests that the issue is not solely about capability, but also about clarity around role expectations and scope. Professional boundaries, as currently understood by many practitioners, appear to limit action even in cases where psychologists feel equipped to help.

Targeted training and professional development may help resolve these concerns, but only if paired with clearer guidance from regulatory bodies and professional associations. Rather than framing this as an issue of exercise prescription, the focus should be on supporting physical activity behaviour change in ways that are evidence-based, client-centred, and aligned with therapeutic goals. Intervention strategies such as education, supervision, and updated ethical guidance, supported by broader policy and service frameworks, could enhance psychologists' confidence and clarify how physical activity support can be integrated within their scope of practice (Keyworth et al., 2020a).

6.5.2 Client-Centred Care and Practical Constraints

Participants repeatedly underscored the importance of tailoring interventions to individual client needs, a principle grounded in client-centred care (Richards & Borglin, 2011). Yet, practical constraints like limited time, insufficient resources, and heavy caseloads made

personalised interventions difficult to implement. These challenges align with broader concerns about the feasibility of integrating additional therapeutic content into routine practice (Biddle et al., 2019). Systemic changes such as dedicated time in sessions for discussing exercise, institutional support for behaviour-change strategies, and accessible community resources could mitigate these constraints. Psychologists also noted that the domain of physical activity appeared to influence the perceived benefits, with leisure-time activity more readily linked to mood and engagement than occupational activity, and active transport contingent on context and safety (Vella et al., 2023; Teychenne et al., 2025).

Psychologists who lacked organisational support, such as access to relevant resources or referral options, described struggling to move beyond brief or incidental conversations about physical activity. This highlights the need for change at both service and individual levels. Structural adjustments, including allocating time within sessions or developing consistent and feasible referral pathways, may ease the burden on individual clinicians and allow more consistent implementation (Jette et al., 2003).

6.5.3 Client Resistance and Motivation

Even when service conditions permitted discussion of physical activity, client-centred approaches posed further challenges when clients demonstrated ambivalence or resistance. Psychologists described client hesitancy stemming from low self-efficacy, fear of failure, or prior negative experiences with physical activity, barriers well-documented in behaviour change literature. These patterns align with the TPB, which highlights attitudes, perceived behavioural control, and intention as central determinants of physical activity engagement (Hagger et al., 2002; Plotnikoff et al., 2012). They also reflect broader challenges described in the physical

activity literature, where intention does not always translate into action due to motivational barriers and contextual constraints (Rhodes (Rhodes & de Bruijn, 2013)& de Bruijn, 2013).

To address these barriers, psychologists employed flexible, psychologically informed strategies aimed at enhancing motivation and autonomy. These included collaborative behavioural activation, cognitive reframing, and efforts to reframe physical activity as manageable and personally relevant. In some cases, clinicians used alternative language such as “movement” or “energy levels” to reduce stigma or resistance. These approaches were designed to reduce psychological pressure and foster a sense of competence and control. Several psychologists also described using open goal setting, allowing clients to define activity goals in a way that felt achievable and personally meaningful. This strategy helped build autonomy, especially among clients who initially viewed physical activity with scepticism or discomfort.

These findings reflect TPB-aligned mechanisms, where fostering positive attitudes and enhancing perceived behavioural control may strengthen intentions and, ultimately, engagement. They also underscore the importance of motivational processes such as autonomy and confidence, which shape readiness to act. However, psychologists emphasised that applying these strategies consistently requires time, skill, and supportive service structures. This suggests that even when clinicians are equipped with behaviour change knowledge, environmental and systemic factors may constrain implementation.

6.5.4 Organisational Culture and Systemic Support

Psychologists also reflected on the role of organisational culture in shaping their ability to integrate physical activity into care. Limited time, resource constraints, and a lack of service-level support were identified as key barriers, consistent with broader implementation challenges in mental health settings (Damschroder et al., 2009). These organisational conditions align with

broader research on implementation capacity, which underscores the importance of strategic leadership, resource allocation, and infrastructure support (Aarons et al., 2011; Powell et al., 2015). According to the BCW, environmental restructuring and improved service provision at the policy level are needed to cultivate more supportive organisational settings (Flottorp et al., 2013).

While most comments centred on internal service conditions, some participants also hinted at broader cultural norms that may influence the perceived relevance or appropriateness of raising physical activity in therapy. For example, societal stigma around mental illness and client expectations of what constitutes 'therapy' were seen to shape psychologists' confidence or hesitation in discussing physical activity. In a few cases, psychologists reflected on how diverse backgrounds or value systems might influence client receptivity, though these reflections were not deeply explored. These subtle references suggest that both organisational culture and wider societal beliefs may shape implementation efforts, even if indirectly. As Greenhalgh et al. (2004) argue, the diffusion of innovations in service settings is strongly influenced by cultural receptivity, professional norms, and the compatibility of new practices with established routines.

To support integration, it is therefore important to recognise not only the structural limitations of the service environment, but also the broader context in which therapy occurs. Integrated care models offer one potential pathway, with evidence showing improved outcomes for individuals with co-occurring mental and physical health conditions (Firth et al., 2019; Katon et al., 2010; Mauer & Druss, 2010).

6.5.5 Professional Advocacy and Ongoing Development

The theme of Professional Advocacy and Growth revealed participants' strong desire for comprehensive training and ongoing learning opportunities. Many felt that their current

educational programs did not adequately prepare them to integrate physical activity into psychological therapy. This perception reinforces long-standing calls to embed training on the psychological relevance of physical activity into psychology curricula (American Psychological Association, 2013; Australian Psychological Society, 2017).

What distinguishes the current findings is the emphasis on ethical uncertainty and the nuanced role that perceived scope plays in shaping practice. Even when psychologists felt confident in behaviour change techniques, they described hesitancy rooted in a lack of clear guidance or formal training that legitimised this work within therapy. This adds depth to recent literature (Ashdown-Franks et al., 2020; Biernacka et al., 2024), which highlight insufficient training as a barrier but do not fully examine how this limitation intersects with professional identity and clinical role expectations.

The BCW's education and training functions, alongside policy categories such as fiscal measures and practice guidelines, offer a useful structure for addressing these unmet needs (Lox et al., 2014). Importantly, findings from this study suggest that training should not only build technical knowledge but also articulate how physical activity aligns with therapeutic goals. Reframing physical activity as a vehicle for supporting psychological change, rather than as generic health promotion, may enhance professional confidence and reduce scope-of-practice concerns.

Embedding this content across undergraduate and postgraduate programs could help standardise expectations and equip psychologists with ethically grounded, evidence-based strategies to support client behaviour change (Burton et al., 2010). In this way, training and professional development emerge as critical levers for translating evidence into practice, particularly for psychologists seeking to balance innovation with professional legitimacy.

6.5.6 Integrating the BCW

Applying the BCW framework provided a systematic lens through which to examine capability, opportunity, and motivation as core drivers of psychologist behaviour (Michie et al., 2013b; Michie et al., 2011) Each theme mapped onto components of COM-B, indicating where interventions and policy shifts might be most effective:

- **Capability:** Addressing knowledge gaps and professional boundaries through education, training, and clear practice guidelines.
- **Opportunity:** Mitigating systemic hurdles via resource allocation, environmental restructuring, and supportive policies.
- **Motivation:** Enhancing engagement through behavioural strategies that build intention and readiness, including persuasion, incentivisation, and client-centred planning.

These multi-level insights resonate with broader implementation science literature, which stresses that meaningful behaviour change often requires alignment of individual-level interventions with systemic reform (French et al., 2012; Michie et al., 2011).

6.5.7 Contribution to the Evidence Base

The barriers identified in this study reflect ongoing challenges documented in the implementation literature surrounding physical activity in mental health care. Although the mental health benefits of physical activity are well established (Heissel et al., 2023; Singh et al., 2023), systemic, professional, and contextual barriers continue to prevent its routine integration (Stubbs et al., 2024). Consistent with previous research, participants in this study described issues such as limited training, concerns about role boundaries, and structural constraints within services (Glowacki et al., 2017). For example, Czosnek et al. (2019) synthesised barriers and enablers across a broad range of mental health professionals (e.g., nurses, peer workers, case

managers), highlighting issues such as unclear role expectations and organisational resistance. While their review offered important insights, the current study extends this work by providing a psychologist-specific lens. This focus reveals additional challenges such as therapeutic fit, ethical boundaries, and the integration of physical activity within evidence-based psychological frameworks.

These patterns are also reflected in the scoping review by Shrestha et al. (2021), which identified barriers to physical activity promotion across various mental health professionals, including ambiguity around role boundaries, inconsistent training, and organisational constraints. While their review did not focus on psychologists specifically, the overlap in system-level and professional barriers strengthens the relevance of the current findings. By offering a psychologist-specific lens, this study contributes profession-tailored insights into how these challenges unfold in therapeutic settings and what is needed to support appropriate role integration.

Firth, Solmi, et al. (2020) complement this implementation-focused perspective by consolidating evidence for the effectiveness of physical activity as a mental health intervention. When considered together, these two streams of literature reinforce the presence of a persistent evidence–practice gap: although efficacy is well established, uptake remains limited by contextual and professional constraints.

This study also advances the literature by exploring relational mechanisms underpinning implementation efforts. While previous research often identifies structural or motivational barriers, the present findings suggest that the delivery of physical activity support is shaped by therapeutic strategies such as collaborative goal-setting and motivational interviewing. These relational elements are typically underemphasised in physical activity implementation studies

and contribute to a more nuanced understanding of how behaviour change unfolds in therapeutic settings.

The current findings also echo the work of Flottorp et al. (2013) who advocate for implementation frameworks that address a broad range of determinants. Like their model, this study recognises that successful integration depends not only on individual attitudes or intentions, but also on organisational culture, available resources, professional training, and system-level support. Addressing these challenges requires coordinated action across multiple levels, from targeted training initiatives and clearer role guidance to policy reforms that support collaborative and preventative models of care.

6.6 Limitations

The self-selected sample may reflect those with a greater interest or positive orientation toward physical activity, potentially underrepresenting the perspectives of more sceptical or disengaged clinicians. The use of focus groups, while effective for exploring shared norms and professional dynamics, may have limited participants' willingness to voice dissenting or critical views in a group setting.

These limitations suggest that future research could sample a broader and more diverse group of clinicians, including those from a range of theoretical orientations and service contexts. Further work is also needed to examine how professional guidelines, training pathways, and policy environments influence psychologists' perceived role and readiness to support physical activity, potentially using alternative methods such as clinical file audits to better understand how and when physical activity is integrated into treatment.

Additional methodological reflections and overarching limitations are discussed in Chapter 7, where the findings from all three studies are integrated and situated within the broader implementation context.

6.7 Chapter summary

This study examined how psychologists perceive and navigate the integration of physical activity within mental health care. Using reflexive thematic analysis and the BCW, the findings revealed that implementation is shaped by more than individual attitudes or awareness. Psychologists identified barriers including unclear role expectations, limited training, and service-level constraints that reduced their capacity to engage with physical activity meaningfully within treatment. At the same time, several enablers were evident, such as alignment with therapeutic approaches, relevance to client outcomes, and psychologists' existing behaviour change expertise. Interpreted through COM-B, barriers and enablers clustered across capability, opportunity, and motivation, highlighting practical targets for implementation support.

Taken together, these findings suggest that psychologists are well positioned to support clients' physical activity within therapy, provided they are equipped with appropriate guidance, professional support, and systemic conditions that legitimise this work. Addressing these barriers will require multi-level change across training, service design, and policy, involving education, health and government sectors. These implications, and how they intersect with client and community perspectives, are synthesised with Studies 1 and 2 in Chapter 7's integrated discussion.

Chapter 7: General Discussion

This chapter synthesises findings from three empirical studies, exploring multi-level factors influencing physical activity integration into psychological treatment. It provides practical guidance for clinical practice, professional training, and policy reform, and contributes theoretically by expanding the BCW framework to better reflect relational dynamics in psychological interventions.

This thesis aimed to investigate how physical activity can be integrated within routine psychological treatment in Australia. The overarching aim was to understand multi-level factors, ranging from individual attitudes to contextual influences, that affect the integration of physical activity into mental health treatment. In line with this aim, three empirical studies were conducted to address complementary objectives. Specifically, the research explored: (1) community attitudes toward using physical activity within therapy and intentions to engage in clinician-recommended physical activity; (2) the experiences of clients, particularly young people, who participated in a physical activity intervention as part of their mental health care; and (3) psychologists' perspectives on the barriers and enablers to incorporating physical activity into treatment sessions. Together, these studies provide a comprehensive understanding of challenges and opportunities for embedding physical activity as a routine component of psychological treatment (Michie et al., 2011, 2014; APA, 2006; APS, 2018).

7.1 Summary of Key Contributions

Study 1 offered insights derived from quantitative data into community support for integrating physical activity into mental health care. The findings indicated strong public endorsement of physical activity as a therapeutic intervention, with positive beliefs about its mental health benefits associated with greater intentions to engage if physical activity was to be

recommended by a psychologist. The study also highlighted the importance of community attitudes and perceived clinician credibility in shaping their behavioural intentions, reinforcing the value of targeted public education on both the role of physical activity in mental health and the capacity of psychologists to support this. These findings helped reframe the perceived ‘uptake problem’ as one rooted more in clinical delivery conditions than in client receptiveness.

Study 2 extended these insights by exploring how young clients experienced physical activity when integrated into routine mental health care. Participants described a range of perceived psychological benefits, including improved mood, reduced anxiety, and enhanced motivation. However, these benefits were not guaranteed; they were shaped by the fit between the activity and the individual’s circumstances, as well as the support provided by the psychologist (Firth, Solmi, et al., 2020; Singh et al., 2023). The findings revealed that sustained engagement in physical activity relied on more than just perceived benefit, it required therapeutic trust, contextual relevance, and a sense of meaning. These relational and environmental influences reflect key elements of the BCW, particularly the need to address both opportunity and motivation. Unlike previous research that has focused on general preferences or hypothetical scenarios, this study provided an in-depth account of how physical activity is experienced in real-time care. It highlighted the value of flexible, collaborative approaches and underscored the role of psychologists in shaping meaningful, sustainable engagement in physical activity for mental health benefits.

Study 3 addressed a critical gap by exploring how psychologists perceive and navigate the integration of physical activity within routine care. Although many were motivated to support client behaviour change, their efforts were often constrained by structural limitations, role ambiguity, and a lack of formal training in physical activity interventions. Using the BCW

framework, the study provided a context-specific understanding of how barriers and enablers manifest in day-to-day practice. It demonstrated how professional identity, therapeutic context, and system-level factors shape psychologists' capacity to integrate physical activity within therapeutic interventions. Importantly, the findings highlighted that behaviour change support is needed not only for clients but also for clinicians, pointing to the importance of targeted training, clear role guidance, and structural supports to enable implementation.

Taken together, the three studies offer a layered understanding of the behavioural, relational, and systemic conditions that shape whether and how physical activity is integrated into psychological treatment. These findings directly address the initial gap identified in the literature: a limited understanding of the real-world, practice-based factors that influence implementation within therapy. By applying established behaviour change frameworks across different stakeholder groups, the research contributes both conceptually and practically to the field. Rather than treating each perspective in isolation, the general discussion now turns to where these viewpoints intersect, where they diverge, and what this means for clinical practice, professional training, policy development, and advancements in knowledge.

7.2 Cross-Study Synthesis and Broader Contextualisation

Synthesising findings from the three studies reveals both consistent themes and new insights that emerge from their intersection. Each study provided a distinct lens: community attitudes (Study 1), client experiences (Study 2), and psychologist perspectives (Study 3), and together they offer a comprehensive understanding of the factors influencing the integration of physical activity into psychological treatment. This synthesis focuses on shared implications across the behavioural, relational, and systemic conditions that support or hinder meaningful implementation.

Public support for physical activity as a mental health strategy is well established (Stubbs et al., 2020). This thesis extends that knowledge by examining how such support might be translated into therapeutic practice, particularly through the role of psychologists. While the value of physical activity is broadly recognised, these findings suggest that translating this support into meaningful therapeutic implementation depends on more than general awareness or belief in its benefits. Across all three studies, participants acknowledged the value of physical activity, yet its implementation was shaped by contextual, relational, and professional factors. For clients, engagement depended on how the topic was introduced and whether it felt relevant and achievable within the context of their care. For psychologists, time constraints, confidence, perceived role boundaries, and uncertainty around delivery often limited their ability to act, even when they personally supported the use of physical activity.

These findings align with broader evidence that recommendations from trusted professionals can influence behaviour, particularly when delivered within a collaborative and ongoing therapeutic relationship (DiMatteo, 2025; APS, 2018). Relational qualities such as empathy, motivational style, and client-centred communication are also known to support physical activity engagement and behaviour change (Miller & Rollnick, 2012). However, trust and endorsement alone are not sufficient. Psychologists also need to feel capable, supported, and clear about their role in promoting physical activity. Without these conditions, physical activity remains peripheral to care. In the absence of explicit training, clearly defined roles, and organisational backing, clinicians may perceive a degree of clinical or professional risk in incorporating physical activity into treatment. As Noetel et al. (2024) argue, the gap between evidence and practice often stems from the complexity of implementation rather than from doubts about efficacy. This suggests that future training and support should focus not on

justifying the benefits of physical activity, but on equipping psychologists with the practical skills, strategies, and frameworks to integrate it meaningfully into therapy. White et al. (2024) reinforce the therapeutic potential of physical activity for mental health, but the findings of this thesis show that unlocking that potential requires supportive clinical, relational, and structural conditions within routine care. These patterns reflect the evidence that *how* support is delivered determines engagement and adherence, in addition to the *type* of activity recommended (Flückiger et al., 2012; Beauchamp et al., 2018) and align with the broader transdiagnostic case for exercise (Solmi et al., 2025).

This thesis synthesised community, client and clinician perspectives to reveal that interest in physical activity is generally high, but meaningful engagement depends on how the topic is framed, introduced, and supported within therapy. As shown in Study 2, clients responded more positively when discussions were personalised, collaborative, and connected to their broader therapeutic goals. These findings were echoed in Study 3, where psychologists emphasised the importance of aligning physical activity discussions with client preferences, stage of change, and the overall therapeutic process. Psychologists were also more likely to initiate or support these conversations when they felt confident in their skills and supported by their work environment. These findings are consistent with broader implementation research, which emphasises that sustained practice change is shaped not only by knowledge or intention, but also by social support, professional identity, and emotional resonance (Harvey et al., 2023; Kwasnicka et al., 2016). In therapeutic settings, these conditions are often fostered through a strong working alliance, where physical activity can be introduced in ways that feel meaningful and personally relevant. This suggests that effective integration is not a matter of adding physical activity to a

treatment checklist. It requires psychologists to feel both capable and authorised to engage with the topic in a way that aligns with their therapeutic approach and the client's goals.

This thesis explored the integration of physical activity within psychological treatment, producing insights that are relevant to broader health disciplines aiming to embed physical activity interventions into routine practice. Across general practice, nursing, and allied health, professionals commonly report uncertainty about whether supporting physical activity aligns with their professional scope (Dolan & O'Regan, 2025; Hall et al., 2022; Hell-Cromwijk et al., 2021). For example, general practitioners are more likely to recommend physical activity when they feel competent and supported to do so (Hébert et al., 2012; Short et al., 2016) while nurses' engagement is shaped by beliefs about role legitimacy and access to appropriate resources (Hell-Cromwijk et al., 2021). Confidence and perceived capability also influence implementation, with limited training in behaviour change strategies frequently identified as a barrier, even when the therapeutic relevance of physical activity is well recognised (Orrow et al., 2013). These issues are compounded by structural constraints such as time-limited consultations, workload pressures, and competing service demands, which reduce the opportunity to integrate physical activity in a way that aligns with therapeutic goals and clinical care pathway (Craike et al., 2020). These findings are consistent with guidance for other health practitioners, such as the position paper from the Academy of Nutrition and Dietetics and the American Council on Exercise, which underscores the need for role clarity, scoped competence, and collaborative structures to support integration of physical activity within client care (Robinson et al., 2024). Taken together, these patterns suggest that some of the barriers identified in psychological settings are similar across other health professions and reflect broader systemic challenges. Addressing clinician capability, confidence, and clarity of scope represents a critical opportunity for change across the health

workforce. These findings also point to the potential benefit of sharing learnings across sector and disciplinary boundaries, particularly in relation to implementation strategies and professional role development.

Study 2 contributes to understanding how physical activity can be meaningfully sustained when integrated into youth mental health care. It illustrates that young clients respond positively when physical activity is introduced in ways that prioritise early success, personal relevance, and social connection. These findings align with broader literature highlighting enjoyment, peer support, and autonomy as core facilitators of physical activity engagement among adolescents (Lubans et al., 2016; Teixeira et al., 2012). Martins et al. (2021), in a systematic review of qualitative studies, similarly identified confidence, social influence, and goal alignment as important for participation. By embedding these facilitators within a therapeutic setting, Study 2 demonstrates how psychological treatment can create the conditions necessary for meaningful and sustained engagement in physical activity.

Kwasnicka et al. (2016) meta-review provides a useful lens for interpreting the results of this thesis. Their identification of identity formation, habit development, and supportive environments as key to behavioural maintenance closely aligns with themes identified in Studies 2 and 3. These findings collectively suggest that psychological therapy may be particularly well positioned to support not only the initiation but also the long-term maintenance of physical activity, by leveraging relational and personalised approaches.

The thesis's findings on systemic constraints to physical activity integration align with recent implementation science literature across health service contexts. Studies examining the adoption of new practices, such as nutritional counselling or mental health screening, continue to identify organisational culture, leadership support, and resource availability as central to

implementation success (Birken et al., 2023; Moullin et al., 2020). The barriers identified in this research, including limited clinician time, unclear referral pathways, and fragmented funding models, mirror those reported across other healthcare settings (Dolan & O'Regan, 2025; Michie et al., 2014). However, this thesis extends past research by applying these insights specifically to the integration of physical activity within psychological care. This context introduces additional complexity due to the importance of therapeutic alliance, behaviour change processes, and the evolving nature of psychologists' professional roles. These findings suggest that system-level enablers must address both structural barriers and the need for alignment with therapeutic models and professional identity. Addressing these constraints may require a coordinated national response focused on upskilling and supporting allied health professionals. This could involve consistent training standards, improved access to interdisciplinary resources, and clearer role delineation to enable more effective implementation of physical activity within mental health care.

Finally, the critical role of the therapeutic relationship in supporting integration of physical activity aligns with broader psychotherapy and health behaviour change literature. While relational factors are widely acknowledged within psychological treatment, they are rarely emphasised in behavioural intervention frameworks commonly used across healthcare settings (such as the BCW). However, evidence from chronic disease and general healthcare contexts highlights that trust and quality communication between providers and clients are key facilitators of adherence and sustained behaviour change. DiMatteo et al. (2025) emphasise that trust, empathy, and collaborative communication are core to effective health behaviour interventions, shaping how clients engage with treatment. Similarly, Sharkiya (2023) review demonstrates that both verbal and non-verbal communication significantly influence client satisfaction, perceived

quality of care, and health outcomes. The findings from this thesis suggest that therapeutic rapport not only supports psychological engagement but may also serve as a mechanism through which physical activity becomes more acceptable and sustainable within routine care. These insights indicate a need to more explicitly account for relational dynamics in behaviour change models, ensuring they better reflect how interventions are delivered in therapeutic settings.

Together, these findings are bounded to psychological treatment but clarify how relational processes and implementation conditions shape the ethical and feasible integration of physical activity in this context.

7.3 Implications for Practice, Training, and Policy

The findings of this thesis offer targeted suggestions for psychological practice, professional training, and mental health policy regarding to how physical activity can be more effectively delivered within routine care. Drawing on behaviour change theory and empirical insights from three interrelated studies, the research highlights the conditions that influence psychologists' capability, opportunity, and motivation to support physical activity as part of mental health treatment. This section builds upon the evidence and gaps identified in Chapter 2 by outlining practical strategies to address key barriers, strengthen professional roles, and enhance client engagement. Implications are considered across four domains: clinical practice, training and education, interdisciplinary collaboration and systems change, and policy and service delivery.

7.3.1 Clinical Practice Implications

The findings of this thesis support the acceptability of physical activity as a relevant and evidence-based component of mental health treatment. While previous research has demonstrated that physical activity can produce mental health benefits comparable to

psychotherapy and pharmacological interventions (Noetel et al., 2024; Singh et al., 2023), this thesis extends that work by showing that clients also find it acceptable when introduced in ways that align with therapeutic goals. Psychologists can therefore present physical activity as a credible therapeutic strategy, provided this is done with appropriate caution, avoiding overstatement of its potential or suggesting it is inherently superior to other treatments (Stubbs et al., 2024). As indicated in Study 2, integrating early discussions about clients' physical activity into initial assessments enhances client openness, normalising the inclusion of physical health within psychological treatment. These early conversations can be incorporated into standard assessments, alongside enquiries about sleep, substance use, or nutrition. Participants noted that being asked about their physical activity early in therapy signalled that their broader health behaviours were seen as relevant to their care.

Clients in Study 2 reported that acknowledging their current physical activity habits helped validate their lived experiences and encouraged them to view their everyday actions as meaningful to their recovery. These insights, along with national concerns around health inequities for people with mental health conditions, support the recommendation that clinicians include a brief “physical activity check-in” during intake or early sessions. This can support meaningful conversations about health behaviours and reinforce the relevance of physical activity within the therapeutic process.

The thesis also provides practical guidance on strategies that resonate with clients and align with widely accepted models of psychological care. A collaborative, client-centred approach was consistently described across Studies 2 and 3 as both acceptable and effective. This is consistent with definitions of evidence-based practice that integrate research evidence, clinical expertise, and individual client needs (APA Presidential Task Force on Evidence-Based

Practice, 2006; APS, 2018). For example, clients in Study 2 described appreciating when plans were shaped around their preferences and values, current fitness level, and daily routine, such as walking outdoors rather than attending a gym, and when therapists helped them identify small, manageable steps that felt achievable. This personalisation aligns with core behaviour change principles and supports clients' autonomy and capability.

Young people in Study 2 described fluctuating motivation, and many reflected positively on collaborative conversations that reinforced their readiness and confidence to change. Psychologists in Study 3 reported drawing on familiar therapeutic strategies to support motivation, such as helping clients explore their values, articulate reasons for being active, and identify small, meaningful goals. These techniques align with established behaviour-change strategies already embedded in psychological practice, enhancing their feasibility and acceptability (Hardcastle et al., 2017). Flexibility in goal-setting may also be supported by open goal approaches, which encourage clients to 'do what they can' without prescribing a specific intensity or duration. Open goals emphasise exploration, flexibility, and self-regulation; they can reduce pressure and fear of failure while supporting competence and autonomy. When relevant, they can be paired with light 'guardrails' (e.g., a time window or context) and later progressed to more specific targets. Evidence suggests this approach can support physical activity engagement in general populations (Swann et al., 2021), and have been qualitatively shown to support greater enjoyment and perceived competence among insufficiently active adults compared to specific goals (Hawkins et al., 2024), aligning with participant feedback highlighting the value of autonomy and adaptability. Importantly, open goal strategies can be complemented by structured behaviour change supports, such as deciding what, when, how, and with whom to engage in activity, and monitoring progress. These strategies are consistent with behaviour change

principles that emphasise the value of tailoring, incremental steps, and building self-efficacy over time (Michie et al., 2011). Collectively, these strategies allow psychologists to maintain therapeutic rigour while supporting a more mindful and personally meaningful engagement with movement.

Psychologists in Study 3 described adapting structured therapeutic models like CBT and ACT to support physical activity in flexible, client-responsive ways. Rather than adhering rigidly to protocols, clinicians reported incorporating client feedback, linking behavioural goals with values, and adjusting interventions based on capability and motivation. These adaptations allowed psychologists to uphold the rigour of evidence-based frameworks while remaining attuned to the relational needs of practice. This reinforces that integrating physical activity into therapy does not require abandoning core modalities but rather tailoring them to support health behaviour change within existing structures.

Clinicians are encouraged to approach physical activity not as a one-time recommendation but as an integrated and evolving component of therapy. This suggestion reflects findings across Studies 2 and 3, which highlighted the importance of flexibility, therapist responsiveness, and the normalisation of physical activity within ongoing sessions. For instance, young people in Study 2 reported feeling more motivated when physical activity was revisited regularly but not pushed, while psychologists in Study 3 described the value of brief, informal check-ins to sustain client engagement. A simple prompt, such as “How did moving your body go this week?”, is consistent with CBT and behavioural activation homework review and with motivational interviewing (MI) “open questions,” and can be motivating without being intrusive (Beck, 2011; Martell et al., 2010; Miller & Rollnick, 2012). When goals were not met, therapists who responded with curiosity and compassion rather than judgment were seen as more

supportive; this stance aligns with MI's empathic, autonomy-supportive style and with evidence that therapeutic empathy and alliance predict better outcomes and adherence in health behaviour change, including physical activity (Elliott et al., 2011; Flückiger et al., 2018; Lundahl et al., 2013; O'Halloran et al., 2014; Miller & Rollnick, 2012).

Importantly, this thesis recognises that initiating physical activity is only one part of the behaviour change process. Sustaining engagement over time presents a widely acknowledged challenge, particularly in the absence of social support or structured reinforcement. This was evident in Study 2, where young people described struggling to maintain physical activity when motivation dipped or competing demands arose. They emphasised the value of therapist encouragement, progress tracking, and reminders of past achievements in helping them remain engaged. These findings align with broader behaviour maintenance literature, which shows that long-term adherence requires more than initial motivation or knowledge. Strategies such as routine-building, identity development, and reinforcing enjoyment have been shown to support persistence in physical activity (Kwasnicka et al., 2016). For clients experiencing fluctuating motivation or competing priorities, psychologists can incorporate maintenance-focused techniques such as behavioural rehearsal, reflection on previous gains, and proactive problem-solving. These strategies are consistent with existing therapeutic frameworks and can be integrated into regular session work.

A landmark meta-review by Kwasnicka et al. (2016) identified key mechanisms for behaviour change maintenance, including habit formation, identity development, self-regulation, and social support. Psychologists are well positioned to support these mechanisms using approaches already embedded in therapy, such as behavioural activation, goal setting, and collaborative monitoring. The findings of this thesis suggest that clients are more likely to

sustain engagement when physical activity is actively supported and integrated into therapy, rather than framed as a peripheral or optional recommendation. Participants in Study 2 described how personalised feedback, therapist encouragement, and discussions of progress helped them remain motivated over time, while Study 3 highlighted how some psychologists used regular check-ins to reinforce positive behavioural patterns. These insights support the recommendation that clinicians not only introduce physical activity but also routinely revisit and adjust its inclusion throughout therapy. Simple tools such as self-report logs or mobile applications, selected in collaboration with clients, can make progress more visible and reinforce effort. For example, if a client engages in physical activity four times in one month compared to none previously, this measurable success can be acknowledged and used to strengthen self-efficacy. Incorporating such practices transforms physical activity from a casual suggestion into a structured and trackable element of care, increasing the likelihood of sustained engagement.

The thesis also emphasises the importance of psychologists working within their professional scope while making effective use of available resources to support clients' physical activity. As reported in Study 3, many clinicians were cautious about overstepping boundaries and expressed a preference for promoting rather than prescribing physical activity. When clinicians do not feel equipped to offer specific guidance, they can still promote physical activity and draw on collaborative approaches. For example, a psychologist may encourage activity and help clients set goals, while referring to or coordinating with a general practitioner or accredited exercise physiologist for more detailed guidance or medical clearance. This collaborative model supports both safety and role clarity. In the Australian context, general practitioners can initiate chronic disease management plans that include Medicare-funded sessions with an exercise physiologist for clients whose mental health conditions impact their physical wellbeing.

Psychologists can assist clients in accessing these supports and use their expertise in behaviour change to enhance uptake, follow-through, and long-term engagement. Because mental-health effects can vary by physical activity domain, recent evidence suggests leisure-time activity offers more reliable benefits than routine occupational activity, with active transport effects contingent on context and safety (Vella et al., 2023; Teychenne et al., 2025). In practice, psychologists can prioritise discretionary, value-aligned leisure-time activity where feasible, while addressing transport and environmental barriers that shape whether active travel is experienced as supportive or stressful.

Effective collaboration between psychologists and other health professionals can enhance support for physical activity by aligning therapeutic goals with broader health management strategies. As indicated in Study 3, some psychologists described positive experiences coordinating with general practitioners and exercise professionals, noting that collaboration helped validate their role and support client motivation. However, others identified barriers such as time constraints, lack of formalised referral pathways, and uncertainty about appropriate boundaries in interdisciplinary care. These findings are consistent with broader research showing that collaborative care improves client safety, access, and outcomes when communication and role clarity are supported (Reeves et al., 2017). Yet practical challenges persist, including fragmented systems and unclear communication channels (Kern et al., 2024). Psychologists can begin to address these barriers by engaging in simple, client-consented communication practices, clarifying the scope of their involvement, and becoming familiar with local referral options. Over time, this may help embed physical activity promotion within the routine structure of psychological care, even when direct expertise in physical health is limited.

This current research also contributes to recommendations for practice by challenging common clinician concerns about the acceptability of raising physical activity within therapy. In Study 3, some psychologists expressed hesitancy, fearing that introducing the topic might offend clients or appear to trivialise the seriousness of their mental health concerns. However, findings from Study 1 suggest that the public, including help-seeking adults, generally view the inclusion of physical activity in psychological care as appropriate and acceptable. Similarly, Study 2 indicated that clients valued physical activity being raised in a respectful, collaborative way and interpreted it as a sign of holistic support. These findings provide reassurance that psychologists can confidently initiate conversations about physical activity, especially when it is framed as enhancing, rather than replacing, conventional approaches. As demonstrated in Study 1, community participants viewed psychologists as credible and appropriate sources for discussing health behaviour change, suggesting that client receptivity may be higher than some clinicians anticipate.

The findings of this thesis also reinforce broader evidence that the therapeutic relationship plays a critical role in shaping engagement with behavioural interventions, including physical activity. Across clinical domains, strong therapeutic alliances have consistently been linked to better treatment outcomes (Flückiger et al., 2012). In the context of health behaviour change, client trust and collaborative communication are known to enhance motivation, facilitate goal alignment, and improve adherence (Beauchamp et al., 2018; DiMatteo et al., 2025). Although few studies have directly examined the role of therapeutic alliance in promoting physical activity within psychological treatment, existing research suggests that counselling approaches grounded in empathy, autonomy support, and shared decision-making are more likely to foster lasting engagement in health behaviours, including physical activity (Beauchamp

et al., 2018). The current research extends this by illustrating how psychologists perceive and enact this relational dynamic, embedding physical activity discussions within ongoing therapy, ensuring they remain aligned with the client's broader therapeutic direction, and reinforcing them through regular, supportive check-ins. These findings position the therapeutic relationship not simply as a delivery channel, but as a central mechanism through which physical activity can be meaningfully integrated and sustained in mental health treatment.

In summary, clinical practice stands to benefit from the findings of this thesis by adopting a broader, integrated approach to care in which psychologists incorporate physical activity into treatment planning. Using their established skills in behaviour change, psychologists are well positioned to support clients in increasing physical activity in ways that are tailored, collaborative, and clinically appropriate. The integration of physical activity has the potential to improve both mental and physical health outcomes, while also addressing national concerns about disparities in life expectancy and chronic disease among people with mental health conditions (National Mental Health Commission, Happell et al., 2025; 2016; Roberts & Bowman, 2019). Practical strategies such as early assessment of physical activity habits, collaborative goal setting, routine monitoring, motivational check-ins and referral coordination offer clinicians an adaptable framework for implementation. Collectively, the findings of this thesis provide psychologists with clear, evidence-informed strategies for supporting physical activity in therapy, grounded in the principles of best-practice psychological care.

7.3.2 Training and Education Implications

Building on the clinical practice implications outlined above, the findings from this thesis indicate that psychologists would benefit from role-consistent preparation to support clients' physical activity where integration is appropriate, ethical, and within scope of psychological

treatment (Czosnek et al., 2019; Rosenbaum et al., 2016). Participants in Study 3 commonly reported feeling underprepared by graduate training and a lack of continuing professional development to address this work in line with therapeutic best practice, echoing broader concerns about limited structured training in physical activity promotion within mental health education (e.g., Czosnek et al., 2019; Rosenbaum et al., 2016). This recommendation is indicative of a training need rather than a prescriptive call for widescale roll-out; any education efforts should align with current professional guidance (e.g., APS) and regulatory expectations (e.g., AHPRA) and be responsive to emerging consensus. Notably, existing Australian consensus statements (including work involving APS and ESSA) already encourage attention to physical activity in mental health contexts. The emphasis here is on psychologists' role in behaviour-change support and referral, not exercise prescription.

Study 3 revealed that many psychologists felt underprepared and lacked confidence in discussing physical activity with clients, pointing to a gap in both graduate and continuing education. At the same time, Study 1 showed that the community already views psychologists as credible providers of physical activity support for mental health, suggesting a mismatch between public expectations and professional readiness. Study 2 further demonstrated that clients respond positively when physical activity is integrated into therapy in a respectful and individualised manner, yet this integration was inconsistently applied across practitioners. Together, these findings highlight a need for more systematic training to build the knowledge, skills, and confidence required to meet both consumer expectations and ethical standards in practice (Roberts & Bowman, 2019).

First, psychology training programs could be strengthened by including specific content on the role of physical activity in mental health care. These programs have traditionally

emphasised psychotherapy techniques and psychopathology, often with limited reference to physical health or health-promoting behaviours. Introducing a module or elective focused on physical activity for mental health could help address this gap. Rather than focusing solely on the evidence base, training should prioritise how to integrate physical activity discussions and support into routine practice, including how it aligns with psychologists' scope of practice, therapeutic frameworks, and client-centred approaches. Practical skills might include incorporating activity planning into behavioural activation, raising physical activity as part of assessment, and engaging in interprofessional collaboration when appropriate. Embedding this content within core training may enhance psychologists' capability, opportunity, and motivation to raise and support physical activity in therapy. It also helps to position physical activity as a valid and evidence-based aspect of psychological treatment. Study 1 highlighted that community members view psychologists as appropriate and credible sources for discussing physical activity in mental health care. Incorporating this public expectation into training curricula may help prepare psychologists to respond to client receptivity and reduce clinicians' hesitancy to raise the topic. This recommendation aligns with recent calls for action in the literature, including a commentary urging that physical activity be integrated more directly into mental health care and that practitioners receive adequate training to support its implementation (Stubbs et al., 2024; Keyworth et al., 2020a; Nilsen, 2015).

Second, continuing professional development (CPD) provides a practical avenue for building psychologists' capability to integrate physical activity into psychological treatment, aligning with the Psychology Board of Australia's emphasis on CPD as a means of maintaining and adapting professional competence over time (Psychology Board of Australia, 2023).

Findings from Study 3 indicated that many psychologists were open to learning more about this

area but had not previously encountered structured opportunities to do so. Professional bodies such as the Australian Psychological Society (APS) and the Australian Association of Psychologists Inc (AAPi) are well placed to offer relevant CPD workshops. These could be co-facilitated by psychologists and exercise physiologists and may include role-plays, case examples, and practical guidance on referral pathways. Training of this nature may help enhance clinicians' confidence and perceived capability, particularly when delivered through engaging, practice-oriented formats that preference experiential learning. This approach is consistent with how CPD has been used in areas such as mindfulness, EMDR, or gut-brain health to increase practitioner awareness and reflection.

The current research highlights specific content areas that could be prioritised within professional training programs. These include addressing common misconceptions, such as the belief that psychologists require specialised qualifications to recommend basic physical activity aligned with public health guidelines, and providing practical instruction in behaviour change techniques relevant to supporting client engagement. Training should also address ethical considerations, including the risk of pathologising inactivity or projecting personal values onto clients. Study 2 showed that clients valued respectful and collaborative discussions about physical activity, particularly when grounded in therapeutic rapport and personalised planning. However, the variability in how this support was offered across clinicians suggests that more consistent training could enhance client experience and treatment outcomes.

A further priority is the development of a professional identity that includes advocacy for clients' physical health as part of psychological treatment. Historically, psychological practice has tended to separate mental and physical health, reinforcing a narrow focus on cognition and emotion while often neglecting the body. This siloed perspective is increasingly being

challenged, with contemporary literature and professional discourse calling for more integrated models of care. For example, Stubbs et al. (2018) argued that bridging the divide between physical and mental health is essential to improving client outcomes and highlighted the importance of embedding physical activity within mental health services. Embedding this perspective into training may help foster a more holistic and responsive model of care among future psychologists.

Training programs have an opportunity to support a more integrated professional identity by framing physical activity promotion as part of a psychologist's ethical responsibility to support overall well-being. Ethical discussions during training could include case scenarios, such as a client presenting with severe depression alongside persistent physical inactivity, to prompt reflection on the psychologist's responsibility in such cases. In line with the Australian Psychological Society's Code of Ethics, the principle of beneficence may be interpreted to include actions that promote physical health when they demonstrably support mental health (Australian Psychological Society, 2007). At the same time, training should also address clinical risks, such as the potential for excessive exercise to mask or exacerbate disordered eating or compulsive behaviours, particularly among vulnerable populations. Equipping trainees with the skills to assess these risks and respond appropriately will be essential for ethical and safe practice. Helping trainees make these connections may increase motivation and confidence to engage with physical activity as a relevant and responsible therapeutic topic.

In terms of skill development, the integrated findings suggest that psychology training should extend existing expertise in behaviour change and collaborative treatment planning to explicitly include applications related to physical activity. Psychologists are already skilled in goal setting, homework planning, and motivational strategies; however, training could support

students in translating these skills to support movement-based strategies. For example, graduate psychology students could practise developing simple physical activity plans with mock clients, including negotiating realistic goals, anticipating barriers, and discussing strategies for follow-up and adjustment. By embedding physical activity within familiar therapeutic techniques, training can enhance psychologists' confidence and readiness to apply their existing competencies in this emerging area of practice.

In addition, graduate psychology students (referred to in some contexts as provisional or trainee psychologists) should be introduced to the value of becoming familiar with local physical activity resources, such as walking groups, low-cost fitness programs, or referral pathways to allied health professionals. This knowledge can enhance the relevance and feasibility of recommendations and support more client-centred, context-sensitive planning. Providing a curated toolkit of vetted resources during training would ensure that early-career psychologists have access to reliable materials, reducing the burden of independently sourcing appropriate content.

The findings of this thesis also suggest that training should address the role of clinician self-care and modelling. Research indicates that mental health professionals who engage in physical activity themselves are more likely to recommend it to clients (Stubbs et al., 2016). Encouraging psychologists to reflect on their own physical activity habits, and embedding a professional culture that models healthy behaviour, such as offering optional group walks or stretching activities during workshop breaks, may indirectly influence future practice. While universities and employers cannot mandate participation in physical activity, creating an environment in which movement is visible, encouraged, and valued may contribute to a broader

cultural shift. When physical activity is normalised among staff, students, and practitioners, it is more likely to be perceived as a valid and appropriate focus within psychological treatment.

A likely outcome of improved education and training is the development of a workforce that is both knowledgeable and confident in supporting clients' physical activity within appropriate professional boundaries. These psychologists would be more familiar with relevant evidence and national initiatives such as Equally Well, a national effort to improve physical health outcomes for clients experiencing mental health conditions. Enhanced training may also reduce the types of misconceptions reported in Study 3, such as concerns that psychologists are not qualified to discuss physical activity. Clarifying the scope of practice and reinforcing the use of behaviour change techniques within appropriate limits can address these uncertainties. More broadly, integrating physical activity into professional education may shift its status from a peripheral concern to a recognised component of psychological treatment. In doing so, it helps operationalise key ideas discussed in Chapter 2, including the need to bridge the evidence-practice gap and address challenges in implementation. The contributions outlined in this thesis offer specific directions for doing so: revising graduate curricula, delivering targeted CPD, providing accessible resources, and cultivating a professional mindset that values whole-person care. These changes in training are foundational, as systemic change is unlikely to occur without corresponding shifts in how practitioners are educated and supported. Strengthening professional training is not only essential for individual readiness but also lays the foundation for broader system-level reform, as explored in the next section.

7.3.3 Policy and Service Delivery Implication

While practitioner education is a critical foundation, sustained change also requires supportive policy environments and service delivery structures that enable psychologists to apply

this knowledge in practice. Policy reform should focus explicitly on structural enablers such as funding mechanisms, referral pathways, and accreditation standards. Clear policies that support interdisciplinary collaboration and resource allocation can provide a stronger foundation for embedding physical activity in mental health care.

The findings of this thesis highlight several gaps that policy reform could address. Study 1 demonstrated that community members were generally willing to act on physical activity suggestions when they came from psychologists, reinforcing the profession's credibility and positioning psychologists as suitable providers of such guidance. However, Study 3 revealed that psychologists often feel unprepared or uncertain about their role, citing limited structural support and concerns about scope of practice. This disconnect suggests that, despite community openness, current service models do not always enable psychologists to fulfil this function in routine care. Addressing this gap will require policies that clarify expectations, reduce ambiguity, and equip psychologists with the necessary system-level supports.

More broadly, this thesis has implications for mental health policy aimed at supporting the integration of physical activity into psychological care. While recent Australian strategies increasingly promote integrated care, a gap persists between policy intent and clinical practice. This challenge extends beyond public services. Many private providers and sole practitioners lack access to interdisciplinary teams, dedicated training, or service infrastructure to support these approaches. Policy reform must include scalable solutions for smaller practice contexts, such as subsidised training, referral directories, and shared care agreements with allied health professionals. This research provides evidence to guide such reforms and support a more holistic model of mental health care (Nilsen, 2015).

One key policy implication is the need to embed physical health promotion, including physical activity, as a standard component of mental health care. This can be advanced through formal clinical guidelines and accreditation standards. While a joint position statement from the Australian Psychological Society (APS) and Exercise and Sports Science Australia (ESSA) advocates for collaborative care to improve the physical health of people with mental health conditions, this guidance has limited impact without corresponding enforcement through policy, training, or practice standards (Proctor et al., 2011).

In addition to clarifying clinical expectations, it is also important to address the structural conditions that support implementation. Study 3 highlighted a lack of formal referral pathways or structured collaboration processes between psychologists and allied health professionals, particularly accredited exercise physiologists. This aligns with broader critiques of fragmented service delivery within Australian mental health care (Meadows et al., 2015), where siloed roles and unclear processes limit the integration of multidisciplinary approaches. Developing policies that support shared referral systems, co-located services, or interoperable clinical records could help address these barriers. Importantly, clarifying that psychologists support behaviour change without providing exercise prescriptions would reduce uncertainty, reinforce scope boundaries, and promote confidence in practice. These directions are also aligned with international frameworks, including the WHO Global Action Plan on Physical Activity (2019) and the WHO Mental Health Action Plan (2021), both of which advocate for integrated service models that position physical activity as a core component of mental wellbeing.

Existing precedents, such as the 2020 RANZCP mood disorder guideline, which was developed for psychiatrists, recommend physical activity for depression and include practical implementation guidance (Malhi et al., 2021). Although not specific to psychologists, this

example demonstrates how formal endorsement can help normalise physical activity within clinical care. It also highlights a current gap, pointing to the need for psychology-specific guidance that supports consistent practice. Including physical activity indicators in service audits or accreditation processes (such as whether services have pathways for promotion and referral) would create structural drivers for implementation and reduce reliance on individual clinician initiative.

In addition to establishing clinical expectations, funding and resourcing mechanisms are essential to enable implementation in routine care. The findings of this thesis reaffirm that limited time and resources act as barriers to psychologists supporting physical activity with clients. Policy mechanisms could address these constraints by facilitating more flexible service models and funding streams. For example, the Medicare Benefits Schedule (MBS) could be revised to allow psychologists to allocate time within therapy to evidence-based health behaviour support, including discussions around physical activity. This would enable psychologists to provide this support within their existing scope of practice, without requiring specialist collaboration. In parallel, primary health networks or state-funded mental health services could pilot more integrated models for settings where team-based care is feasible. These might include employing an exercise physiologist within a multidisciplinary mental health team or offering group-based physical activity sessions as an adjunct to therapy groups. Although some of these models have been trialled in research settings, further support could allow expansion into standard service delivery.

These models also align with stepped care principles, where individuals with mild to moderate symptoms may benefit from low-intensity strategies such as physical activity before progressing to more intensive treatment. Findings from Studies 1 and 2 suggest that both

community members and clients view physical activity as an acceptable component of mental health care. This acceptability reinforces the relevance of stepped-care models that integrate accessible strategies early in treatment. While economic modelling was beyond the scope of this thesis, the findings support broader calls for preventative and integrated care approaches, as recommended in the Productivity Commission's 2020 Mental Health Inquiry.

Beyond clinical models and funding, policy can also support workforce capacity building. This complements individual-level training efforts by addressing structural enablers at the organisational and professional levels. For instance, government grants could fund training initiatives that promote physical activity as part of mental health care. National workforce capability frameworks could include competencies related to physical health, encouraging organisations to prioritise upskilling. These approaches reinforce the training implications outlined earlier while offering policy-level levers for more sustainable change. Interdisciplinary guidelines co-authored by professional bodies such as APS, exercise physiology associations, and psychiatry could also establish shared frameworks for collaboration and referral. Clearly defining scope of practice is another important mechanism. If the Psychology Board of Australia were to issue formal guidance stating that psychologists may discuss physical activity in the context of behaviour change support, provided it is evidence-informed and aligned with client goals, this could alleviate professional identity concerns, fears of legal repercussions and increase practitioner confidence.

From a public health policy perspective, the findings of this thesis also have relevance for broader mental health promotion. Study 1 revealed community openness to physical activity as a mental health strategy, while Study 2 highlighted its perceived benefits from a client perspective. These insights can inform future campaigns that frame physical activity as a credible and

accessible mental health support for mental well-being. Some existing initiatives, such as those developed by Beyond Blue (n.d), a national mental health promotion and advocacy organisation, and Headspace , Australia's national youth mental health foundation, already include guidance related to movement and self-care. Building on this foundation, campaigns could place greater emphasis on the role of physical activity by incorporating narratives from individuals who have benefitted, thereby leveraging social modelling to enhance engagement and reduce stigma (Bandura, 2004).

Importantly, Study 1 identified psychologists as both highly trusted and accessible points of contact for mental health information. Their involvement in campaign messaging, whether through endorsements, resource co-design, or direct delivery, could strengthen the perceived credibility of physical activity as a mental health intervention. It may also help to normalise its inclusion within therapy and validate public expectations that such guidance falls within the scope of psychological treatment.

Systemic reform should also consider infrastructure and accessibility. Some participants in this research identified practical barriers, such as financial constraints or lack of welcoming environments, that limit their ability to engage in physical activity. Policy initiatives could include improving access to safe, inclusive community spaces, funding low-cost or free fitness programs for individuals engaged with public mental health services, or piloting gym subsidy schemes linked to clinical referrals. Community programs could be enhanced by training staff in mental health awareness or adapting classes to be more inclusive and non-competitive. These initiatives would reduce structural inequities and expand participation options for those who may otherwise be excluded from health-promoting activity.

Finally, an overarching policy recommendation from this thesis is to evaluate mental health services using both psychological and physical health outcomes. Integrating metrics such as client activity levels or cardio-metabolic health alongside traditional symptom scales would signal a genuine commitment to whole-person care. National frameworks such as the Fifth National Mental Health and Suicide Prevention Plan and the Equally Well consensus statement have articulated this vision. The present research offers a practical roadmap for implementation, supported by evidence from clients, community members, and clinicians. It demonstrates that clients value support for physical health, psychologists see the relevance, and empirical data supports its inclusion. The next step is for policy to operationalise this potential across services.

In conclusion, the findings of this thesis point to several system-level policy recommendations. These include embedding physical activity in clinical guidance and service standards, implementing funding mechanisms that enable psychologists to support physical activity within routine care (such as through dedicated Medicare item numbers or recognised time allocations), strengthening workforce capacity and role clarity, leveraging public health messaging, and improving infrastructure and accessibility. Taken together, these strategies would help close the implementation gap identified in Chapter 2 between research and practice. Systems thinking literature highlights that achieving sustainable integration of new practices requires coordinated, multi-level changes, such as policy reform, service redesign, and cultural shifts within organisations (Haynes et al., 2020; Peters, 2014). Accordingly, the contribution of this thesis extends beyond the therapy room to inform policy and service design. Creating systems that empower clinicians and provide clients with meaningful opportunities to engage in physical activity is essential for advancing the integration of physical and mental health care.

7.4 Contributions to Knowledge and Theory

A central contribution of this thesis lies in its application of the BCW to the underexplored context of integrating physical activity into routine psychological treatment. While the BCW has been widely used to characterise and design behaviour change interventions across health domains (Michie et al., 2014; Michie et al., 2011), its structured use within psychological therapy settings, particularly to guide clinicians in supporting physical activity, remains limited. The findings suggest that the framework may benefit from a more explicit consideration of relational processes, such as therapeutic rapport and collaborative communication, which emerged as critical influences on capability, opportunity, and motivation. These interpersonal dynamics are not well represented in the current BCW structure, yet appear central in the context of psychological care. This thesis proposes that incorporating such relational mechanisms could enhance the framework's relevance and utility in mental health settings. By systematically mapping barriers and enablers identified by both clients and clinicians to BCW intervention functions, the research also offers a practical, theory-informed approach to understanding and supporting psychologists' roles in promoting health behaviour change.

This research offers a context-specific application of the COM-B model to psychological practice, illustrating how Capability, Opportunity, and Motivation are expressed in the setting of psychologists integrating physical activity into routine care. It identifies applied barriers such as scope of practice uncertainty, time and funding constraints, and concerns about client receptivity. It also highlights enablers including therapist confidence, therapeutic rapport, and client motivation. Although these constructs are well established within theory, this thesis provides a nuanced and applied account of how they operate in contemporary mental health care.

This research advances current understanding by highlighting the importance of relational dynamics in supporting behaviour change. While behavioural frameworks such as the BCW tend to emphasise structural or cognitive mechanisms (for example, education, persuasion, or environmental restructuring), they often underrepresent interpersonal processes. This research shows how the therapeutic relationship, through collaborative goal setting, motivational support, and tailored framing, can function as a powerful mechanism for client engagement and sustained behavioural follow-through. The therapeutic alliance emerged as a critical factor influencing client receptivity, adherence, and the perceived relevance of physical activity in therapy. These insights suggest that future applications of behaviour change frameworks in psychological treatment may benefit from more explicit consideration of relational processes as active ingredients in intervention success.

Building on this, the findings also offer a more nuanced application of behaviour change theory. Although the COM-B model includes ‘social opportunity’, it is rarely used to examine the relational mechanisms central to therapeutic contexts. This thesis illustrates how the clinician–client relationship can simultaneously foster capability (via co-developed strategies), opportunity (via emotional and structural scaffolding), and motivation (via encouragement and shared values). These interpersonal dynamics span all COM-B domains and suggest the need to expand theoretical and practical applications of behaviour change frameworks in mental health care.

In addition, this thesis expands the utility of COM-B by applying it at multiple behavioural levels. Although the model is often used to examine individual behaviour, the current research shows its relevance for both psychologists and clients. It captures how clinicians decide to incorporate physical activity and how clients respond and engage. This dual-level

application reveals the framework's flexibility and its potential to support coordinated behaviour change in complex therapeutic environments.

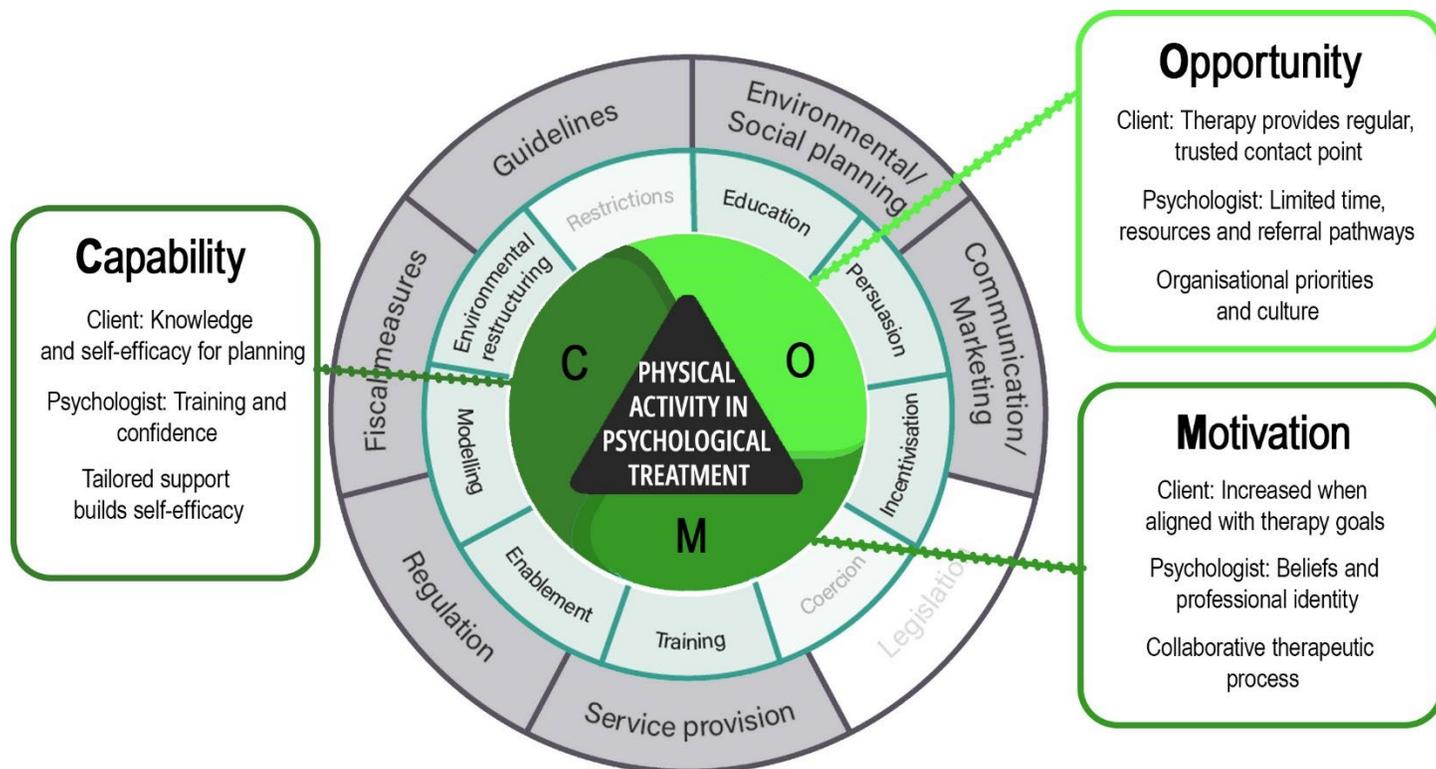
This research also illustrates how the BCW can be applied beyond intervention design to analyse the contextual conditions that shape implementation in mental health care. Building on its categorisation of behavioural determinants, the findings support an expanded use of the framework to explore how clinicians navigate real-world constraints, such as role clarity, professional identity, and competing demands. In doing so, the thesis offers a foundation for refining the BCW to better accommodate the complex interpersonal and systemic factors that influence behaviour change in therapeutic settings. In particular, the findings suggest that relational mechanisms such as therapeutic rapport, collaborative goal setting, and perceived professional credibility could be more explicitly integrated into BCW applications within psychological treatment. These processes influence client engagement, motivation, and follow-through, yet are not well represented in the current structure. Incorporating a layer that accounts for how ongoing therapeutic relationships shape behaviour across COM-B domains may enhance the framework's relevance in mental health contexts. This reflects broader efforts in the literature to adapt behaviour change models for complex care environments. For example the COM-B framework can be applied to assess behaviour among healthcare professionals, highlighting the influence of identity, context, and professional role expectations on implementation (Keyworth et al., 2020a).

Furthermore, this thesis contributes to knowledge by integrating insights across client, clinician, and contextual levels. It offers a more holistic understanding of the conditions needed to embed physical activity into psychological treatment. Previous research often examines these levels in isolation, which can lead to fragmented interpretations. By synthesising findings across

participant groups and applying a unified theoretical lens, this research presents a more complete conceptualisation of implementation. This approach responds to calls within implementation science to develop integrative models that reflect the complexity of translating evidence into routine practice (Nilsen, 2015). With this in mind, Figure 2 presents a cross-study synthesis using the BCW. It maps the key Capability, Opportunity, and Motivation influences identified across Studies 1–3 and aligns them with relevant intervention functions and policy categories. This visual representation demonstrates where implementation efforts may target change within and beyond psychological treatment and illustrates how a theory-informed, multi-level framework can be applied to identify feasible leverage points.

Figure 2

Behaviour Change Wheel synthesis of factors influencing integration of physical activity into psychological treatment.



Note. Developed using the Behaviour Change Wheel framework (Michie et al., 2011, 2014) to synthesise findings across Studies 1–3. COM-B domains (green), intervention functions (blue), and policy categories (grey) are used to visually organise multi-level influences relevant to integrating physical activity into psychological treatment. Shaded segments (coercion, restriction, and legislation) represent BCW categories that were not supported by the empirical findings in this thesis and are therefore not considered applicable in this context.

By foregrounding these mapped influences, the figure also helps identify practical, scalable strategies for supporting physical activity in therapy. These strategies build on psychologists' existing therapeutic skills while acknowledging commonly reported barriers in service delivery. In doing so, they offer a structured and evidence-informed foundation for both clinical and policy interventions.

The thesis also contributes to implementation science by bridging behavioural theory with applied psychological practice. Although the BCW has been widely used in health disciplines, its targeted application to psychological treatment, particularly in relation to supporting physical activity, is still emerging. The findings show how the BCW's intervention functions (such as education, enablement, and environmental restructuring) and policy categories (such as guidelines and service provision) can be practically mobilised in mental health settings. This enhances its value as a conceptual and implementation tool by clarifying the behavioural strategies and systemic supports needed for psychologists to meaningfully integrate physical activity into therapy (Nilsen, 2015).

In summary, this thesis extends the BCW and COM-B frameworks within the context of routine psychological treatment (Michie et al., 2011, 2014; Keyworth et al., 2020a). It clarifies how relational dynamics intersect with behavioural determinants, demonstrates the relevance of multi-level application, and identifies mechanisms that influence clinical practice. These contributions provide a strong theoretical foundation to inform future research, training, professional guidelines, and policy development. Together, they help bridge persistent gaps

between evidence and routine care in mental health services and establish a foundation for future research directions discussed in Section 7.6.

7.5 Strengths, Limitations, and Methodological Integration

This thesis adopted a mixed-methods design (Creswell & Plano Clark, 2017) to explore how physical activity can be integrated into routine psychological treatment. The design brought together three interrelated studies, each addressing a distinct aspect of the broader research aim: community attitudes, client experiences, and psychologists' perspectives. The strands were intentionally connected. Survey findings informed the development of qualitative guides, and shared constructs (TPB; COM-B/BCW) were used to align questions and interpretations across studies. This layered approach enabled a richer understanding of the topic than could be achieved through a single method or participant group alone.

The studies were intentionally sequenced and connected so insights could build over time across methods. Rather than addressing the same question in parallel, the quantitative strand scoped patterns and language that fed into interview/focus-group prompts, and the qualitative strand explained and expanded the survey patterns by detailing mechanisms and context. This reflects the value of complementarity in mixed-methods research, where different data sources are used to explore a complex phenomenon from multiple perspectives (Creswell & Plano Clark, 2017). In practice, mixing occurred at design (survey into guide development), analysis (cross-study matrices linking TPB and COM-B/BCW), and interpretation (meta-inferences drawn where strands converged, diverged, or offered complementary insight).

A key strength of the design lies in its capacity to illuminate shared themes across different groups. For example, both clients and psychologists emphasised the importance of tailoring physical activity to individual needs, reinforcing personalisation as a central facilitator

of engagement. These recurring insights helped clarify which features of physical activity integration were perceived as meaningful across contexts. The use of the BCW and COM-B model in Studies 2 and 3 provided a consistent analytical structure while allowing space for participant-driven insights.

Each study also had limitations. The cross-sectional design of Study 1 limited the ability to draw conclusions about causality or predict actual behaviour. Study 2 involved a small, self-selected group of young people who had participated in a structured intervention, which may limit the generalisability of their experiences. In Study 3, the use of focus groups may have shaped the dynamics of disclosure. Participants might have hesitated to express dissenting views due to dominant group dynamics. It is also possible that psychologists who chose to participate were more engaged with the topic, introducing some self-selection bias. While both critical and supportive perspectives were evident, the direction of any bias remains unclear.

Across the thesis, the reliance on attitudinal and experiential data limits the ability to draw conclusions about observed behaviour or sustained implementation. This is a common challenge in implementation research, where longitudinal and behavioural metrics are often resource-intensive or difficult to capture (Proctor et al., 2011). In this case, conclusions about likely implementation success are based on reported experiences, intentions, and beliefs rather than direct observation. The mixed-methods integration mitigated this in part by linking “who” and “how-much” patterns from the survey with “why” and “under-what-conditions” accounts from interviews and focus groups.

Combining studies with different methodological traditions presented some integration challenges. To support coherence, a thematic synthesis approach was used in the general

discussion to organise findings conceptually, rather than comparing studies on a case-by-case basis. The BCW and COM-B model provided a shared framework for interpreting qualitative insights from Studies 2 and 3 and for integrating key findings across the thesis (Michie et al., 2011). However, not all insights aligned neatly. For example, the role of the therapeutic relationship emerged strongly in the qualitative data but was not assessed in the community survey. These context-rich themes were included in the final synthesis but would benefit from further exploration in future research using alternative methods or expanded samples.

This thesis adopted a pragmatic epistemology, supporting methodological flexibility to address a complex, applied research aim. Pragmatism enabled the integration of post-positivist approaches in the quantitative study (e.g., measuring attitudes and intentions) with a constructivist orientation in the qualitative studies, where meaning was co-constructed through reflexive thematic analysis. This stance is increasingly common in implementation and health behaviour research, where practical utility is prioritised over philosophical purity (Creswell & Plano Clark, 2017; Feilzer, 2010; Morgan, 2007). Aligning epistemology with the mixed-methods design enhanced coherence and supported the applied focus of the thesis. Reflexive practices such as memoing and peer debriefing were used throughout to strengthen transparency and minimise bias.

In summary, this thesis used a flexible and strategically layered mixed-methods design to explore how physical activity can be supported within routine psychological treatment. While each component had limitations, the combination of perspectives enabled a deeper understanding of perceived barriers, facilitators, and practical considerations. Overall, connecting (not merely combining) quantitative and qualitative strands produced more actionable implications than either method alone. The reflections presented here also offer guidance for future research,

including opportunities to incorporate behavioural metrics, broaden participant diversity, and evaluate outcomes in routine care settings over time.

7.6 Future Research Directions

This thesis offers a conceptual and empirical foundation for understanding how physical activity might be integrated into psychological treatment. It identifies psychological, contextual, and systemic factors that shape clinician and client engagement with physical activity and highlights several priorities for future research.

A key direction is to assess whether the strategies identified in this thesis lead to sustained behavioural engagement and improved mental health outcomes. Unlike many of the randomised controlled trials outlined in Chapter 2, which focused on structured physical activity programs delivered by exercise professionals in controlled conditions, future research should explore how psychologists can support physical activity through brief, behaviour change oriented techniques within routine care. These studies would move beyond testing standalone interventions and instead investigate the integration of support into ongoing therapy sessions. Longitudinal or implementation-effectiveness research could examine how such approaches influence motivation, self-regulation, and client autonomy over time. This would provide insight into how support for physical activity can be sustained across therapeutic relationships and adapted to individual client needs. Pragmatic trials or hybrid designs could also assess whether this integration leads to improvements in psychological symptoms, daily functioning, or physical health, and whether it reduces broader healthcare costs such as medication use or service demand. It will be important for future studies to include both behavioural outcomes (for example, activity tracker data) and clinical outcomes (such as symptom improvement) to

demonstrate practical relevance and to assess implementation outcomes such as psychologists' adoption and delivery of physical activity as a treatment option.

Future research should prioritise clarifying psychologists' role boundaries in collaboration with professional bodies and regulators, given Study 3's finding that many clinicians are uncertain about promoting physical activity within their scope of practice. This work could include a consensus or Delphi process with APS and AHPRA/Psychology Board of Australia to define psychologists' role in supporting physical activity (e.g., behaviour-change conversations, documentation, and referral or coordination with AEPs/GPs) versus prescribing programmes; co-designed medico-legal and ethical guidance covering record-keeping and risk identification; and small-scale service pilots to test the feasibility, acceptability, and fidelity of role-clarified pathways. These studies would provide an endorsed foundation for any subsequent curriculum or CPD development and directly address the scope uncertainty reported by clinicians. It is also important to examine how physical activity integration is adapted across diverse populations and therapeutic contexts. While this thesis focused on young people and community adults, other groups (including older adults, culturally diverse clients, or those experiencing severe mental illness) may present unique needs and barriers. Implementation may also vary by service model, such as private practice compared to community teams. Research that investigates how clinician approaches, client characteristics, or service settings influence feasibility, acceptability and outcomes will help ensure the approach is applicable and equitable across the mental health system.

Therapist characteristics such as motivation, confidence, theoretical orientation, and personal attitudes may influence how psychologists approach physical activity integration. For example, clinicians trained in cognitive-behavioural therapy may be more comfortable using

structured, goal-oriented techniques such as behavioural activation or self-monitoring. In contrast, those with psychodynamic or humanistic orientations may perceive physical activity as inconsistent with their therapeutic style. Although these patterns were raised in Study 3, more targeted quantitative or mixed-methods research is needed to clarify how therapist attributes influence adoption at scale. On the client side, factors such as prior experience, symptom profile, and readiness to change may also affect engagement. Future research should investigate how these therapist- and client-level variables interact to inform tailored, context-sensitive strategies.

Adherence and behavioural maintenance are recognised challenges in physical activity promotion. Study 2 revealed that motivational fluctuations were common and that therapist support was key to sustaining engagement. Psychologists are well placed to support long-term adherence using strategies such as collaborative goal-setting, identity reinforcement, and structured feedback. Future research could evaluate how these strategies function over time when embedded within therapy and whether they improve the maintenance of physical activity beyond the treatment period.

Cost-effectiveness and structural barriers also warrant attention. Findings from Study 3 highlighted concerns related to time constraints, session limits, and lack of reimbursement pathways. Future studies could evaluate whether integrating physical activity support within therapy reduces reliance on medication, improves functional outcomes, or leads to fewer medical appointments. These data could inform policy decisions regarding funding models such as Better Access. Qualitative research with policymakers and health administrators may also clarify the types of evidence or implementation supports needed to facilitate broader uptake.

Finally, further conceptual work is needed to explore how the Behaviour Change Wheel can be extended for use in therapeutic contexts. Findings from this thesis suggest that relational mechanisms including, but not limited to, therapeutic rapport, collaborative goal-setting, professional trust, and client readiness are central to how physical activity is integrated in psychological treatment. While the BCW offers a robust structure for identifying behavioural determinants and intervention strategies, these findings indicate that incorporating relational dynamics more explicitly may enhance its application in psychological settings. Future research could examine how such relational elements interact with existing COM-B domains and intervention functions to inform more context-sensitive models of psychological treatment.

In summary, future research should extend the translational work presented in this thesis by testing embedded, psychologically delivered strategies for promoting physical activity, evaluating their long-term outcomes, and identifying how client, clinician, and system-level factors influence success. A targeted research agenda grounded in these findings will help close the implementation gap and ensure psychologists are supported to incorporate physical activity into mental health care in effective, sustainable, and theoretically informed and governance-aligned ways.

7.7 Conclusion

This thesis examined how physical activity can be integrated into routine psychological treatment, drawing on the perspectives of community members, young people, and psychologists. Using a sequential mixed-methods design, it explored social acceptability, client experiences, and clinician capability, with findings mapped onto the BCW to identify key barriers and facilitators.

The studies demonstrated that physical activity is broadly acceptable as part of mental health care and can be integrated when aligned with client preferences, therapeutic goals, and professional scope. Psychologists were found to have relevant behaviour change expertise, but implementation was shaped by training, confidence, service context, and broader system conditions.

By synthesising insights across diverse participant groups and applying a shared theoretical lens, this thesis contributes new understanding of the contextual, relational, and professional factors that influence implementation. It provides a foundation for improving access to physical activity in mental health care and informs future directions in training, policy, and research.

In summary, this thesis strengthens the case for psychologists' involvement in supporting physical activity within routine care. By clarifying the conditions that influence practice and offering a framework for action, it helps bridge the gap between evidence and implementation. Supporting psychologists to incorporate physical activity into their therapeutic work may help ensure that mental health care better reflects the interconnected nature of physical and psychological wellbeing.

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Appendices

Appendix A

Social Media – Advertising Blurbs and Flyers

Participants will learn about the study and be invited to participate via social media platforms, initiated by members of the research team. Potential participants will view an online blurb calling for participants and have the ability to clicking on the supplied link, this will imply interest in participating in the study.

Participate in our research.

Our research needs you. We need people aged 18 or over to complete an online survey on physical activity and mental health. By taking part, you will help improve our understanding of the relationship between attitudes, knowledge and experiences.

Participate in our research.

We need males aged 18 or over to participate in our survey research on the mind and body. By taking part, you will help improve our understanding of the relationship between attitudes, knowledge and experiences of physical activity and mental health.

Would you be interested?

We need real, everyday people to participate in our research on the mind and body. By completing the online survey, you will help improve our understanding of the relationship between attitudes, knowledge and experiences of physical activity and mental health.

Community involvement is critical to research studies, and you're invited to participate!

We're interested in physical activity and mental health, looking at the relationship between knowledge, attitudes and experience.

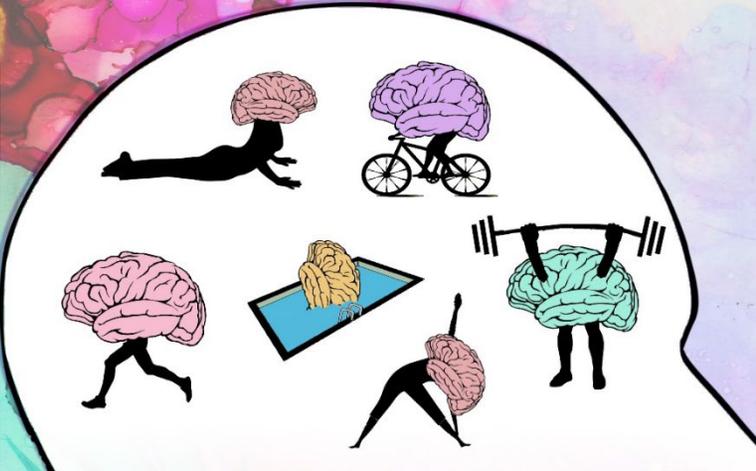
We need real, everyday people to participate in our research by completing the online survey.

We want your views: Can you take a moment to fill in a survey on the use of physical activity for mental health? We would love to know more about your thoughts, attitudes, experiences etc.

Appendix B

Flyers for use in physical locations

Participants needed

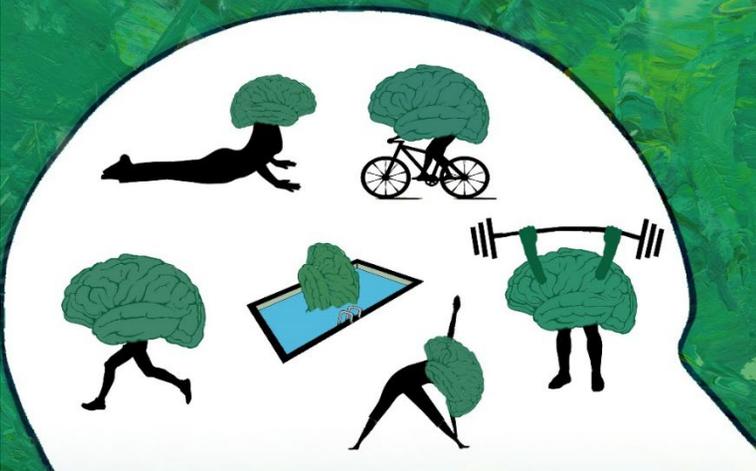


Can you help?

We need real, every day people, 18 and over to complete an online survey about the mind and body. By participating you will help improve our understanding of the relationship between attitudes, knowledge and experiences of physical activity and mental health

For more information please go to:
-Link to Qualtrics survey and ethics approval number to be inserted here-

Participants needed



We need your help

We need people aged 18 or over to complete an online survey on physical activity and mental health. By taking part, you will help improve our understanding of the relationship between attitudes, knowledge and experiences.

For more information please go to:
-Link to Qualtrics survey and ethics approval number to be inserted here-

Appendix C

Clinical Research (IMPACT) Methods

Rationale for this research project

Current first-line treatments for depression in young people are, at best, modestly effective. As these therapies are highly developed and established, augmentation with an additional intervention is the most likely candidate to improve response to treatment. Our results from SIT indicate that physical activity is efficacious in treating youth depression. However, clinicians are not routinely including physical activity intervention in standard care and are therefore missing an opportunity to improve immediate treatment outcomes and prevent poor physical health outcomes for young people with depression. This lack of integration likely occurs because clinicians are not aware of the evidence or are unsure how to implement physical activity interventions within routine mental health care. These pivotal factors will be addressed in the proposed study with the provision of training and clinical resources. The intervention proposed in this project builds on the developed program. It is practical and supported by pilot data in SIT as both feasible and likely to be effective, increasing the likelihood of translating a robust, modest scale research finding into clinical practice. However, the extent to which such a physical activity intervention is effective when used as an adjunct to routine clinical care, delivered in real-world mental health settings rather than by research therapists directly involved in the program's development, remains to be determined. The proposed study will test this

Aims and Hypotheses

Aims

To conduct a cluster randomised controlled trial to test the effectiveness of adding a physical activity intervention to routine clinical care versus treatment as usual in improving depressive symptoms, anxiety symptoms, cognition and functioning in young help-seekers with depression; and

To examine whether changes in physical activity mediate improvements in depressive symptoms.

Hypotheses

Primary: that the physical activity intervention will lead to greater reductions in depressive symptoms compared to treatment as usual.

Secondary: a) that the physical activity intervention will lead to: i) reduction in anxiety symptoms; ii) improvements in cognition; and iii) improvements in functioning, when compared to treatment as usual; b) that changes in depressive symptoms will be mediated by increased physical activity.

Research plan

Setting: Headspace centres are the clinical service platforms of the National Youth Mental Health Foundation. These youth mental health services provide assessment and psychological and/or psychiatric treatment to young people aged 12-25 years, in addition to primary health care, vocational and education assistance and substance use services (McGorry et al., 2007). Services are delivered in a ‘one-stop shop,’ youth-friendly environment staffed by a

range of service providers, including general practitioners, psychologists, psychiatrists, youth workers, mental health nurses and other allied health professionals.

The proposed project has the full support of key clinical and administrative staff of the headspace National Office. The establishment of partnerships between the research team and the CEO of headspace, as well as the managers of centre support has been crucial to the development of the project. A subset of approximately 6 headspace centres (of the 65 that are operational) will be involved in this study, recruiting 960 young people (approximately 190 young people per centre). This number is likely to vary across centres depending on their capacity and size of clinical service.

Study design

The study will use a parallel groups, two arm cluster-randomised controlled trial (C-RCT) design to test the effect of the physical activity intervention in addition to routine clinical care. A clustered design with randomisation occurring at the clinician level has been chosen. Randomising clinicians will reduce the contamination associated with clinicians concurrently managing intervention and control participants, as would occur in a standard patient randomised trial (Weijer et al., 2011). The organisation of headspace centre service delivery minimises the likelihood of contamination effects among clinicians. Clinicians operate as independent contractors and work relatively autonomously (akin to individual private practice) to deliver mental health treatments. The likelihood of control group clinicians gaining access to the intervention is minimal. These factors led to the decision to randomise at the clinician level rather than the statistically less efficient centre level. To preclude any possibility of bias arising from participant preference for clinicians, allocation to clinician will be on the basis of a randomised list subject to clinician availability constraints. Prior to commencement of

recruitment, we will monitor presentations and clinician workload to determine the feasibility of individual stratification on participant gender, age and presenting disorder severity (QIDS-A17-C score). While not critical, this may increase the efficiency of the design. This list will be devised by the independent statistician and administered via the electronic case report system. The protocol in this proposal specifically addresses the matters in the SPIRIT 2013 statement checklist for clinical trials (Chan et al., 2013).

Participants

All allied health professionals, including psychologists, social workers, and occupational therapists ('clinicians'), who provide mental health treatments to young people in the participating headspace centres will be invited to participate in the study (approximately 80 clinicians). We aim to recruit 60% of clinicians (N=48), which based on the participation rate of clinicians involved in a similar study (University of Melbourne HREC Project 1340040), this is a conservative estimate of the number of clinicians that can be expected to take part. Clinicians will be randomised to either the intervention group (physical activity) or the control group (treatment as usual).

All help-seeking young people aged 12-25 who present to participating headspace centres will be screened for eligibility. We aim to recruit a total of 960 participants: approximately 190 participants per headspace centre. This number is likely to vary across centres depending on their capacity and size of clinical service. Informed consent will be obtained from all participants; those aged between 15 and 18 years will be assessed for mature minor capacity during the intake assessment procedure at entry to the service and if they meet this threshold, will be able to make the decision whether to consent to participate. Those aged 12-14 years can provide assent to participate but will require parental consent.

Inclusion Criteria

As this is a pragmatic effectiveness trial, selection into the study will be based on ‘real-world’ characteristics of young people with depression: a) meeting the requirements for a Mental Health Treatment Plan (MHTP) to access psychological treatment under the Medicare Benefits Scheme Better Access program or the Access to Allied Psychological Services (ATAPS) program, with likely diagnoses of major depressive disorder, rather than by a formal diagnostic research interview; and b) a score on the Quick Inventory of Depressive Symptomatology-Adolescent (17 item) - Clinician Rated (QIDS-A17-C)(Haley et al., 2009) of 11 or greater, indicating depression levels of moderate or above. Participants will not be excluded if prescribed medication as part of their routine clinical care.

Exclusion Criteria

Presence of a psychotic disorder meeting diagnostic threshold during the intake assessment upon first presentation to the headspace centre; current physical activity meeting the Australian Government Guidelines (Department of Health and Ageing, 2004, 2005) (under 18 years: 60 mins/day moderate-vigorous activity; over 18 years: 30 mins moderate physical activity, most or all days); presence of an eating disorder meeting diagnostic threshold assessed during the standard intake procedure at headspace centres, using a standardised psychosocial assessment (Parker et al., 2010) ; organic mental disorder; physical illness that contra-indicates participation in physical activity; intellectual disability/cognitive impairment that precludes providing informed consent. Any young person reporting a prior history of physical illness which might impede their ability to take part in physical activity will be required to receive medical clearance from a GP in order to partake in the trial.

Discontinuation of Intervention

Presence of a psychotic disorder meeting diagnostic threshold, eating disorder reaching threshold for diagnosis, or physical illness that contra-indicates participation in physical activity as assessed by the treating clinicians during the course of the intervention. Discontinuation from the interventions can be at the request of the participant or if any changes in the participant's presentation warrants a referral to a specialist/tertiary service. Once discontinued, the young person will be reviewed using the headspace centre's standard clinical review procedure and either maintained in the headspace centre or referred to tertiary services, as necessary. These young people will discontinue treatment (the study intervention) but will remain involved in the post-treatment assessment.

Revocation of consent: in the case of a rare event that a young person chooses to revoke their consent to participate in the project, any data that has been provided will be destroyed.

Interventions

The interventions will be integrated into routine clinical care at headspace centres and delivered by an allied health professional (e.g., 'clinician'). The current funding rules of the Medicare Benefits Schedule allow for 6 (plus an additional 4 if clinically warranted) sessions of psychological treatment per calendar year, while ATAPS funding allows for a maximum of 12 sessions. Internal headspace data indicate that the average number of sessions that young people attend at headspace centres is 4 (internal data retrieved 15 February 2013). We therefore anticipate that the intervention will be delivered in an average of 4 treatment sessions across approximately 4-6 weeks. The intervention will be capped at a maximum of 10 sessions. Extension of the intervention/number of clinical sessions may be possible following discussion with the Sponsor, Orygen.

The two treatment groups consist of:

- Physical activity intervention, based on a behavioural activation framework, in addition to routine clinical care (psychological therapy of the clinician's choice);
or
- Psychoeducation on physical activity and routine clinical care.

Physical Activity Intervention

Participants who receive treatment from a clinician who has been allocated to this group will receive a manualised integrated physical activity intervention, as per the training delivered to the clinicians. The treatment manual developed for SIT (Parker et al., 2008) was acceptable to young people and easy to deliver, based on informal feedback from the research therapists on SIT and the clinicians of the mental health service who pilot tested the training component. It includes:

1. Provision of resources and verbal and written information about the relationship between depressive symptoms and exercise (Beyond Blue, 2000) ; access to online resources providing advice on physical activities; provision of minimal equipment (thera-band for resistance activity and skipping rope for cardiovascular physical activity);
2. Elicitation of the young person's ideas and beliefs about this information.
3. Creating a list of benefits and costs about physical activity and mental health to determine the young person's readiness to change behaviour and identify motives

to exercise and to increase the likelihood of exercising and maintaining changes in activity levels (Woods et al., 2002);

4. Mapping levels of physical activity over the last few weeks, to get a thorough understanding of current levels;
5. Provision of Australian Department of Health and Ageing physical activity guidelines for their age group (Department of Health and Ageing, 2004, 2005);
6. Brainstorming a range of physical activities (current and activities to try), separated into three levels based on energy expenditure: light, moderate, and vigorous. Choosing physical activities based on young person's preference to increase likelihood of success (Strohle et al., 2007).
7. Completing goals for physical activity, commencing with establishing incremental goals and working through the potential barriers and strategies to manage these. Reviewing physical activity on a weekly basis, exploring immediate benefits and using a recording sheet to monitor the relationship between mood and activity levels (Forsyth et al., 2009);
8. Completing the weekly planner and discussing how and when the physical activity can be completed, and any memory aides that could be used to aid in completion of this (may include mobile technology applications ('apps')).

Psycho-education intervention

Participants who receive treatment from a clinician who has been allocated to this group will be provided with the same psycho-educational materials and verbal and written information

as the intervention group in the first session. The importance of physical activity will be addressed in the first session but will not be included in ongoing treatment.

Procedure

All participating clinicians who are randomised to the physical activity intervention group (N=24) will be trained to integrate this intervention into routine clinical care. The training will be delivered initially over a 3-hour session in a face-to-face format. Skills, knowledge, and attitudes will be assessed before and after the training session to ensure the uptake of information. The face-to-face training will be supported by additional online resources using a learning management system that will host an electronic version of the intervention manual, project resources, training videos and case vignettes. In addition, both the intervention and control group clinicians will be supported by online group peer review sessions occurring as outlined in the *Study Procedures Manual*. The training will provide an overview of the evidence and detailed instructions of the steps involved in delivering the intervention, using comprehensive case examples. The training will incorporate practice recommendations from a review of physical activity interventions for major mental disorders, including: a) creating individual training plans to increase adherence and aim to increase physical activity levels and decrease sedentary behaviours, b) integrating the physical activity intervention into routine psychoeducation and psychotherapy; c) where possible, taking advantage of non-specific effects such as social supports, positive reinforcement, therapeutic alliance and establishing routines (Wolff et al., 2011). Clinicians will be provided with a comprehensive treatment manual (Parker et al., 2008) and the resources required to deliver the intervention. A training session has been developed and pilot tested in a youth mental health service with focus group feedback that indicated the ease of integrating the intervention into usual care. The clinicians randomised to the

control group (N=24) will receive psychoeducation materials on the relationship between physical activity and depression and resources to provide participants in their first treatment session, with instructions not to address physical activity in later sessions unless it arises in the usual course of therapy. All clinicians will be reimbursed for their time in participating in the initial training and will also receive a small reimbursement at the conclusion of the intervention period to provide compensation for when young people failed to attend scheduled sessions.

The project will be advertised by posting flyers in the reception area of each **headspace** centre and promoted on each centre's website and Facebook page, encouraging all interested young people to contact their local participating centres.

Members of the centre's intake assessment team – referred to as the Access Team – will introduce the research project to potentially eligible young people and will pass on the details of potentially interested young people to the project's Research Assistants (RA) located in each headspace centre. As each centre operates independently with individual intake procedures, the access team at each centre will discuss a suitable method and time point to identify and introduce the project to young people. To assist the intake team with identifying potentially eligible young people, some centres may choose to administer a self-report QIDS (Quick Inventory of Depression Symptomatology) (Rush et al., 2003) assessment to young people presenting to the centre, however this data will remain with the centre and will not be collected or viewed by the RA or any members of the research team.

The RAs, will be responsible for: a) assessing the eligibility of young people; b) obtaining informed consent from the young person (and, if required, from their parents and/or guardian); c) collection of outcome data (interview and self-report) at baseline, post-treatment

and 6 month follow-up. Research assessments will be completed at the headspace site, or at the participant's home or other suitable location, as required, in order to minimise any possible burden of participation in the study. Young people will be reimbursed for their time for participating in the research assessments with \$30 per assessment. Young people will be allocated to a clinician based on a randomised list subject to clinician availability constraints by the Practice Manager or Lead Clinician of each headspace centre. At the first treatment session, participants will be provided with relevant materials and resources according to the treatment condition to which their treating clinician has been assigned.

Outcomes and Measures

A range of measures will be used to assess the effects of the intervention in improving depression symptoms in young people. It is also important to understand how this treatment might produce beneficial effects and, therefore, we will examine physical (e.g., hip and waist measurements, height and weight), psychological (e.g., self-efficacy), cognition, and skill-attainment (e.g., skills associated with treatment) variables that may influence treatment outcome. This sort of examination is rarely undertaken in treatment studies.

Primary outcome and measure

Level of depression symptoms at post-treatment measured by the Quick Inventory of Depressive Symptomatology-Adolescent (17 item) Clinician Rated (QIDS-A17-C)(Haley et al., 2009). The QIDS-A17-C is a recently developed scale that assesses the criterion symptom domains for DSM-V Major Depressive Disorder and has been shown to be a reliable tool for assessing adolescent depression, making it one of the few depression scales that has been validated across adolescent and adult populations. The QIDS-A17-C will be completed four

times during the course of the study; at the screening/baseline assessment, mid-way through the intervention phase (over the phone, or face-to-face if convenient on a case-by-case basis), at completion of the intervention, and finally at the 6 month follow up assessment.

Secondary outcomes and measures:

Symptom measures (refer to Table 1, Assessment Schedule): a) Clinician-rated depression symptoms measured by the Montgomery Asberg Depression Rating Scale (MADRS; (Montgomery & Asberg, 1979) Montgomery & Asberg, 1979); b) Depression module from the SCID-IV to confirm diagnosis of depression (First et al., 2001); c) Anxiety symptoms measured by the Overall Anxiety Severity and Impairment Scale (OASIS)(Norman et al., 2006); and d) substance use measured by the WHO Alcohol, Smoking and Substance Involvement screening test (ASSIST). These measures are included to control for additional clinical symptoms in response to treatment.

Process measures:

Physical: a) Levels of physical activity measured by the International Physical Activity Questionnaire (Booth, 2000); b) Levels of physical activity measured by an electronic accelerometer device worn for 5-7 days (physical activity intervention group and psycho-education/control group); c) checklist of physical activities; d) Pittsburg Sleep Quality Index (Buysse et al., 1989); d) height, weight and hip and waist measurements will be collected to determine Body Mass Index and hip/waist ratio; and e) the Simple Dietary Questionnaire (SDQ). These measures will enable analysis of the contribution of activity levels to depression outcomes.

Psychological: a) Depression self-efficacy measured by the General Self Efficacy Scale (Schwarzer & Jerusalem, 1995); b) Barriers Self-Efficacy Scale (physical activity) (McAuley,

1992); c) Perceived Social Support Scale; d) Positive and negative affect measured by the Positive and Negative Affect Schedule (PANAS)(Watson et al., 1998); and e) Therapeutic alliance measured by the Working Alliance Inventory (post-intervention only)(Munder et al., 2010).

Skill attainment: a) Cognitive and Behavioural Therapy Skills Questionnaire and b) the Behavioural Activation for Depression Scale.

1. Functioning measures: a) Social and Occupational Functional Assessment Scale Goldman et al., 1992; and b) Australian Quality of Life scale (AQoL 6d) for adolescents (Moodie et al., 2009), to facilitate future cost utility and other economic analyses.
2. Cognition measure: Trail Making Test A & B (TMT) (Partington & Leiter, 1949; Reitan, 1955) assesses attention, processing speed and mental flexibility. TMT - Part A requires the participant to connect, using a pencil, 25 encircled numbers printed on a page in ascending order as quickly as possible. Part B requires the participant to connect 25 encircled numbers and letters in alternating order (i.e., 1, A, 2, B,..) as quickly as possible. Both trials are preceded by a practice exercise. The task takes approximately 5 minutes to complete.
3. Evaluation measure: checklist of the helpfulness and use of skills associated with the active and control conditions (endpoint and follow up only).
4. Clinicians measure: Knowledge, skills and attitudes towards physical activity and evaluation of training measured by the Theoretical Domains Framework questionnaire (Michie et al., 2005).

Assessment time-points

Assessments and measures will be conducted as per the assessment schedule (Table 1, below). Paper based case report forms (CRF) will be generated for collection of data that cannot be entered directly into the electronic data base (eCRF). Measures such as self-report questionnaires will be collected electronically using iPads and entered into a project-specific secure online database at baseline, post-intervention and 6-month follow-up assessment time-points. The collection of self-report data will be supervised by the research assistants. The clinician-rated measures will be collected by the research assistants.

To ensure adherence and appropriate collection of data from the electronic accelerometer device, participants (young people) will be reminded via SMS or phone contact to wear the device for the required time frame. Participants may opt out of this additional contact from the research assistant on a case-by-case basis.

Qualitative data: At the end of the intervention period, a subgroup of physical activity intervention group clinicians (N=15) and young people (N=20) will be invited to participate in semi-structured interviews to explore their experiences of delivering and receiving the intervention, respectively. Interviews will be audio recorded and transcribed verbatim. Data from the interviews will be analysed using thematic analysis (Braun & Clarke, 2006) which will allow for an exploration of the themes related to the helpfulness and usefulness of the physical activity intervention. The subset of clinicians and young people who choose to take part in this interview will be reimbursed for their time with \$85 or \$20, respectively. In order to maintain the study blind, qualitative interviews will be conducted by a research assistant identified by the study sponsor. A research assistant from one participating centre may interview clinicians and/or young people from another centre.

Inclusion and Exclusion Criteria

Inclusion criteria included a) meeting the requirements for a Mental Health Treatment Plan (MHTP) to access psychological treatment under the Medicare Benefits Scheme Better Access program or the Access to Allied Psychological Services (ATAPS) program, with likely diagnoses of major depressive disorder, rather than by a formal diagnostic research interview; and b) a score on the Quick Inventory of Depressive Symptomatology-Adolescent (17 item) - Clinician Rated (QIDS-A17-C) (Haley et al., 2023) of 11 or greater, indicating depression levels of moderate or above. Participants will not be excluded if prescribed medication as part of their routine clinical care. Exclusion criteria was the presence of a psychotic disorder meeting diagnostic threshold during the intake assessment upon first presentation to the headspace centre; current physical activity meeting the Australian Government Guidelines (Department of Health and Aged Care, (Department of Health and Aged Care, 2021) (under 18 years: 60 mins/day moderate-vigorous activity; over 18 years: 30 mins moderate physical activity, most or all days); presence of an eating disorder meeting diagnostic threshold assessed during the standard intake procedure at headspace centres, using a standardised psychosocial assessment (Parker et al., 2010); organic mental disorder; physical illness that contra-indicates participation in physical activity; intellectual disability/cognitive impairment that precludes providing informed consent. Any young person reporting a prior history of physical illness which might impede their ability to take part in physical activity will be required to receive medical clearance from a GP to partake in the trial.

Impact setting

The current funding rules of the Medicare Benefits Schedule allow for 6 (plus an additional 4 if clinically warranted) sessions of psychological treatment per calendar year, while ATAPS funding allows for a maximum of 12 sessions. Internal headspace data indicate that the average number of sessions that young people attend at headspace centres is 4 (internal data retrieved 15 February 2013). It was therefore anticipated that the intervention would be delivered in an average of 4 treatment sessions across approximately 4-6 weeks.

Physical Activity Intervention

Physical activity intervention: Participants who receive treatment from a clinician who has been allocated to this group will receive a manualised integrated physical activity intervention, as per the training delivered to the clinicians. The treatment manual was acceptable to young people and easy to deliver, based on informal feedback from the research therapists on SIT and the clinicians of the mental health service who pilot tested the training component. It included: 1. Provision of resources and verbal and written information about the relationship between depressive symptoms and exercise (48); access to online resources providing advice on physical activities; provision of minimal equipment (thera-band for resistance activity and skipping rope for cardiovascular physical activity). 2. Elicitation of the young person's ideas and beliefs about this information. 3. Creating a list of benefits and costs about physical activity and mental health to determine the young person's readiness to change behaviour and identify motives to exercise and to increase the likelihood of exercising and maintaining changes in activity levels (49). 4. Mapping levels of physical activity over the last few weeks, to get a thorough understanding of current levels. 5. Provision of Australian Department of Health and Ageing physical activity guidelines for their age group (45, 46). 6. Brainstorming a range of physical activities (current and activities to try), separated into three levels based on energy

expenditure: light, moderate, and vigorous. Choosing physical activities based on young person's preference to increase likelihood of success (18). 7. Completing goals for physical activity, commencing with establishing incremental goals and working through the potential barriers and strategies to manage these. Reviewing physical activity on a weekly basis, exploring immediate benefits, and using a recording sheet to monitor the relationship between mood and activity levels (50). 8. Completing the weekly planner and discussing how and when the physical activity can be completed, and any memory aides that could be used to aid in completion of this (may include mobile technology applications ('apps')).

Appendix D

Interview Schedule: Post-Clinical Intervention Interview Questions

1. Can you tell me about how your levels of physical activity changed throughout your treatment?
2. In what way did your treatment impact your mental health and wellbeing? What role did physical activity have in that?
3. Were there any techniques or approaches that helped you to engage in physical activity? What were some of the things that made it hard? [Prompt: getting organised, incidental activity, involving others]
4. What advice would you give a friend who was thinking about increasing their physical activity to help with their mental health?
5. How useful were the resources? Did you use some more than others? Which ones? Do you have any suggestions for revising any of the resources or ideas for new ones we could use? [Prompt: can you recall any of the resources – handouts, resistance band, skipping rope, online videos]
6. Were there any particular things that your clinician said, or did that helped you engage in physical activity? [Prompt: setting small goals, involving others, making it a routine, monitoring progress, monitoring impact on mood/anxiety/stress, exploring and addressing barriers. Prompt: if these suggestions helped (e.g., setting small goals, involving others, etc), what did you do? Or how did you go about doing this?]
7. How well do you think the physical intervention fit with the other work you were doing with your clinician? How comfortable was it talking about your levels of physical activity in this context?

8. How well did the physical activity intervention fit with your idea of what mental health treatment would be?
9. Physical activity interventions are often delivered by exercise specialists, especially in a lot of the research that has been done so far. What is your opinion on whether or not a mental health clinician has the skills and experience to appropriately assist you to increase your physical activity? [Prompt: would it have been helpful to be shown how to do certain exercises, be taken to a gym, go for a walk/run in session, exercises tailored for you]
10. Do you intend to keep trying to engage in physical activity? How difficult do you think it will be to maintain the changes you have made? Can you think of anything that might help you to maintain the changes? [Prompt: preparation, routine, involving others, setting new goals, monitoring progress, impact on mental health and wellbeing. Prompt: for young people who did not make changes (i.e., negative response to Q1) ask if any of these strategies may assist in re-engaging in physical activity uptake?]
11. Were you aware of the time commitments required to take part in the research when you signed up (e.g. how long the interviews would take, additional time to be physically active)? Were those expectations larger or smaller than what actually happened? Were they manageable?
12. Why did you decide to participate in this particular research study?
13. What were some of the aspects of the research that you enjoyed the most? What were the parts of the research you did not enjoy or found difficult? Are there any improvements you would suggest?
14. If you were to participate in other research, what would make it easier for you to participate?
- 15.

16.

Appendix E

Recruitment Blurb

We invite you to participate in our research study focused on gaining insights from psychologists regarding physical activity and mental health. We are looking for psychologists who treat individuals and are working in non-hospital settings.

We are seeking psychologists to participate in an online focus group that examines your perceptions of physical activity for mental health. This research project aims to gain valuable insights into the attitudes, beliefs, barriers and facilitators of implementing physical activity promotion? in mental health care. The findings will contribute to a better understanding of the factors influencing the integration of physical activity into routine mental health care. Your valuable input and expertise will contribute to our understanding of this important area of study.

To find out more about participating in the study, click the link below.

Thank you for your interest.

Appendix F

Focus Group Discussion Guide

This is a guide only. Additional prompts might be asked, depending on the responses of the participants.

Introduction

- Consent: Ability to withdraw at any point.
- Lack of anonymity, although we ask that you don't share information outside of our discussions today, you need to be aware that there is nothing stopping this from occurring.
- Etiquette of focus groups/ expectation of participants to be respectful and allow others to have their options and voices shared.
- When sharing information related to clients or other professionals, please use standard practice of using pseudonyms and only non-identifying information.

1. Welcome and Warm-Up:

- Thank you all for agreeing to participate and completing the first survey. I'll take this time to remind you that our session will run for approximately 90 minutes and that you are able to withdraw at any stage.
- Let's start by going around and introducing ourselves. Please share your name, professional background, and 'what does being a psychologist mean to you?'
- What types of things influence your treatment suggestions or therapeutic approaches?

2. Exploring Perspectives on Physical Activity and Mental Health:

- Can you tell me a little about your experience with physical activity in mental healthcare. Additionally, what comes to mind when you think about integrating physical activity routine mental health care?
- What do you think are some of the benefits and limitations of using physical activity as part of mental health treatment?

- Have you or others you work with ever used physical activity recommendations with clients? Why/why not?

3. Acceptability of Physical Activity in Routine Care:

- In your opinion, how acceptable is incorporating physical activity into mental health care/psychological treatment? Both from the perspective of yourself as psychologists and from the client perspective.
- What are some factors that might influence its acceptability among psychologists?
- What factors might influence clients' engagement in or adherence to physical activity interventions?
- Recent research has found that the general public are open to receiving physical activity recommendations as part of their MH treatment, including as delivered by psychologists. What are your thoughts on this?

4. Feasibility and Practical Considerations:

- What are the potential barriers or challenges that may arise when integrating physical activity into mental health care/psychological treatment? How might these barriers be addressed?
- How might a psychologists integrate physical activity into their treatment plans? Does your therapeutic approach influence how you may go about doing this (e.g. CBT/ACT/IPT focused etc)?
- What other potential barriers or challenges exist to integrating physical activity into mental health treatment [prompt for influence of managers, service structure, funding, policy etc]?

5. Professional Roles and Responsibilities / Recommendations and Future

Directions:

- What do you believe would need to change for you to be able to implement PA? External supports, resources?
- In the future, how do you see the role of mental health professionals, such as psychologists, in the promotion of physical activity for mental health?

6. Additional thoughts

- Based on our discussions, have your thoughts around physical activity in mental healthcare changed?
- I want to thank you all for the wonderful discussion today. Are there any additional thoughts that you've had during the session that you would like to share with the group? Comments, ideas etc?
- A reminder that I will be distributing the final survey in the coming week and will also send out the gift cards after the survey has been complete. Thank you again for today and your time and sharing.