Exploring the Benefits of Incorporating Exercise Into Traditional Therapeutic Practice

by

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Abstract

This capstone explores the benefits of incorporating exercise into traditional counselling sessions. With increasing prevalence of sedentary behaviour and physical inactivity globally and continued stigma associated with mental health treatments, there is an urgent need to address these pressing health concerns. This capstone explores the benefits for clients to participate in counselling that incorporates exercise into psychotherapy compared to traditional psychotherapy. The literature review was guided by holistic health theory and common factors research. The literature review reveals mixed results about the benefits of exercise psychotherapy for clients' mental and physical health. Several studies highlight the benefits of exercise psychotherapy with six of them providing clients with superior outcomes compared to traditional counselling. Three studies demonstrated that exercise psychotherapy achieved the same outcomes as traditional counselling. The literature review also highlights the importance of accommodating client preferences to develop a strong therapeutic alliance. Despite these findings, many limitations to the quality and generalizability of this research were identified, including the small sample size of some of the studies, double meanings of search terms used for this study, and the need for more research focused on identifying individuals or presenting problems that would particularly benefit from exercise psychotherapy. This capstone contributes to the field of counselling psychology by providing evidence to suggest that exercise psychotherapy is beneficial to those who participate in it and that it can be part of a holistic approach to treating physical and mental health issues.

Keywords: exercise psychotherapy, walk and talk, holistic health, common factors research, exercise and counselling, posttraumatic stress disorder

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Chapter One: Introduction

Overview of the Topic

Two research trends are considered in this section. The first research overview looks at health impacts of inactivity and sedentary lifestyles. The second research trend explores the opportunity of integrating physical activity into counselling sessions. The overview will demonstrate the connectivity between physical activity and improved physical and mental health, the adverse health effects of inactivity and sedentary behavior, and the emerging body of research that points to a need for further research and investigation on efforts to integrate physical activity and counselling.

There is growing evidence and research that focuses on the negative health impacts of limited physical activity and sedentary behaviors. A recent trend in public discourse is to equate various behaviors and lifestyle choices with the well-established adverse health effects of smoking (Chau et al., 2019). In a content analysis of 614 news articles, Chau et al. (2019) found that each article drew a comparison between at least one behavior and smoking in terms of health risks. Among the most frequently mentioned behaviors whose adverse health effects were compared to smoking were sitting (55.2%), obesity (12.1%), and physical inactivity (2%). Although these articles were media articles and not necessarily scientific publications, 66% of the 299 articles that compared the dangers of sitting to the dangers of smoking quoted medical professionals or scientists as expert sources. It should be noted that the authors of the analysis highlighted that while such comparisons may effectively capture public attention, they can also be misleading by oversimplifying complex health issues (Chau et al., 2019).

Vallance et al. (2018) compared the health risks of sitting versus smoking by synthesizing the findings of a systematic review (Biswas et al., 2015) and trend analysis (Thun et al., 2013) of

these respective behaviors. Compared to those who never smoked, Vallance et al. (2018) estimated that heavy smokers had 2,000 more deaths per 100,000. Conversely, people who sat the most accounted for 190 more deaths per 100,000 than those who sat the least (Vallance et al., 2018). Likening sitting to the notorious health risks of smoking may be aimed at inspiring policymakers and citizens to reduce sitting with the same urgency used to address smoking (Lee et al., 2012). Sitting may not be as dangerous as smoking; however, the research surrounding sedentary behavior pales in comparison to the evidence on the adverse effects of smoking (Vallance et al., 2018). Similarly, the long-term risks of sedentary behavior may not be as well-known as the risks associated with smoking or other modifiable lifestyle choices (Landais et al., 2022; Vallance et al., 2018). The terms physical inactivity and sedentary behavior are often used interchangeably, but they represent different concepts (Tremblay et al., 2017). These, and other terms, will be defined in a later section of this chapter.

The risk of developing certain health conditions such as cardiovascular disease (CVD) is exacerbated by physical inactivity as well as other factors (World Health Organization (WHO), 2025). CVD is considered the leading cause of death globally, accounting for 32% of worldwide deaths in 2019 (WHO, 2025). Most types of CVD can be prevented by adjusting lifestyle choices such as increasing physical activity and decreasing sedentary behavior (Kallio et al., 2021; WHO, 2025).

Some mental health issues have also been found to be associated with lifestyle choices (Guo et al., 2024). Guo et al. (2024) found an association between sedentary behavior and depressive symptoms amongst 4,728 adult participants. Participants who were sedentary for 10 or more were more likely to present with symptoms of depression than their less-sedentary peers (Guo et al., 2024). In a larger-scale study, Vancampfort et al. (2018) found an association

between sedentary behavior and depressive symptoms amongst adolescents aged 12-15. Adolescents who were sedentary for three or more hours a day were 20% more likely to develop symptoms of depression compared to their counterparts who were sedentary for less than three hours a day (Vancampfort et al., 2018).

The WHO has produced guidelines to inform policymakers and the public on recommended amounts of weekly physical activity to reduce the risk of harmful physical and mental health conditions (WHO, 2020). The WHO published the first official set of guidelines for physical activity in 2010, which was later followed by an updated set of guidelines in 2020 (WHO, 2010, 2020). The minimum amount of weekly physical activity recommended for adults aged 18-64 to establish and maintain good physical health is 150-300 minutes of moderate-intensity or 75-150 minutes of high-intensity aerobic exercise (Bull et al., 2020; WHO, 2020). It is also recommended that adults engage in activities aimed at strengthening each muscle group at least twice a week (WHO, 2020). These guidelines encourage adults to exceed the minimum weekly recommendations of aerobic physical activity to receive additional health benefits (WHO, 2020).

The global rate of physical inactivity in 2000 was estimated to be 23.4%, which increased to 26.4% by 2010 (Strain et al., 2024). In 2022, the rate of physical inactivity climbed to 31.3% (Strain et al., 2024). Physical inactivity was defined as failing to meet the lower limit of WHO's recommendations for weekly exercise (Strain et al., 2024; WHO, 2020). Between 2018 and 2019, Statistics Canada (2021) estimated that 49.2% of Canadians met the physical activity guidelines. Overall, 50.8% of Canadians are estimated to not be meeting the WHO's physical activity guidelines. This far exceeds the 31.3% of the global population estimated to not be meeting the minimum recommendations in 2022 (Statistics Canada, 2021; Strain et al., 2024).

In response to surging rates of physical inactivity worldwide, the WHO set a goal to reduce the global prevalence of physical inactivity by 15% between 2010 and 2030 (Strain et al., 2024). Despite this goal, the prevalence of physical inactivity in adults has risen by nearly five percentage points globally between 2010 and 2022, which suggests that the world population is unlikely to accomplish WHO's goal unless there is a radical shift in current trends (Strain et al., 2024).

Growing rates of physical inactivity between 2010 and 2022 are shocking considering that the WHO released two sets of physical activity guidelines during that time (Strain et al., 2024; WHO, 2010, 2020). The growing rates of inactivity are concerning as an individual's risk for various health conditions increases when they are unable to meet the minimum recommended amount of weekly physical activity (WHO, 2020). Despite the publication of global health guidelines, the rates of physical inactivity continue to increase (WHO, 2020). Reducing rates of physical inactivity may require more than publishing recommendations, and it is clear that the need to encourage people to become more physically active is becoming increasingly urgent as the prevalence of physical inactivity rises (Strain et al., 2024).

The change needed to increase physical activity on a national and global level may not require as radical a shift as some might fear (Clarke et al., 2019). Encouraging people who do not engage in any moderate to vigorous physical activity to immediately achieve 150 minutes of moderate-intensity exercise each week may not be an effective strategy to facilitate lasting change, and as such, incremental change and further education and awareness may be helpful (Clarke et al., 2019; Wood & Neal, 2016). Researchers suggest that more than half of the Canadian population is getting at least a portion of the recommended physical activity, with a quarter of those Canadians getting at least 75 minutes of moderate-intensity physical activity

each week (Clarke et al., 2019). The estimated prevalence for partial fulfillment of the physical activity guidelines suggests that minor adjustments to lifestyle, such as replacing some sedentary activity with light walking, might be sufficient to help more people meet the recommendations set forth by the physical activity guidelines (WHO, 2020). Demonstrably, a systematic review of 16 systematic reviews and meta-analyses found that people achieved positive health outcomes even while engaging in very low intensity, low duration, and low frequency physical activity (Warburton & Bredin, 2017).

In addition to publishing recommendations on minimum weekly physical activity, the WHO's most recent guidelines added information on the risks of high amounts of sedentary behaviors and recommendations to limit stationary activities (WHO, 2020). Adults are recommended to limit the amount of time they spend sitting or lying down to reduce their sedentary behavior (WHO, 2020). Additional recommendations for adults advise replacing stationary activities with light physical activity, such as walking (WHO, 2020). When high amounts of sedentary behavior are unavoidable, such as full-time office work, adults are recommended to engage in more moderate- and vigorous-intensity physical activity (WHO, 2020).

The addition of sedentary behavior to the WHO's guidelines is in part due to the rise in sedentary behavior especially in wealthier and more developed countries (WHO, 2018). The increased reliance on vehicular transportation and technology leads many people in developed countries to drive to work and sit in an office all day (WHO, 2018). Advances in technology and society generally lead to the majority of the population becoming more sedentary and less active (WHO, 2018).

Although as noted, research exists to demonstrate that incremental changes in behaviour can improve physical activity, barriers remain. For example, after learning about the risks of sedentary behavior, Canadian university students reported that they were unlikely to take any action to reduce their sitting time (Pachu et al., 2022). Students reported that compelling factors such as pressing academic demands and an anticipated stifling effect social norms would play in making healthy lifestyle changes that others were not pursuing (Pachu et al., 2022). Other factors for choosing to not reduce sedentary time included perceived distant health consequences (students perceived minimal short-term risk) and skepticism that increasing their physical activity would improve their overall health (Pachu et al., 2022).

Given the significant role perception played in the students not prioritizing physical activity and reducing their sedentary behavior, future interventions and initiatives should aim to increase awareness of the potential risks associated with insufficient physical activity and excessive sedentary behavior (Pachu et al., 2022). Since social norms were identified as a possible barrier to replacing some sedentary behaviors with light physical activity, exploring ways to challenge these social norms may be beneficial (Pachu et al., 2022). For instance, Pachu et al. (2022) suggested that professors could offer brief standing or walking breaks partway through a long lecture, or universities could install desks that allow for both sitting and standing according to student preference. Researchers suggest that health campaigns and initiatives should emphasize moving more and also sitting less rather than encouraging people to get a certain amount of physical activity which may not be feasible for some (Warburton & Bredin, 2017).

As highlighted here, there has been significant research exploring the benefits of increased physical activity as well as the associated barriers and challenges to increasing individuals' activity levels. Reviewing this research in a mental health and wellness context

provides additional areas for exploration and suggests that there are opportunities to explore the benefits of integrating physical activity into counselling sessions.

There is significant research exploring the mental health benefits of physical activity. The combined impact of incorporating exercise into counselling sessions is not well understood and may be under-researched (Fossati et al., 2021; Koziel et al., 2022). Despite this lack of research, the positive impacts exercise can have on mental health alone without a counsellor are promising (Fossati et al., 2021). Fossati et al. (2021) conducted an unstructured review of 55 papers exploring the relationship between exercise and mental health. These researchers found that exercise and mental health were reciprocally associated, meaning that an increase in mental health would increase one's performance in physical activities while increased physical activity would increase one's overall mental health (Fossati et al., 2021). This finding may help to support the holistic approach of addressing both mental and physical health simultaneously by incorporating exercise into counselling.

In another study, when college students were paired up to serve as exercising buddies, they noticed improvements in mental health (Kirby et al., 2022). Of 15 study participants, 81.5% left an exercise session reporting not feeling anxious compared to when they started the session (Kirby et al., 2022). Similarly, 58.3% of participants who indicated they felt stressed before exercising left the exercise sessions not feeling stressed (Kirby et al., 2022). These results provide the basis for exploring the potential of exercise psychotherapy compared to traditional counselling.

Battalio et al. (2020) collected data over four years to investigate a possible correlation between physical activity and mental health symptoms. Physical activity was found to be

negatively correlated with symptom severity of both depression and anxiety (Battalio et al., 2020).

An application of these research findings could be to incorporate exercise into counselling sessions to reduce symptoms of depression and anxiety. Anxiety relating to exercise was found to be more intense amongst people with a higher body mass index (BMI) (Smits et al., 2010). Incorporating exercise into counselling sessions, particularly those sessions centered on cognitive behavioral therapy, may be an effective way of treating exercise anxiety (Sabourin et al., 2015). Exercising during counselling sessions has been shown to help reduce anxiety sensitivity by exposing clients to distressing arousal symptoms in a safe space (Sabourin et al., 2015). For clients with high anxiety sensitivity, consistent implementation of 10-minute high-intensity running into counselling sessions led to reduced anxiety sensitivity (Sabourin et al., 2015).

Applied to a counselling context, therapists could offer standing or walking breaks to clients during sessions to reduce sedentary behaviour, increase physical activity, and challenge social norms that may be preventing clients and counsellors from incorporating exercise into their daily activities. The concept of combining exercise into counselling sessions presents an opportunity for people to prioritize their mental and physical health simultaneously without having to sacrifice one in pursuit of the other if this integration is found to be beneficial.

Some mental health issues may reduce the likelihood of individuals exercising (Pelletier et al., 2017). Pelletier et al. (2017) found that 51% of participants diagnosed with depression or anxiety reported not exercising at least once a week. Additionally, encouragement from a health professional to exercise was determined to be the largest contributor to participating in weekly exercise (Pelletier et al., 2017). These research findings suggest that those with certain mental

disorders are less likely to exercise and that advice from a health professional can greatly increase the likelihood of individuals to exercise. This could support the utility of incorporating exercise into counselling sessions. Pelletier et al. (2017) explained the large percentage of physically inactive individuals by suggesting that individuals with a mood disorder may experience greater difficulty exercising than those without a mood disorder. Exercise psychotherapy presents an opportunity for the counsellor to help the client address their hesitancy to exercise from both a physical activity and mental health context.

From the perspective of mental health professionals, there are two major barriers preventing people from exercising (Kleemann et al., 2020). Stigma associated with mental health concerns and not having a friend to exercise with prevent many people from exercising (Kleemann et al., 2020). Integrating exercise into counselling sessions could also help reduce the stigma associated with mental health treatment (Okafor, 2025). However, the definitive benefits of exercise seem to be predominantly hypothetical as few studies analyze the impacts of incorporating exercise into counselling. Despite the dearth of relevant research concerning exercise psychotherapy, other fields of research present promising findings that suggest incorporating exercise into counselling may be beneficial. For example, Kirby et al. (2022) tested the effectiveness of a program that matched interested university students together to exercise. This program was initiated to improve social connection, mental health, and physical activity (Kirby et al., 2022). After 16 weeks of exercising with a student from this program, participants reported they felt they had at least one friend on campus as a result of the program compared to not having any friends on campus before the program (Kirby et al., 2022). Incorporating exercise into counselling sessions may be a way of eliminating the barrier of not having someone to exercise with through the pairing of counsellor and client (Kirby et al., 2022).

Combining exercise and counselling might also be a preferred option for specific populations. Men, for example, might be more comfortable attending non-traditional psychotherapy, such as wilderness retreats or other activities held outside the traditional therapy office (Brooks, 2017; Davies et al., 2010). One suggested explanation behind the effectiveness of nontraditional therapy for men is its indirect targeting of multiple aspects of health rather than singling out a particular deficiency (Brooks, 2017; Davies et al., 2010).

Another reason why men might prefer the combination of different activities with psychotherapy is its potential to reduce stigma (Brooks, 2017). Wong et al. (2017) suggests that men who observe masculine norms may be less open to traditional therapy. Masculine norms include asserting control over emotions, dominance, self-reliance, and pursuit of status (Wong et al., 2017). Men who adhered to more masculine norms were less likely to seek therapy and more likely to develop adverse mental health conditions than those who adhered to less masculine norms (Wong et al., 2017).

Okafor (2025) proposed a possible mechanism to explain men's receptivity to alternate forms of psychotherapy over traditional methods. Exercise, among other interventions incorporated into therapy, operates as a tool through which people can learn to practice independence in taking care of their mental and physical health simultaneously (Okafor, 2025). The possible receptivity of men to exercise psychotherapy could be a monumental breakthrough as men are more likely than women to have negative perceptions of mental health treatments (Vogel & Heath, 2016). Related to men's negative perceptions of mental health interventions, men are less likely to seek out mental health treatment than women (Sagar-Ouriaghli et al., 2019). Incorporating exercise into counselling could potentially help offset the stigma that counselling only involves talking about one's feelings due to its dual focus on physical as well as

mental health (Okafor, 2025). The reduction of stigma could be massively advantageous in helping more men attend counselling due to the barrier stigma plays in preventing many men from pursuing mental health treatments (Brooks, 2017).

The potential benefits of exercise psychotherapy destigmatizing the therapy experience applies to all those that participate in it (Newman & Gabriel, 2023). Incorporating exercise into counselling has the potential of reducing the difference in power between the counsellor and client (Newman & Gabriel, 2023). Exercising during counselling session could reduce some awkwardness associated with counselling (Newman & Gabriel, 2023). For example, an element of formality could be reduced during exercise psychotherapy, which may help anxious clients feel as if they are talking to a friend (Newman & Gabriel, 2023). Exercising during counselling provides an excuse to break eye contact more frequently, which may be more comfortable for some clients (Newman & Gabriel, 2023).

In addition to a potential reduction in stigmatization around therapy, recent research suggests that the greatest mental and physical health benefits proportional to energy expended can result from levels of physical activity that are far below the physical activity recommendations (Warburton & Bredin, 2017). This finding suggests that the small amount of exercise completed during exercise psychotherapy sessions may be sufficient to produce some physical health benefits compared to those that would otherwise not have exercised. In my opinion, combining physical exercise and counselling into a single 50-minute session each week may make it more likely for busy people to seek out counselling and fit it into their busy schedules.

Some researchers suggest that people are more likely to exercise when they are told they will feel better after exercising than if they were told it will make them healthier (Warburton &

Bredin, 2017). This distinction may be a difference between health knowledge and attitude. One study found a positive association between health knowledge and risky behaviors (Alves, 2024). Positive attitude towards a healthy lifestyle, combined with increased health knowledge, was positively associated with healthy behaviors (Alves, 2024). However, health knowledge alone was related to risky behaviors such as alcohol consumption and illicit drug use (Alves, 2024). Furthermore, the study found that knowledge of healthy behaviours alone did not contribute to the development of a positive attitude towards healthy behaviours (Alves, 2024). Alves (2024) suggests developing policies and interventions with the aim of increasing knowledge about the benefits of healthy behaviors, the dangers of risky behaviors, and fostering positive attitudes toward a healthy lifestyle. Interventions developed with the awareness of the risks associated with an inactive lifestyle would be beneficial (Alves, 2024). Furthermore, helping people change their attitude to make choices that are more conducive to an active lifestyle, is associated with increased chances of adherence (Alves, 2024).

The global rise in sedentary behavior, physical inactivity, and mental health concerns presents an opportunity to explore the possible benefits of interventions that address each of these issues simultaneously. It is my hope that incorporating exercise into psychotherapy may encourage more people to exercise and take care of their mental health. Exercise psychotherapy could help make counselling more accessible to people that are held back by exercise anxiety, mental health symptoms that reduce one's desire to exercise, and a lack of time to take care of their mental and physical health.

Purpose Statement

The purpose of this capstone is to explore the physical and psychological benefits that might arise when exercise is incorporated into counselling sessions. Counselling and exercise

have traditionally been conducted separately, and each produces unique benefits (Fossati et al., 2021; Perren et al., 2009). Chapter two will provide a summary of the current research with regards to the physical and psychological benefits of exercise. The empirical evidence base demonstrating the potential benefits produced when exercise and counselling are combined will also be explored. This capstone will provide recommendations for future research and applications for counselling practice based on the summary of the literature in chapter three.

The questions that the literature review will aim to address are as follows: are there benefits to incorporating exercise into the traditional therapeutic approach? What benefits are produced when exercise and counselling are combined compared to traditional counselling interventions alone? This research topic was chosen to explore the benefits of incorporating physical activity into counselling sessions. This capstone also explores the potential for exercise psychotherapy to make counselling more accessible and appealing for certain groups or populations who may not have considered traditional psychotherapy.

This capstone is intended to benefit and inform counsellors, therapy clients, and researchers. For counsellors, the summary of research could help them to find ways to safely incorporate exercise or standing breaks into their counselling sessions and determine which clients may benefit more from combining exercise with counselling. Additionally, the research may help counsellors get a better sense which therapeutic approaches or symptom presentation may respond best to exercising during therapy. Suggestions to inform therapists how they might apply the findings of this capstone into their clinical practice will be provided in chapter three.

For clients, defined as people seeking therapy, this capstone will provide a detailed summary of the adverse effects sedentary behavior can have on one's health as well as the positive outcomes of exercise. The capstone will also connect clients with the knowledge that

there may be a possibility of tapping into the positive effects of exercise by incorporating it into counselling. One of the goals in exploring these topics in this capstone is to encourage clients to find and choose a type of psychotherapy that works within their goals and schedule. This research could serve to inform clients and help them better understand why incorporating exercise into counselling could be beneficial. For researchers, this capstone will highlight several ideas for future research that could improve the quality of evidence surrounding the incorporation of exercise into counselling. The current research on incorporating exercise into counselling sessions is somewhat limited in quality of study and type of exercise. For example, several studies involve very small sample sizes, and many several studies focus specifically on outdoor walk and talk counselling (Greenleaf et al., 2024; Newman & Gabriel, 2023; van den Berg & Beute, 2021). Although outdoor walking is an exercise, including the results of walking psychotherapy studies may skew the results of all types of exercise psychotherapy studies to appear more or less effective. The suggestions provided towards the end of this capstone will be designed to help researchers develop high quality studies that comprehensively measure various indicators of mental and physical health.

Theoretical/Conceptual Framework

The contents of this capstone are built upon the theoretical frameworks of common factors research and holistic health. Hundreds of different therapeutic modalities take unique approaches in treating mental health issues (Feinstein et al., 2015). Despite the plethora of therapeutic modalities to choose from, there are certain characteristics that contribute to the effectiveness of the treatment regardless of which modality is being utilized (Cuijpers et al., 2019; Feinstein et al., 2015). Common factors theory identifies aspects of counselling that remain constant and retain their importance irrespective of the therapeutic modality being

practiced (Cuijpers et al., 2019). Factors such as the importance of the therapeutic alliance as well as therapist qualities such as genuineness, warmth, cultural competence, and empathy have all been positively correlated with success in psychological treatment (Cuijpers et al., 2019). These common factors are interrelated and are estimated to account for approximately 30% of change in psychotherapy (Lambert, 1992).

The therapeutic alliance is centered around how the therapist and client cooperate, agree upon goals, and work together on achieving the goals and tasks of therapy (Cuijpers et al., 2019; Feinstein et al., 2015). Another central feature of a therapeutic alliance is the unique personality traits and attachment styles that therapist and client bring to the counselling relationship (Feinstein et al., 2015). These unique traits can drastically impact the effectiveness of treatment overall both positively and negatively (Feinstein et al., 2015).

A therapist's willingness to adapt to a client's preferences might help to increase the strength of the therapeutic alliance and the positive outcomes of therapy (Cuijpers et al., 2019). The importance of a counsellor's willingness to adapt to client preferences and needs will be a theme expressed throughout this capstone. A counsellor's failure to adapt to client preferences may lead to adverse outcomes while a counsellor's efforts to accommodate preferences may help them to achieve positive outcomes (Feinstein et al., 2015). In the context of this capstone, some clients may not be receptive to combining exercise with counselling while others may be more open to the combination.

Other researchers identified a few more common factors in a review of common factors which aimed to assist in teaching and informing student psychiatrists of the important factors that influence client outcomes (Feinstein et al., 2015). Client factors such as age, sex, personality, socioeconomic status, medical history, and readiness for change all influence the effectiveness of

psychotherapy (Feinstein et al., 2015). Another interesting common factor is the Hawthorne effect, which posits that some patients will seemingly improve to a certain extent during therapy because they are being listened to and cared for by someone—the counsellor (Feinstein et al., 2015). Similar to the Hawthorne effect is the common factor of being hopeful and having positive expectations that engaging in counselling will result in positive change (Feinstein et al., 2015).

Holistic health theory asserts that there are many aspects of health and that each one should be addressed to adequately treat a client (Sultanoff, 1997). According to Sultanoff (1997), the main components involved in holistic health are physical, mental, emotional, and spiritual. This theory suggests that there might be multiple systems affected by a mental health disorder or physical ailment (Sultanoff, 1997). Holistic health theory aligns with the proposition to incorporate exercise into counselling as it involves a physical treatment in addition to a psychotherapeutic or mental treatment. This capstone primarily examines the role of incorporating the mental and physical systems into a holistic treatment of clients and the resulting outcomes. Holistic health theory shares some similarities with common factors theory as they both center around catering to the client's preferences whenever possible (Cuijpers et al., 2019; Feinstein et al., 2015; Sultanoff, 1997). Both theories involve working with the client to implement interventions that work within the client's goals for treatment (Cuijpers et al., 2019; Feinstein et al., 2015; Sultanoff, 1997).

Kleemann et al. (2020) surveyed the experience of physicians, nurses, social workers, psychologists, occupational therapists, and physiotherapists recommending exercises to patients in psychosocial care units in hospitals. Of 73 participants, 41% of mental health professionals surveyed never recommended exercise (Kleemann et al., 2020). The researchers suggested that

participants may have felt that other professionals such as physical therapists or physicians would be more qualified to recommend exercise (Kleemann et al., 2020). 72.6% of participants agreed that the responsibility of recommending exercise to a patient should be carried by a professional other than themselves (Kleemann et al., 2020). These findings suggest that the mental health treatment of individuals should be expanded to be more holistic in its incorporation of other health disciplines. This interdisciplinary approach could help people obtain the mental benefits of exercise that were previously unknown or unmentioned to them (Kleemann et al., 2020).

Methodology

This capstone is a narrative literature review that involved extensive searching of relevant databases and consulting with my capstone supervisor who is a faculty member of City University. Most of the articles reviewed and cited in this capstone are peer-reviewed academic journal articles. A few reliable news articles and organization-authored websites were cited to provide statistics and general context of the research topic. Greater emphasis was placed on reviewing research published within the last 10 years. The general search engines used to find most of the articles included in this review were Google Scholar and City University of Seattle Library. Specific databases were also searched, including Behavioral and Mental Health Online, Psychology and Behavioral Sciences Collection, PsycInfo + PsycArticles, Social Sciences Database, and Statistics Canada. The literature review was thematically organized. The reference lists of included articles were searched to find related research. A general outline of themes was developed before searching the literature to guide and focus the literature review while additional themes were added upon reading the literature. I excluded all research that was not written in

English as I am not fluent in any other language, and enlisting translation services was not feasible for the purposes of this capstone.

Each chapter of this capstone was submitted separately to my capstone supervisor who then provided feedback and suggestions to improve upon the writing and the research contained within the capstone. Revisions were then made consistent with the feedback provided by the capstone supervisor. All three chapters were then simultaneously submitted to the faculty second reader who shared their recommendations to improve upon the capstone. The final step in completing this capstone involved hiring a professional editor to proofread the capstone and ensure it conformed properly to the standards of American Psychological Association (APA) seventh edition.

Contribution to the Field

This research endeavors to explore the benefits of exercise psychotherapy which may be helpful in enhancing current therapeutic modalities and developing new modalities. The potential benefits in this area are particularly relevant to the field of counselling psychology as there are opportunities to develop more effective mental health treatments (Loerinc et al., 2015).

Exploring the outcomes of incorporating exercise into counselling will help clinicians to better treat clients from a holistic health perspective (Sultanoff, 1997). Some forms of professional health treatment focus on one aspect of health while ignoring other aspects that might impact other health systems (Sultanoff, 1997). This research will help therapists to broaden their conceptualization of presenting problems by considering physical aspects of health that might be causing symptoms such as exercise and sedentary behavior in addition to mental factors (Sultanoff, 1997).

The findings from this capstone and related future research provide the possibility for generalizability to other fields. Movement could be incorporated into other contexts if its implementation in counselling sessions is found to be beneficial, feasible, and compliant with ethical and privacy standards. Holding walking meetings outdoors or even a treadmill meeting indoors with one or two other people could be a realistically achievable application if doing so was found to benefit all those involved in an office setting. Another realistic application could be the implementation of short walking or light movement breaks every half hour in the workplace (Carter et al., 2018; Falck et al., 2017; Greene et al., 2017). These findings are intended for the field of counselling but could be applied to many other contexts.

Reflexivity and Positionality Statement

My name is Levi Meldrum, and I strongly believe that regular exercise is essential for one's mental and physical health. I have experienced the mental benefits of exercise in my own life when I have exercised regularly as well as the debilitating toll on my mental health when I have not exercised consistently. Despite knowing how important exercise is to my mental and physical health, I often struggle to make time in my day to exercise given my academic and personal commitments. This constant struggle sparked the idea to explore the topic of integrating exercise into counselling. My early thinking was that it would be both convenient and beneficial to my own health if I was able to participate in some form of exercise while counselling clients. This led to further consideration of the potential benefits for clients, who may also struggle with finding the time to incorporate physical activity into their days. Given my personal experience, I hope that this research yields favourable results that support the incorporation of exercise into counselling sessions. I believe exercising during counselling sessions could result in positive outcomes for both therapist and client.

I would like to note that I come from a position of many privileges, which may lead to potential blind spots. I have had both the financial and familial support to stay active and to commit time to physical activity and exercising. I tend to believe that anyone can improve their physical and mental health, and I may overlook the barriers to exercise that may be experienced by those with serious physical or mental conditions. Overall, I am a healthy man who may not fully understand the difficulties faced by those with chronic conditions who are also trying to attend to their mental and physical health.

Definition of Terms

While there may be slight differences between psychotherapy and counselling according to Rakovec (2021), these terms will be used interchangeably in this capstone to refer to talk therapy.

Exercise Psychotherapy: A type of psychotherapy that incorporates the use of exercise into counselling sessions with the aim of improving both mental and physical health (Dixon, 2009).

Physical inactivity: A duration or intensity of physical activity that fails to meet the minimum recommendations (Tremblay et al., 2017).

Sedentary behavior: A variety of behaviors occurring while awake and stationary that expend less than 1.5 metabolic equivalents (METs) (Tremblay et al., 2017).

Outline of Capstone Project Chapters

The remainder of the capstone will be divided into a literature review and a recommendations chapter based on the reviewed research. Chapter two, the literature review, will start by delving into some of the physical impacts of exercise including the outcomes of sedentary behavior, cognitive functioning, and circulation of blood and hormones in the body. The next main theme will discuss the impacts exercise has on one's mental health. The specific

types of mental health disorders and issues that will be discussed in this section are anxiety and depression, mood, and posttraumatic stress disorder (PTSD). The final section of the literature review will explore the different ways exercise can be incorporated into counselling sessions such as before, after, during, or done at a totally separate time than therapy but still as part of treatment. This literature review will explore the outcomes of exercise psychotherapy. A brief discussion on accommodating client preferences in incorporating exercise into counselling sessions will then be provided to shed light on current research perspectives on adding exercise to psychotherapy sessions.

Chapter three will discuss the findings of the literature review in the context of the research questions posed in this chapter. Limitations that might affect the application or generalizability of these findings will be reviewed. The next section will highlight gaps or limitations in the current literature that could be addressed by further research and how those might best be addressed. Recommended ways that the findings could be implemented into the field of counselling psychology will also be presented. Chapter three will conclude with a reflection of my learning and a summary of the capstone.

Chapter Two: Literature Review

The focus of this literature review will be to explore the benefits of incorporating physical activity into psychotherapy. The review will begin by examining the effects of exercise, the impact of sedentary behavior, and the impact of movement on cognitive functioning and bodily circulation. Research on the positive impacts of exercise on treating mental health conditions such as depression, mood, anxiety, and PTSD will also be reviewed. The literature review will then explore studies where exercise has been incorporated into the treatments of mental health directly in session, before or after session, and on a client's own time throughout the week. The aim of this literature review is to examine the impact and benefits experienced by both clients and counsellors when exercise is incorporated into counselling sessions.

Physical Impacts of Exercise

Physical exercise has been shown to positively contribute to the prevention of diseases and other complications resulting from poor physical health (Bull et al., 2020; WHO, 2010). This section will define sedentary behavior and explore the impacts of engaging in too many stationary activities. This review will also examine the benefits of physical exercise to cognitive functioning and body circulation.

Sedentary Behavior

Office workers can easily report the high-level health risks from inadequate physical activity along with the associated benefits of sufficient physical activity. However, they may not be able to identify specific health risks that accompany sedentary behavior (Landais et al., 2022). When asked to comment on the specific risks of sedentary behavior, Dutch office workers provided general responses indicating that sedentary behaviour is bad for one's health but struggled to cite specific illnesses and diseases that could be prevented by participating in

sufficient physical activity (Landais et al., 2022). The same report concluded that one of the great dangers of sedentary behavior is that its short-term and long-term risks may not be as widely known as some of the benefits of exercise (Landais et al., 2022).

Carter et al. (2018) estimate that an average office worker spends between 65% to 75% of their working hours sitting. Munir et al. (2015) found the average sitting time of 4,436 office-workers accounted for 6.32 hours in a 24-hour day. Furthermore, Thorp et al. (2012) found that people sit as much as 2.5 hours more on working days than on non-working days. Considering office work can constitute a significant portion of one's daily sedentary behavior, research supports the importance of implementing interventions to reduce this behavior directly in the workplace (Carter et al., 2018; Landais et al., 2022; Thorp et al., 2012). The amount of time one spends in a prolonged sedentary state, defined as at least 20-30 minutes of continuous sitting, is an increasing concern in the workplace (Thorp et al., 2012). Thorp et al. (2012) found that 180 office workers spent nearly half of their work time sitting for a prolonged duration averaged across eight working days.

Prolonged sedentary time has been identified as a risk factor for premature death and other adverse health outcomes (Thorp et al., 2012). Researchers suggest that simply standing or engaging in light exercise such as a brief walk around the office may be enough to stave off some of the risks associated with prolonged sitting (Thorp et al., 2012). Some sedentary behavior has been linked as a risk factor for cardiovascular disease, cancer, and mortality, stroke, poor cognitive functioning, dementia, and symptoms of depression (Biswas et al., 2015; Hamer & Stamatakis, 2014; McDonnell et al., 2016). Despite the risks associated with sedentary behavior, many barriers such as corporate policies, social norms, lack of motivation, and lack of

knowledge surrounding the risks of sedentary behavior may be preventing office employees from reducing their sedentary time (Landais et al., 2022).

Buckley et al. (2015) suggests that the success of workplace interventions should be measured longitudinally to evaluate adherence. Employers should have a vested interest in the health of their employees (Buckley et al., 2015). Workplaces that help employees establish and maintain healthy lifestyles can increase the company's overall productivity and economic growth through reducing the number of sick days taken by employees (Buckley et al., 2015).

Buckley et al. (2015) presented several recommendations to increase the amount of physical activity in the workplace after conducting research for employers of office workers that may be prone to little movement during working hours. These workplace guidelines were developed in response to the increased empirical understanding connecting sedentary behavior and cardiovascular disease (Buckley et al., 2015). These guidelines were targeted towards employers to help them best support their employees (Buckley et al., 2015). The recommendations to reduce sitting at work included encouraging employees to take breaks, performing some tasks standing when possible, and engaging in two to four cumulative hours of light physical activity such as walking during working hours (Buckley et al., 2015). Other suggestions for increasing physical activity during working hours were to place office appliances, washrooms, and conference rooms strategically to require more walking when printing a document, going to the bathroom, and attending a meeting (Buckley et al., 2015). Buckley et al. (2015) suggested that strategic placement of amenities could include placing frequently used rooms or appliances on opposite ends of the office or on other floors, when possible. Workplace guidelines and current research reinforce that low-intensity exercise is easy

to implement at work and yields positive outcomes such as reduced mortality (Buckley et al., 2015; Carter et al., 2018; Füzéki et al., 2017).

Cognitive Functioning

Researchers suggest that increased moderate-intensity and above physical activity reduces one's risk of dementia and improves many aspects of cognitive functioning (Barnes & Yaffe, 2011; Nagamatsu et al., 2014).

One study analyzed data from eight studies looking at the relationship between cognitive function and sedentary behavior and found preliminary results suggesting a negative correlation between sedentary behavior and cognitive functioning (Falck et al., 2017). Increased sedentary behaviour was associated with worse cognitive function (Falck et al., 2017). While this study noted that the findings were preliminary in nature due to a potential lack of methodological rigour, similar findings have been reported by other research (Falck et al., 2017). For instance, Hamer & Stamatakis (2014) also found that watching TV, a form of sedentary behavior, resulted in greater symptoms of depression and poorer cognitive functioning among research study participants. The research community has provided recommendations to reduce sedentary time, such as limiting leisure sedentary time to less than two hours a day, replacing sedentary behavior exceeding two hours with standing or walking whenever possible, and taking standing or walking breaks every half hour (Falck et al., 2017).

Circulation

Increased sedentary behavior has also been found to negatively impact the circulation of blood and hormones throughout the body (Carter et al., 2018). Uninterrupted sitting for four hours led to decreased cerebral blood flow, which was easily reversed by walking for two minutes every 30 minutes (Carter et al., 2018; Greene et al., 2017). These findings suggest that

almost any exercise can benefit one's health, regardless of the intensity (Carter et al., 2018). Interestingly, the researchers found that taking frequent breaks such as a two-minute walk every 30-minutes was more beneficial in preventing the slow of cerebral blood flow than an eight-minute walk every two hours (Carter et al., 2018). Other benefits resulting from increased blood flow include reduced mental fatigue, improved emotional state, and improved thinking (Greene et al., 2017). Greene et al. (2017) suggests that one explanation behind the increased blood flow to the brain and its impact on mood is that walking creates small shock waves throughout the body upon each footfall that synchronize with the heartrate to maximize blood flow through the circulatory system.

Neurotransmitters play various roles balancing the secretion of hormones in the body, which, in turn, promote stress reduction and relaxation, and which are highly impacted by physical activity (Greenleaf et al., 2024). One of these neurotransmitters called endocannabinoids is linked with reducing anxiety levels (Siebers et al., 2021). Bhattacharya et al. (2023) hypothesized that certain exercises such as running release more endocannabinoids than more complex forms of physical activity such as basketball or tennis. Endocannabinoids also increase blood flow and are linked to the release of dopamine in certain parts of the brain, which may account for the addictive nature of exercise reported by some (Bhattacharya et al., 2023).

Impacts of Exercise on Mental Health

Physical activity alone has been shown to lower an individual's stress by reducing body tension (Greenleaf et al., 2024; Siebers et al., 2021) Exercise has been found to improve various symptoms of mental health disorders (Fossati et al., 2021; Herbert, 2022). This section will briefly cover the impacts exercise has on depression, mood, anxiety, and PTSD.

Anxiety & Depression

Several research studies suggest that exercise produces the peripheral benefits of reducing depression severity and improving one's overall mental health (Bryant et al., 2023; Coventry et al., 2020; Forbes et al., 2020). Otis et al. (2024) found that ocean surfing and hiking exercise programs helped reduce symptoms of depression for military personnel with major depressive disorder (MDD). Similarly, military personnel with PTSD experienced reductions in PTSD following surfing or hiking (Otis et al., 2024). Remission rates were 5% and 50% for the MDD-only and MDD-PTSD groups that participated in ocean surfing or hiking for physical exercise, respectively (Otis et al., 2024). The remission rates reported from surfing and hiking interventions aimed at treating depression are comparable to remission rates resulting from a combined psychotherapy and pharmacotherapy treatment for depression (Cuijpers et al., 2021). Further research reports outcomes of psychotherapy that appear to be less desirable than some studies that examine the effectiveness of exercise interventions (Otis et al., 2024; Steenkamp et al., 2015). For example, one review of 36 randomized controlled trials reported that two thirds of military personnel participants who participated in psychotherapeutic treatment retained their diagnosis of PTSD following treatment (Steenkamp et al., 2015). Although the high remission rates found by Otis et al. (2024) were attributed to exercise alone, these studies may be reflecting the impact of combining exercise and psychotherapy in treating people with mental health diagnoses as many participants reported also engaging in psychotherapy or pharmacotherapy, a factor that was not captured in these studies.

Exercise has been found to lead to reductions in symptoms of depression (Kvam et al., 2016; Singh et al., 2023) and moderate reductions in anxiety symptoms for people diagnosed

with anxiety or stress disorders (Stubbs et al., 2017). Compared to no intervention, exercise led to significant reductions in symptoms of depression (Kvam et al., 2016).

After analyzing 97 systematic reviews with more than 1,000 clinical trials involving more than 100,000 participants, Singh et al. (2023) found the intensity and duration of physical activity greatly affected the extent to which anxiety or depression symptoms were reduced. Higher intensity exercises led to greater reductions in anxiety and depression symptoms (Singh et al., 2023). The impact of physical activity in improving mental health reduced with longer exercise interventions and was most effective with short-medium duration interventions (Singh et al., 2023). Pregnant and postpartum women, people diagnosed with depression, healthy individuals, as well as those with HIV positive diagnosis or kidney disease experienced the greatest improvements in symptoms of depression, anxiety and psychological distress (Singh et al., 2023). These findings suggest that exercise interventions may be more effective in improving psychological symptoms for certain populations than for others.

Large reductions in symptoms of PTSD, hyperarousal, and risky alcohol consumption were found amongst people that engaged in nine high-intensity resistance training exercise sessions over the span of three weeks compared to people who watched educational videos for the same amount of time (Whitworth et al., 2019). Statistically significant reductions in avoidance behaviors and sleep quality were observed in people who engaged in an exercise-only intervention compared to those watching educational videos only as a control (Whitworth et al., 2019).

Mood

An individual's mood has been found to improve significantly after engaging in physical activity even when this was not the intended result (Miller & Krizan, 2016). Miller and Krizan

(2016) observed that a 12-minute walk could improve one's mood. University students were divided into groups with the intervention group being assigned to participate in a walking tour of 10 buildings on campus while the control group was assigned to attend a slideshow presentation tour of the same buildings while sittings indoors (Miller & Krizan, 2016). Both tours lasted for about 12 minutes, and the researchers found that participants in the walking group experienced significant improvements in their mood compared to those who attended the slideshow tour while sitting who experienced no change in mood (Miller & Kriszan, 2016).

PTSD

Brain-derived neurotrophic factor (BDNF) is a protein necessary for the creation of neurons, which relates to improvements in learning and memory (Bhattacharya et al., 2023; Powers et al., 2015). Aerobic exercise may increase secretion of BDNF, which is also the protein associated with adjusting the strength of connection between neurons which aid in learning and unlearning (Bryant et al., 2023). The researchers theorized that exercise augmented cognition, which in turn enhanced client's experience in exposure therapy for PTSD (Powers et al., 2015). One reason for this is that BDNF is essential in facilitating neuroplasticity, particularly related to extinction learning processes (Bhattacharya et al., 2023; Powers et al., 2015). Neuroplasticity is the reorganization of neural networks in the brain, which happens as new information is obtained and experiences are lived (Saha, 2025). One researcher suggests that exercise before prolonged exposure therapy generally results in more positive outcomes in therapy because exercise better prepares people for the arduous work of establishing more adaptive responses to trauma-associated stressors, which is easier to learn with greater neuroplasticity (Winter et al., 2007). Strengthening or weakening the connection between neurons may be helpful when trying to strengthen positive connections and weaken negative ones (Bryant et al., 2023). Reducing PTSD

symptoms could be considered a form of weakening certain neural connections (Bryant et al., 2023). Increased levels of BDNF have been linked with increased exercise as well as the circulation of hormones and reduced inflammation (Kandola et al., 2018; Moylan et al., 2013; Powers et al., 2015).

Aerobic exercise was found to lead to increased levels of BDNF after moderate-intensity (Decroix et al., 2016; Ferris et al., 2007; Martínez-Díaz et al., 2020; Rojas Vega et al., 2011; Tonoli, Heyman, Buyse, et al., 2015) and high-intensity continuous cycling workouts (Hashimoto et al., 2018; Miyamoto, Hashimoto, et al., 2018; Miyamoto, Kou, et al., 2018; Tonoli, Heyman, Roelands, et al., 2015) as well as both light and moderate-intensity continuous treadmill walking (Wheeler et al., 2020). Similarly, increased BDNF levels were found after engaging in continuous moderate-intensity (Babaei et al., 2014; Nilsson et al., 2020; van Cutsem et al., 2015) and interval (Kimhy et al., 2015) exercise programs that lasted over three weeks.

Powers et al. (2015) observed that increased levels of BDNF are found following exercise. The study involved a modest sample size of eight female and one male participants aged between 18-65 who were diagnosed with PTSD following DSM-IV criteria. (Powers et al., 2015). Participants who engaged in 30 minutes of moderate-intensity treadmill usage prior to a 90-minute session of prolonged exposure therapy for 12 weeks were found to have larger increases in BDNF and reductions in PTSD symptoms compared to the group that underwent prolonged exposure only (Powers et al., 2015).

A systematic review of eight studies suggests that some psychotherapeutic interventions may be more effective in treating certain mental disorders (de Almeida Claudino et al., 2020). Exposure therapy or eye movement desensitization and reprocessing (EMDR) therapy were both found to increase levels of BDNF, while modalities such as cognitive behavioral therapy (CBT),

interpersonal therapy (IPT), and intensive dialectical behavior therapy (I-DBT) were not found to achieve statistical significance in increasing BDNF levels (de Almeida Claudino et al., 2020). However, both interventions aimed at treating PTSD achieved higher increases in BDNF compared to control groups (de Almeida Claudino et al., 2020; Park et al., 2012; Powers et al., 2015). Increased BDNF levels were observed only for participants that used medication in tandem with psychotherapy (de Almeida Claudino et al., 2020).

Integrating Exercise into Mental Health Treatment

Fossati et al. (2021) suggests that the mental and physical health of an individual are reciprocal in nature, each growing when the other increases or improves and likewise diminishing when the other wanes (Fossati et al., 2021). Professional treatment of mental health disorders and support in coping with life stress can be obtained through engaging in psychotherapy with a trained counsellor (Pawlak & Kacprzyk-Straszak, 2020). Several research studies have focused on combining various forms of psychotherapy with equally diverse types of physical activity in search of finding added benefits in incorporating both activities into improving the overall health of individuals compared to the benefits of engaging in each intervention independently (Bryant et al., 2023; Powers et al., 2015; Rosenbaum et al., 2015; Voorendonk et al., 2023).

Despite being evidence-based and highly supported by research, cognitive behavioral therapy (CBT) still leaves about half of clients diagnosed with anxiety disorders with no improvements (Loerinc et al., 2015). Loerinc et al. (2015) analyzed 87 studies that treated participants with a DSM-IV diagnosis of an anxiety disorder with CBT that excluded medication treatment between the years 2000 and 2014. Although each client with an anxiety disorder responded with varying success to the CBT treatment, the average post-treatment response rate

across all anxiety disorders was 49.5% post-treatment and 53.6% at follow-up (Loerinc et al., 2015).

CBT is shown to be similarly effective in treating depression as diagnosed via interview or by self-reporting measures according to a meta-analysis that included 518 comparisons of CBT against either controls or alternate treatments (Cuijpers et al., 2023). The rate of individuals with depression who experienced reductions in symptoms of depression was 42% for those receiving CBT and 19% in the control groups (Cuijpers et al., 2023). In terms of the efficacy of CBT over time, remission rates were reported at 36% for the CBT groups and 15 percent for the control group (Cuijpers et al., 2023).

While CBT appears to be more effective than no treatment, there still appears to be more room to improve the efficacy of current treatments for depression and anxiety (Cuijpers et al., 2023; Loerinc et al., 2015). The results of this study highlight a need for more effective methods of treating depression and anxiety (Loerince et al., 2015). Combining exercise with traditional counselling is one method that has been undertaken by many researchers in an effort to discover a more effective treatment for mental health issues.

Based off of the literature that was reviewed, Exercise can be incorporated into psychotherapeutic treatment in four main ways: non-simultaneous, simultaneous, and exercising before or after psychotherapy sessions (Bryant et al., 2023; Powers et al., 2015; Rosenbaum et al., 2015; Voorendonk et al., 2023). Current research provides conflicting guidance on whether exercise should be performed before, during, or after therapy sessions aimed at treating trauma (Powers et al., 2015; Voorendonk et al., 2023; Young-McCaughan, 2022). Powers et al. (2015) found that therapy sessions were more productive when they were preceded by exercise, whereas Voorendonk et al. (2023) found greater reductions in trauma symptoms from participants who

exercised after therapy sessions. Because of the mixed results obtained from similar combined interventions of exercise and therapy, further research is warranted (Powers et al., 2015; Voorendonk et al., 2023; Young-McCaughan et al., 2022).

Non-Simultaneous Incorporation of Exercise Into Psychotherapy

Significant mental and physical benefits were seen resulting from integrating exercise into the treatment of inpatients diagnosed with PTSD based on DSM-IV-TR criteria (Rosenbaum et al., 2015). All participants received individual psychotherapy, group therapy, and pharmacotherapy as part of their inpatient stay, which lasted for three weeks (Rosenbaum et al., 2015). Intervention group participants engaged in a 12-week program that involved one supervised and two unsupervised resistance training sessions each week (Rosenbaum et al., 2015). Each exercise session for participants in the intervention group involved up to six different exercises requiring use of resistance bands at a frequency of three sets of 10 reps (Rosenbaum et al., 2015). In addition to their weekly exercise program, intervention group participants also aimed for 10,000 steps each day as measured by a pedometer (Rosenbaum et al., 2015). Positive physical outcomes from participants in the intervention group included: significantly reduced body fat percentage; smaller waist circumference; and a reduction in time spent sitting (Rosenbaum et al., 2015). Mental health benefits included significantly reduced symptoms of anxiety, stress, and depression (Rosenbaum et al., 2015). Non-statistically significant overall improvements in sleep were observed to result from combined exercise and therapy (Rosenbaum et al., 2015). Rosenbaum et al. (2015) incorporated exercise and various forms of psychotherapy into one cohesive treatment that yielded more positive results than compared to the control group that did not exercise (Rosenbaum et al., 2015).

One study that offered weekly exercise sessions with a physiotherapist for the intervention group and weekly sessions with a psychologist for both intervention and control groups found no significant differences between the groups in terms of anxiety or other psychological symptoms (Nordbrandt et al., 2020). One possible explanation for the lack of change between groups is the complex nature of the mental health of the people recruited to participate in this study (Nordbrandt et al., 2020). Study participants included in this study were refugees, with more than 60 percent reporting having PTSD symptoms for over 10 years (Nordbrandt et al., 2020).

Combining exercise with prolonged exposure therapy and EMDR were also found to be as effective as psychotherapy alone in significantly reducing symptoms of PTSD at posttreatment (Voorendonk et al., 2023). Relapse in symptoms of depression was shown to result in six months after a combined exercise and psychotherapy intervention was discontinued (Voorendonk et al., 2023).

Another group of researchers had participants in the intervention group listen to a previously recorded imaginal exposure therapy session while engaging in either outdoor or indoor aerobic exercise for about 25 minutes five times in a week (Young-McCaughan et al., 2022). This study also did not detect any differences in PTSD symptom reduction between the intervention and control groups (Young-McCaughan et al., 2022). Each group, including the exercise-only group, experienced significant reductions in PTSD symptoms posttreatment compared to pretreatment (Young-McCaughan et al., 2022). The nurse-guided self-care group served to control for the time spent with a professional, which involved the nurse giving participants standardized educational materials about PTSD and self-care while also encouraging

them to find new ways of practising self-care that work for them (Young-McCaughan et al., 2022).

Exercising Before Psychotherapy Sessions

Powers et al. (2015) investigated the impacts of exercising before therapy sessions and discovered that participants with PTSD who exercised for 30 minutes at a moderate intensity on a treadmill before prolonged exposure therapy experienced greater reductions of PTSD symptoms than the group that only received prolonged exposure therapy. Despite these findings, they contribute little to determining when exercise should be conducted in relation to counselling sessions as they did not compare the effectiveness of their intervention with exercise conducted during or after exposure therapy (Powers et al., 2015).

Exercising After Psychotherapy Sessions

Of those studies that found the combination of exercise and psychotherapy to be beneficial in reducing symptoms of PTSD, one found it to be superior to control groups which consisted of exposure therapy followed by stretching for the same amount of time as the exercise intervention group (Bryant et al., 2023). Participants in both intervention and control groups engaged in 90-minute weekly sessions of exposure therapy for nine weeks (Bryant et al., 2023). Exposure therapy involved psychoeducation, cognitive reframing, identifying and challenging maladaptive thought processes, reliving traumatic memories, and weekly homework (Bryant et al., 2023). The intervention group involved exposure therapy after 10 minutes of aerobic exercise, which involved stepping on and off a raised platform for 10 minutes warm up and then 10 minutes at age-adjusted target heart rate (Bryant et al., 2023). Each exercise session consisted of about 20 minutes of aerobic exercise total (Bryant et al., 2023). At six months after treatment, clients who participated in short bouts of moderate to high-intensity aerobic exercise combined

with exposure therapy yielded greater reductions in PTSD symptom severity and depression compared to participants who experienced exposure therapy combined with stretching (Bryant et al., 2023). These improvements outmatched the reductions in PTSD severity that occurred in the combined exposure therapy and stretching control group (Bryant et al., 2023). Bryant et al. (2023) observed reductions in PTSD symptoms at six months post-treatment but not at the 10-week follow-up in the combined exercise and exposure therapy intervention group. The researchers postulate that exercise may help to retain extinguished responses to traumatic triggers but do not help in the immediate extinction learning process (Bryant et al., 2023). This finding can be particularly relevant when working with people with PTSD as treatment often focuses on trying to decrease or eliminate adverse responses to ordinary stimuli that are associated with traumatic events (VanElzakker et al., 2014).

Simultaneous Exercise Psychotherapy

Participants in a workplace wellness outdoor walk and talk talent discovery coaching program reported having less symptoms of burnout and more satisfaction with work following 12-18 weeks of coaching sessions compared to those who did not engage in coaching (van den Berg & Beute, 2021). Talent discovery coaching focuses on helping clients recognize and develop their talents and implementing plans to better use their talents (van den Berg & Beute, 2021). Participants in the van den Berg and Beute (2021) study completed walks approximately once every 3-4 weeks for a total of four sessions, which suggests that some positive effects in mental health can be achieved with less frequent walk and talk sessions.

Van den Berg and Beute (2021) also noted that nature may have been a confounding variable in their study as it was unclear whether the physical activity or the natural environment led to positive outcomes (van den Berg & Beute, 2021). Based on this confounding variable,

examination and comparison of the effects of indoor versus outdoor walking on mental health seems to be warranted (van den Berg & Beute, 2021). Walk and talk counselling sessions were also found to lead to many improvements such as better mental health and social functioning, increased hope and mindfulness, self-esteem, and life satisfaction (van den Berg & Beute, 2021). Vocational benefits of walk and talk therapy sessions were increased concentration, pleasure and engagement at work, and reduced burnout (van den Berg & Beute, 2021). Van den Berg and Beute (2021) reported that the primary benefits of this study were mental in nature and that there were no measurable benefits to physical health (van den Berg & Beute, 2021). Some reasons why this intervention may have resulted in reduced burnout and greater work satisfaction were pointed out by participants such as nature being relaxing and invigorating (van den Berg & Beute, 2021).

Participants in the Greenleaf et al. (2024) study observed both positive and negative impacts from engaging in outdoor walk and talk therapy (Greenleaf et al., 2024). Among the positive benefits of walk and talk therapy were that some participants perceived that their creativity and problem-solving ability was enhanced along with the movement inducing a heightened and more attuned connection between their body and mind (Greenleaf et al., 2024).

Ethics

Confidentiality would be a concern of paramount importance to maintain ethical and professional standards in counselling (Canadian Psychological Association, 2017). While informed consent can be obtained and walk and talk therapy can be tailored to the needs of the client, it would be interesting to see if walking or incorporating other exercise indoors into counselling sessions would produce similar positive benefits without increasing potential concerns for compromising confidentiality by being in public spaces. Greenleaf et al. (2024)

noted some complications with walk and talk therapy, including the lack of control in maintaining and keeping confidentiality as sessions in research studies were conducted in public spaces. Similarly, researchers have noted that some participants found that having walking sessions outdoors in crowded public places was distracting and overstimulating (Greenleaf et al., 2024).

Another complication that was discussed in the literature is inclement weather, which some participants decided to avoid by not holding a session outside (Newman & Gabriel, 2023). Cold weather is something that may be more of an issue in Canada and especially in Alberta as weather conditions can change quickly. Offering the option of walking indoors would be an interesting experiment to determine if indoor treadmill walking could be a feasible and beneficial alternative to outdoor walking as winter occupies about half the year in some U.S. states and Canadian provinces (Newman & Gabriel, 2023).

In addition to accommodating client preferences, clients must also ensure that they have the knowledge and competence required to safely and effectively administer each intervention they utilize (Canadian Psychological Association, 2017). Bryant et al. (2023) explicitly referred to this by stating the psychologists received training to use the counselling techniques they employed in addition to the exercises that were implemented. A therapist who is untrained to guide clients through an exercise may inadvertently cause injury by pushing them beyond their ability or not guiding them them through the exercise correctly.

The potential for the creation of a dual relationship could be another concern specifically associated with exercise psychotherapy. To maintain the trust of the public, psychologists are to avoid dual relationships with their clients, when possible (Canadian Psychological Association, 2017). Participants in the Greenleaf et al. (2024) study reported that they liked exercise

psychotherapy because the session flowed more naturally and was similar to talking with a friend. Although clients may benefit from a casual approach afforded by exercise psychotherapy, counsellors must be cautious that they do not cross the line of professionalism into friendship. The creation or maintenance of dual relationships could cause harm to clients or to the profession of psychology if counsellors are not trusted to maintain professionalism while treating their clients (Canadian Psychological Association, 2017)

Exercise Psychotherapy Supports Traditional Approaches

Exercise can also help people become more comfortable with bodily sensations which may help to reduce anxiety (Sabourin et al., 2015). Sabourin et al. (2015) investigated the impact of intense running when combined with CBT on reducing anxiety sensitivity. In this study with only female participants, 63 people participated in three days of psychoeducation and CBT while the control group participated in health education (Sabourin et al., 2015). On the third day of CBT training, participants in the intervention group were invited to engage in intense running for 10 minutes and then run three times a week for 14 weeks at an intensity where their hearts raced and were breathing heavily for approximately 10 minutes each session (Sabourin et al., 2015). After engaging in the intervention, individuals classified as having high anxiety sensitivity were observed to have decreased somatic reactions and decreased irrational thinking about their physiological symptoms as they engaged in running over the course of the study compared to participants with low anxiety sensitivity (Sabourin et al., 2015).

The findings by Callaghan et al. (2011) suggest that allowing clients to lead the intensity or pacing of the exercise might be more beneficial than forcing them to comply or reach a specific intensity. Callaghan et al. (2011) found general improvements in mental health and greater adherence to the intervention from participants who chose the intensity of their exercise

over those engaging in a predetermined, and often more rigorous intensity (Callaghan et al., 2011).

Incorporating exercise into the treatment of PTSD carries some advantages over traditional psychotherapy (Biernacka et al., 2024). Some clinicians reported that they believed exercise psychotherapy was effective in treating PTSD because of its holistic approach in treating both physical and mental symptoms (Biernacka et al., 2024).

Common Factors in Exercise Psychotherapy

Moving away from traditional office-based counselling may facilitate beneficial changes in the therapeutic alliance. Some clients reported that holding counselling outdoors while walking helped to equalize the power imbalance that would have otherwise been more prevalent in a counsellor's office (Newman & Gabriel, 2023). Incorporating outdoor walking into counselling made the experience seem more natural and less intimidating (Newman & Gabriel, 2023). This more equalized power dynamic was supported by a therapy client with borderline personality disorder who reported that their therapist's approach to CBT while walking around hospital grounds helped her to better manage her emotions (Wright & Jones, 2012). This participant reported that it was easier to manage her emotions because counselling seemed more natural while walking around hospital grounds (Wright & Jones, 2012). While some participants preferred the outdoor walking format for sessions, some participants preferred to hold sessions in the office when discussing sensitive topics or at times when they felt they needed additional support than what could be offered outdoors amidst all the potential distractions (Newman & Gabriel, 2023).

Previous research in the fields of conflict resolution and education suggest positioning people beside each other to foster cooperation and reduce potential conflict (Webb et al., 2017).

Taking an adjacent stance is perceived as less threatening and combative than a face-to-face stance (Webb et al., 2017). Thus, walking side-by-side has a similar potential of building rapport between therapist and client as they adopt a cooperative stance (Webb et al., 2017).

Conclusion

Exercise has been shown to be a key contributor to establishing and maintaining good physical and mental health (Bull et al., 2020; Fossati et al., 2021). The research on the effectiveness of incorporating exercise and psychotherapy into the treatment of mental health disorders presents findings that are unclear, complex, and nuanced. Six studies, for example, found their incorporation of exercise and psychotherapy to yield superior results than psychotherapeutic treatment alone (Bryant et al., 2023; Greenleaf et al., 2024; Powers et al., 2015; Rosenbaum et al., 2015; Sabourin et al., 2015; van den Berg & Beute, 2021; Voorendonk et al., 2023). Conversely, three studies found that the incorporation of exercise and psychotherapy to be just as effective as psychotherapy alone in treating mental health issues (Nordbrandt et al., 2020; Voorendonk et al., 2023; Young-McCaughan et al., 2022).

In the context of these confusing results, chapter three will delve into the limitations of the studies analyzed. In addition to presenting the limitations of the literature review in this chapter, recommendations for researchers will be provided to help identify current gaps in the research to assist the furthering of knowledge in this field.

Chapter Three: Discussion and Applied Practices

The purpose of this capstone was to determine what benefits there may be of incorporating exercise into traditional counselling and if benefits were determined, to further explore potential application and options. The theoretical frameworks of holistic health and common factors helped to determine what outcomes were considered beneficial. This chapter will review the main benefits of exercise psychotherapy that researchers have discovered to date, identify gaps in the literature, challenge a current psychotherapeutic perception, and provide recommendations for furthering the research and implementation of exercise psychotherapy. This chapter will also include a reflection of learning as I have been working on this capstone.

Discussion

A major finding of this capstone is that there are several studies suggesting that exercise psychotherapy yields benefits that are either comparable or superior to traditional psychotherapy. Six studies suggest that the benefits of exercise psychotherapy are superior to traditional psychotherapy (Bryant et al., 2023; Greenleaf et al., 2024; Powers et al., 2015; Rosenbaum et al., 2015; Sabourin et al., 2015; van den Berg & Beute, 2021). The improved outcome most frequently cited as a benefit of exercise psychotherapy is a reduction of PTSD symptoms (Bryant et al., 2023; Powers et al., 2015; Rosenbaum et al., 2015; Voorendonk et al., 2023). Bryant et al (2023) reported exercise psychotherapy led to significant reductions in PTSD symptoms measured at six months post-treatment compared to traditional counselling. Exercise therapy has also been found to lead to greater reductions in symptoms of depression compared to traditional psychotherapy (Bryant et al., 2023; Rosenbaum et al., 2015). Additional benefits of incorporating exercise into counselling include reduced symptoms of anxiety, stress, and burnout (Rosenbaum et al., 2015; van den Berg & Beute, 2021).

Improvements in sleep, work satisfaction, and mind-body connection after engaging in exercise psychotherapy compared to counselling have also been reported (Greenleaf et al., 2024; Rosenbaum et al., 2015; van den Berg & Beute, 2021). A more indirect benefit of exercise psychotherapy reported is that it can facilitate the exploration of uncomfortable bodily sensations in a safe space for people who may be sensitive to common symptoms that result from exertion such as a pounding heart (Sabourin et al., 2015). Research explored during this capstone share commonalities in terms of overall benefit, and also indicate that there are unique benefits of exercise psychotherapy for different populations and varying treatment goals.

Despite the superiority of exercise psychotherapy over traditional counselling in several studies, there were three studies that reported comparable results. These studies did not find significant improvements in mental health outcomes in the exercise psychotherapy group compared to the group that received traditional therapy (Nordbrandt et al., 2020; Voorendonk et al., 2023; Young-McCaughan et al., 2022). Despite this finding, the exercise psychotherapy group was not found to yield worse results than the traditional psychotherapy control group (Nordbrandt et al., 2020; Voorendonk et al., 2023; Young-McCaughan et al., 2022).

The discrepancy between the six superior and three comparable studies examining the benefits of exercise psychotherapy compared to conventional counselling will be briefly explored as part of this discussion. Each of the six studies that suggested exercise psychotherapy was more effective than traditional counselling varied greatly by using different populations, exercises, and intensities in their studies. Two reasons that could account for the superior results of exercise psychotherapy in some of these studies are the use of convenience sampling for study recruitment and conducting exercise outdoors. Three studies recruited participants who expressed interest and met inclusion criteria (Bryant et al., 2023; Greenleaf et al., 2024; van den

Berg & Beute, 2021). A downside to using convenience sampling is that participants are more likely to want the intervention to work, which may lead their expectations to impact the outcomes (Bryant et al., 2023; Greenleaf et al., 2024; van den Berg & Beute, 2021). Conducting exercise outdoors could have led to superior results due to the introduction of a potential confounding variable. Two studies held the exercise portion of the exercise psychotherapy intervention outdoors, and one study did not specify where the intervention occurred (Greenleaf et al., 2024; Sabourin et al., 2015; van den Berg & Beute, 2021). The potential confounding in these studies was the outdoor environment as it is uncertain whether the positive results reported in these studies were caused by the exercise psychotherapy or by being outdoors during psychotherapy or the standalone effect of exercise or being outdoors (Greenleaf et al., 2024; Sabourin et al., 2015; van den Berg & Beute, 2021).

Two main limitations were identified amongst the studies that suggested exercise therapy was a comparable intervention to traditional counselling. The populations studied in two of the comparable studies were not representative of the general population, which limits their generalizability (Nordbrandt et al., 2020; Voorendonk et al., 2023; Young McCaughan et al., 2022). Participants in the Nordbrandt et al. (2020) study were refugees diagnosed with PTSD, and 97% of the study participants also had a diagnosis of depression. The researchers observe that previous research suggests that refugees affected by trauma are a population that often experiences less pronounced improvements from interventions compared to the general population (Nordbrandt et al., 2020). Voorendonk et al. (2023) studied 109 participants, with 101 of them being female, which limits the generalizability of their findings to the male population. Young-McCaughan et al. (2022) recruited active duty military personnel who presented with subthreshold symptoms of PTSD. Because military personnel did not meet the full diagnostic

criteria of PTSD, the impact of exercise psychotherapy may have been limited (Young-McCaughan et al., 2022). In a study that reported more positive improvements in mental health amongst the exercise psychotherapy group, improvements were only observed in the group with severe mental health issues, while those with less severe mental health issues were less impacted (Greenleaf et al., 2024). Viewed through the lens of the Greenleaf et al. (2024) study, exercise psychotherapy may have achieved results comparable to traditional counselling in the Young-McCaughan et al. (2022) study because participants did present with PTSD symptoms severe enough for the intervention to treat effectively.

Another limitation of the comparable studies was that two of them included control groups that may not have served as a good comparison to exercise psychotherapy (Voorendonk et al., 2023; Young-McCaughan et al., 2022). The control group in the Voorendonk et al. (2023) included creative activities such as coloring and crocheting. Voorendonk et al. (2023) observed that some emerging research suggests that creative activities may be effective in treating PTSD (Voorendonk et al., 2023). Similarly, the control group in the Young-McCaughan et al. (2022) study involved having participants engage in self-care activities and techniques of their choosing, which could have involved exercise. These limitations of the studies that found the effectiveness of exercise psychotherapy to be comparable to traditional counselling in improving mental health highlight gaps that future research could aim to address. The potential difference between these superior and comparable studies warrants further investigation and future research to help determine whether there are differences between exercise psychotherapy and traditional psychotherapy in terms of effectiveness. If these treatments are found to be equally effective, it may be a matter of allowing clients or therapists to choose their preferred treatment.

Another major theme emerging from the research is that client preferences should be honored and accommodated as much as possible. Relating to the two exercise psychotherapy studies that resulted in equal benefits with or without physical activity integrated into counselling, this may point to the need for clients to be able to choose which intervention they feel will best meet their goals. This principle relates to common factors research which posits that one of the primary purposes of a counsellor is to help their client achieve their goals for treatment (Cuijpers et al., 2019; Feinstein et al., 2015). Some clients may prefer exercise in certain contexts while others may not. One participant reported that exercising during the counselling session took away from the imaginal exposure treatment for PTSD (Young-McCaughan et al., 2022). In this context, the participant found exercise to be distracting and made it more difficult to focus on the therapeutic intervention taking place in the counselling session (Young-McCaughan et al., 2022). The counsellor can mitigate future distractions by checking in with clients to ensure that the planned intervention meets their goals for therapy. Similarly, Callaghan et al. (2011) underline the importance of allowing clients to set the pacing while exercising to maintain feelings of comfort and safety within session. Accommodating client preferences can help strengthen the therapeutic alliance, which may in turn lead to overall positive client outcomes in therapy as the therapeutic alliance has been found to account for 30 percent of the change obtained in counselling (Cuijpers et al., 2019; Feinstein et al., 2015; Lambert et al., 1992).

Closely related to accommodating client preferences is the theme that alternate psychotherapies can remove barriers to exercising or for accessing mental health for those who may be hesitant to take care of their health in multiple, holistic ways. Although this removal of barriers was not specifically studied exclusively with exercise psychotherapy, it was studied with

alternate therapies including wilderness therapy and exercise therapy (Brooks, 2017; Davies et al., 2010; Okafor, 2025; Wong et al., 2017). In some studies, stigma and not having a friend to exercise with served as barriers that prevented people from exercising (Kirby et al., 2022; Kleemann et al., 2020; Okafor, 2025). These barriers were overcome by the incorporation of alternate interventions such as exercise into psychotherapy (Kirby et al., 2022; Kleemann et al., 2020; Okafor, 2025). Exercising during counselling session may also help clients with exercise anxiety to treat their psychological distress through their exposure to exercise in a safe and confidential environment (Sabourin et al., 2015).

In terms of mental health benefits obtained from alternate therapies, exercise psychotherapy has been suggested to equalize the power differences between client and counsellor, which was identified as helping counselling sessions feel more conversational (Newman & Gabriel, 2023). Reduced stigma in men attending therapy was another powerful benefit of alternate therapies such as exercise psychotherapy noted in the research (Brooks, 2017; Davies et al., 2010; Okafor et al., 2025; Wong et al., 2017). One suggestion for why men seem more open to exercise psychotherapy and similar interventions is because these approaches target more than one aspect of health (Brooks, 2017; Davies et al., 2010). Exercise psychotherapy models a holistic approach to healthcare, which emphasizes the importance of addressing physical and mental health simultaneously to work towards a client's goals (Cuijpers et al., 2019; Feinstein et al., 2015; Sultanoff, 1997). An argument can be made, therefore, that taking a holistic approach to therapy may make counselling more appealing to male clients who may otherwise avoid traditional counselling.

Limitations

Despite the many benefits that were found related to exercise psychotherapy, there were several limitations associated with the research. Three studies reviewed in this capstone reported low sample sizes with each study containing less than 10 participants (Greenleaf et al., 2024; Park et al., 2012; Powers et al., 2015). These studies acknowledged that low sample sizes may make it difficult to make accurate generalizations to the entire population based on study findings (Greenleaf et al., 2024; Park et al., 2012; Powers et al., 2015).

Another limitation in the research relates to finding articles for this capstone. Several search terms used to find articles for this capstone are also used in other occupational fields or are part of colloquial expressions. The term counselling, for example, generated results for genetics counselling and the term therapy generated results relating to physical therapy. The phrase walk and talk, which relates to a specific kind of counselling, generated papers using the phrase: walk the walk and talk the talk, which is a common expression that did not relate to this research. These interchangeable words and phrases often yielded thousands of results with many of them seemingly irrelevant to the capstone. Although a research librarian was consulted to help narrow down the search results to more relevant findings, the topic of search terms remained a challenge. Research articles were often selected within the first several hundred results that were generated from each search as the results seemed to appear less relevant upon moving further down the list of articles. This limitation means that some relevant articles may have been missed due to the non-systematic nature of this capstone and the double-meaning of some of the search terms used.

Another gap in the literature is the need for further research that explores what populations and presenting problems may be best suited for exercise psychotherapy. While

testing the effectiveness of an exercise-only intervention in treating mental health concerns, Singh et al. (2023) reported that certain populations obtained greater benefits than other people. If this stands true for exercise psychotherapy, this may help to educate people on whether exercise psychotherapy or traditional counselling would be more likely to benefit them most. The limitation of scope for this capstone may pose the greatest opportunity for future research. This capstone did not seek to determine which populations and which modalities would benefit most from exercise psychotherapy, and conversely, which populations and modalities would be least useful for clients. Further specific exploration on specific populations and specific exercise and counselling modalities could be useful for practitioners and clients.

Applied Practices

One clinical application of the research findings, particularly related to increasing physical activity and decreasing sedentary behaviour, could be for counsellors and their clients to take a two-minute walking or standing break during session or once every 30 minutes to minimize session disruption while achieving some health benefits (Carter et al., 2018). One minimal-impact way this could be implemented in session is for the therapist and client to each walk for two minutes on separate treadmills. Perhaps one way to maximize the time spent walking could be to practice breathing or mindfulness during the walking break. Because sitting lowers the flow of cerebral blood in everyone, taking a two-minute walking break during session would impact both therapist and client (Carter et al., 2018). It is my opinion that counsellors who decide to incorporate walking breaks in session may also serve as a models in good self-care practices that could be implemented by clients on a daily basis.

Counsellors could incorporate exercise psychotherapy as early as the first session in a straightforward way, such as walking outdoors or on separate treadmills beside their client.

Interested clinician-client dyads could start by walking for about two to five minutes per session to gauge the client's response to the addition. If walking during sessions is preferred by the client, the therapist could then scale up the duration of walking during sessions to a mutually agreeable time. Walking during the first session could help build rapport between the client and therapist and make the session overall less intimidating (Newman & Gabriel, 2023). Incorporating walking into counselling sessions could be particularly useful in the first session during the collection of the client's biopsychosocial history, as well as a deeper exploration of the presenting problem. The incorporation of exercise into sessions that involve a great deal of client disclosure could help the conversation to seem more natural and like talking to a friend instead of a thorough and potentially uncomfortable recounting of personal experiences (Newman & Gabriel, 2023). Additionally, walking during sessions could help to repair ruptures in the therapeutic alliance as standing beside someone is often perceived as cooperative rather than combative because both people are positioned in the same direction and are pointing towards the same goal (Webb et al., 2017).

For organization that tend to have long waitlists before clients can access therapy, Kvam et al. (2016) suggests that exercise be recommended to clients with depression so that they can achieve some benefit while waiting for therapy to begin This suggestion was backed by findings from Young-McCaughan et al. (2022) that indicated that an exercise-only treatment plan reduced symptoms of PTSD in clients. A more hands-on implementation of recommending exercise while on a waitlist for therapy could also be to offer an exercise program with both client-led and physiotherapist-led workouts. These findings open up the potential opportunity for clients to receive some benefit to their mental health while waiting for a spot in therapy.

In addition to clinical applications, there are also many recommendations to improve the quality and evidence of future research to better understand the benefits and drawbacks of exercise psychotherapy. Future research should investigate the effectiveness of exercise psychotherapy compared to traditional counselling for people who have regularly exercise for years. This type of exploration may help to identify if positive outcomes from exercise therapy are due to the combination of exercise and therapy or to receiving adequate exercise. If exercise psychotherapy is found to be just as effective as traditional counselling while participants continue exercising on their own, that might suggest that the benefits attributed to the combination of exercise and therapy may actually just be the individual benefits of exercise and therapy.

Another recommendation for future research relates to the limitation of scope mentioned earlier about therapeutic modalities. I would recommend that future research be aimed at exploring which modalities and presenting problems may be best suited for exercise psychotherapy and, likewise, which modalities and presenting problems are likely to be least impacted, and even potentially harmful for clients. For example, in one study, a participant reported that exercising during imaginal exposure therapy for PTSD felt too distracting, which made it difficult to focus on therapy (Young-McCaughan et al., 2022). With this anecdotal report, I would be curious to know if the modality used during psychotherapy sessions would impact the effectiveness or appropriateness of incorporating exercise into therapy sessions and to what extent that may produce additional positive outcomes.

On a similar note, it would be interesting for future research to determine whether there are any groups of people that may be more responsive to the potential benefits of exercise psychotherapy. An umbrella review of 97 systematic reviews found that physical activity caused

significant reductions in anxiety and depression amongst healthy people, perinatal women, and those with HIV, kidney disease, or depression (Singh et al., 2023). Although this study examined the benefits of physical activity alone, these findings suggest that exercise interventions may be more effective in improving psychological symptoms for certain types of people than for others. Exploring whether certain populations receive benefit from exercise psychotherapy may also help to reduce confounding variables in research. If current research is including individuals that are less likely to benefit from exercise, this may be making the research appear less conclusive and more difficult to interpret.

Reflections on Personal Learning

It is my belief that individuals generally have the ability to improve their mental and physical health through various resources available to them. Obtaining adequate exercise and counselling are some of the many options to improve physical health and mental health. As noted previously, I acknowledge some personal bias here, and also reflect that there will be individuals who are not able to access counselling and/or participate in adequate physical activity. Although my overall perspective has not changed, I feel like there has been a shift in responsibility. I feel greater responsibility over ensuring that I make my own time to care for my physical and mental health rather than attempting to combine them as a form of multitasking. I still think that exercise psychotherapy could be beneficial to clients and therapists but I am now leaning towards the implementation of exercise psychotherapy as additional exercise rather than “counting” as part of my own daily physical activity. While counsellors in general should support social change to encourage increasing physical activity and decreasing sedentary behaviour whenever possible, we should also take charge of our own health.

Overview of Capstone

In summary, there are several mental and physical health benefits to incorporating exercise into traditional counselling. These benefits are not completely undisputed and warrant further research to better understand their benefits and limitation. Incorporation of exercise into traditional psychotherapy could yield positive client outcomes. Implementation of exercise psychotherapy in these early stages of research should be done according to client preferences and physical ability to minimize potential risk.

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