Pelvic Floor Health: Examining the Knowledge, Attitudes and Experiences of Personal Trainers and Middle-Aged Women in Inner Regional Queensland

A Thesis submitted by

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ABSTRACT

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Research suggests women feel more comfortable when conversations about pelvic floor health are instigated by and when confident engagement is promoted by the trainers. Current research, supported by the results of this work-based research project, show that identifying, as well as encouraging, appropriate physical activities to activate the pelvic floor and positively influence the overall health and wellbeing of female clients. Currently, personal trainers holding a Certificate IV in Fitness are not fully equipped to confidently make these proper adjustments and have candid conversations, as they are not formally trained about these health concerns.

This work-based research in inner regional Queensland highlights a knowledge gap in the education requirements for personal trainers which restricts their ability to feel confident to initiate conversations with their female clients about pelvic floor health and pelvic floor dysfunction.

CERTIFICATION OF THESIS

I, Danah Rae Hillman declare that the Masters Thesis entitled "Pelvic Floor Health: Examining the Knowledge, Attitudes and Experiences of Personal Trainers and Middle-Aged Women in Inner Regional Queensland" is not more than 40,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes.

The thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. This thesis is the work of Danah Rae Hillman.

Signed: Date: 24/01/2023

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Student and supervisors' signatures of endorsement are held at the University of Southern Queensland.

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ABBREVIATIONS

AIHW	Australian Institute of Health and Welfare
EP	Exercise Physiologist
HCP	Health Care Practitioner
MPSR	Master of Professional Studies by Research
PF	Pelvic Floor
PFD	Pelvic Floor Dysfunction
PFH	Pelvic Floor Health
PFM	Pelvic Floor Muscles
PFME	Pelvic Floor Muscle Exercise
PFMT	Pelvic Floor Muscle Training
PT	Personal Trainer
QoL	Quality of Life
RQ	Research Question
SUI	Stress Urinary Incontinence
UI	Urinary Incontinence
UniSQ	University of Southern Queensland

CHAPTER 1: INTRODUCTION

This work-based thesis seeks to investigate the relationship between cisgender womens' knowledge, attitudes and experiences of pelvic floor dysfunction and the personal trainers (PTs) overseeing their training programs, within inner regional Queensland. This was undertaken in response to observations arising in the workplace of the researcher as a PT for nearly two decades, where the middle aged women forming the large basis of her clientele, were not forthcoming about their knowledge or concerns regarding their own pelvic floor health (PFH). This thesis provides a background to the research through a thorough examination of the literature surrounding the topic of pelvic floor health; how the research project was designed and realized; the outcomes of the research and how the original research questions were addressed; as well as recommendations for future reasearch in this specific area.

This chapter delivers an introduction leading to the development of a problem statement in section 1.1. Following this, an explanation of why this research is important is explored in section 1.2 Purpose and Aims of the Research. Section 1.3 of this chapter is an in-depth narrative of the researchers background and practice within the fitness industry to express the importance of how this professional experience provides a richness of information to be collected and discussed. Insight from this section informs section 1.4 Research Questions, where the research questions were designed to elicit information addressing the overarching problem identified in section 1.1. In the final section 1.5, this chapter concludes with an overview of the structure of the thesis and how it is organised into the chapters that follow.

1.1 Introduction and Problem Statement

Pelvic floor dysfunction (PFD) is a relatively common condition that affects approximately 25% of adult females around the world (Wood, 2014). This high prevalence rate is not a new statistic. Research from 1994 reported that PFD was the third most common chronic complaint among women in the United States (Harrison & Memel, 1994). More recent research echoes

these high rates of PFD across the globe (Akkus & Pinar, 2016; Dao & Dunivan, 2022; Laakkonen et al., 2017; Schreiber Pedersen et al., 2017). The pelvic floor muscles are not only responsible for urinary and faecal continence and sexual function, but also they support the pelvic organs and provide lumbopelvic stability (Muro & Akita, 2023). Despite the high frequency of PFD, the stigmas associated with this phenomena mean that women are reluctant to seek care (Bonner & Boyle, 2017; Fritel, Panjo et al., 2014; Pierce, Perry, Gallagher, & Chiarelli, 2015). The effects of this reluctance to seek assistance may negatively impact women's psychosocial health (Lai, 2016). For example, lowered self-esteem and anxiety about incontinence symptoms can result in women self-imposing isolation, which in turn negatively affects their quality of life (QoL) (Lai, 2016; Vrijens et al., 2017).

The prevalence of PFD runs parallel to the shortfalls among women's adherence to recommended physical activity levels (Laakkonen et al., 2017). Research in regional Australia suggests that women's physical inactivity levels are high (Brown et al., 2013; Dalbo et al., 2015; Mooney et al., 2012; Vandelanotte et al., 2010). Within Australia, Queensland is the state which has the highest rates of physical inactivity (Brown et al., 2013). Understanding the health framework within Australia and how different social determinants influence these levels of inactivity is integral to reducing incidence of PFD. Similarly, a discussion regarding the specific physical and emotional factors which impact women's health is necessary to fully understand this condition. Research has highlighted how barriers to women living a more active, healthy lifestyle are linked to the prevalence of PFD (Nygaard & Shaw, 2016; Volløyhaug et al., 2015).

When exploring the topic of PFD within the fitness industry, there remains social stigma amongst women of all ages (Heidrich & Wells, 2004; Heintz et al., 2013; Siddiqui et al., 2014). This stigma results in communication barriers between the women who suffer from the dysfunction and those health professionals who oversee and/or facilitate the enhancement of the women's overall health (Akkus & Pinar, 2016; Bonner & Boyle, 2017; Brubaker et al., 2008; Volløyhaug et al., 2015). More specifically, the physical position and the function of the pelvic floor, creates a barrier to open and effective communication between women

experiencing PFD symptoms, fitness industry professionals and those within the healthcare profession (Pierce et al., 2015). This relates to the fact that the pelvic floor muscle group is located between the tailbone and the pubic bone within the pelvic and the function of the muscle group is to support the bowel and bladder, as well as uterus and vagina for females.

The researcher has 15 years' experience working as a PT, coaching an array of individuals, including a large proportion of middle-aged women who are often not forthcoming regarding the extent to which they suffer PFD. Several years' experience by this researcher in the fitness industry alongside many other PTs sharing similar experiences with female clients has provided anecdotal and observational evidence suggesting this lived experience is consistent with the literature. Exploration of communication barriers between fitness industry professionals, health care professionals, and the women who exercise under their guidance, is necessary to address this issue of disjointed professional relationships. Communication is an essential element yet currently seems to be missing, hampering progress of the standards of healthcare practice which encompasses all health professionals who interact with the client. A lack of knowledge surrounding the PFH is also likely to contribute to the communication barrier regarding an open and honest discussion of PFD and the effects of exercise. The importance of gaining a deeper understanding of the issues impacting effective communication regarding the topic of PFD is addressed in the current research within this thesis. Personal trainers are in a unique position to potentially dispel the stigma surrounding PFD. The close relationship fostered between trainer and client is due to the consistency of their training sessions and the length of time they spend together while training. This research was designed to elicit feedback from female clients working closely with PTs to establish whether potential barriers to effective communication on this topic exist between them.

The following chapter reviews the current research in the field of PFH. The importance of a healthy functioning PF in women of Australian regional communities is discussed, along with women's training practices. The social stigmas associated with PFD are examined, and the question posed as to why it is not (currently) a standard topic of conversation between women

and their PTs. The major aims of this research were twofold namely, to first gain a deeper insight to the current levels of knowledge, understanding and confidence a sample of PTs in regional Queensland have when discussing the topic of PFH with their female clients. This knowledge can lead to a better understanding of how to address existing communication barriers. Second, this research also aims to gauge the current levels of knowledge and understanding female clients within regional Queensland have regarding their own PFH, and how this may affect their attitudes when communicating with fitness industry professionals. Overall, this research seeks to develop a clearer understanding of the barriers to effective communication between PTs and female clients about PFH in regional Queensland and what mechanisms could facilitate improved communication. The findings of the research have potential to inform the training and certification of PTs, specifically to address whether it may be appropriate and beneficial to include formal, compulsory training in the field of PFH as part of the Certificate IV in Fitness qualification.

1.2 Purpose and Aims of the Research

Fitness professionals are in prime position to overcome communication barriers with and to promote PFH among the female clients they regularly work with. The proximity and frequency of contact between trainers and clients may provide opportunities to dispel common myths and misconceptions about PFH concerns (Wood, 2014).

This research has three main foci. First, it seeks to gain better insights into the levels of knowledge, understanding and confidence PTs of regional Queensland have when discussing the topic of PFH with their female clients. Following this, the current levels of knowledge and understanding female clients within regional Queensland have surrounding PFD will be investigated. Last, these same female clients will be interviewed following their participation in a ten-week exercise program under the close guidance of PTs (along with other qualified fitness professionals), to see if this had a positive impact on their attitudes towards communicating PFH issues with the fitness professionals.

It is envisaged that this research will facilitate a deeper understanding of the existing barriers to communication between PTs and female clients have surrounding the topic of PFH, and what mechanisms may be developed and put into place to further facilitate their communication. To date, no studies in regional Queensland have been identified examining these concerns.

1.3 Reseacher Background and Learning Objectives

The Master of Professional Studies by Research (MPSR) program through the University of Southern Queensland (UniSQ) has been an instrumental part of the researcher's enhancement of capabilities and qualifications to continually improve applied knowledge in her professional career. Research shows that Professional Studies programs such as this are becoming more recognized as effective ways to advance workplaces and improve employees abilities, as traditional degrees can fail to meet the needs of professionals who are midway through their careers and possess professional experience yet lack the formal education that was once the requirement (Fergusson et al., 2018). Work-based higher degrees have been developed as another way for adults in the workforce to improve their professional skills and productivity in the workplace whilst remaining in the work environment. Through structured reflective practice, the MPSR program allows professionals to discover more about themselves by developing learning objectives, and addressing these through work-based learning and further research which addresses or solves a particular need or issue that has been identified within an organization or workplace (Fergusson et al., 2018).

The researcher has over 15 years of professional experience as a PT since her initial certification training undertaken in 2005. She has accomplished many extra accreditations over that period that has developed the rich learnings in this professional space. Becoming certified in eight specific forms of group exercise structures, achieving Level One certification as a Strength and Conditioning trainer, achieving Graduate Certification in Professional Studies through UniSQ prior to enrolling in the MPSR and attaining Certificate IV in Training and

Assessing to facilitate learning for other students to complete their Certificates III and IV in Fitness.

Over this time, she has encountered many different clients and worked with some of them for that whole period. Middle aged women, between 40-60 years old, make up the largest demographic of people she has trained for over a decade, followed by younger women in their 20s and 30s. She has had experience with training men and children, as well as specific populations such as state and national level athletes and older adults, throughout her career as a PT and Strength and Conditioning coach. This broad experience with all ages and genders with differing abilities and training goals has been important to her development as a professional in this field.

The idea for this work-based project undertaken by this researcher arose from a specific occurrence noted in the researcher's years of experience working closely and building relationships with the middle-aged women who constitute the majority of her client base. The researcher understands the importance of building a client's foundation of strength, stability and control, and continuing to coach clients to train with good muscular support to improve their current health and fitness. However, over time the researcher became acutely aware that many of the women who had been consistently training with her for many years would not be forthcoming in their pelvic floor dysfunction and conversations were never initiated by clients around this topic. The pelvic floor musculature is foundational for supporting the lower back during exercise and providing control and stability for the pelvis in relation to the lower back (Muro & Akita, 2023). As part of the deep core, it is essential that the pelvic floor is functioning and for some women training over a period of years, this was not the case and yet they remained silent to the concerns they may have had regarding any dysfunction they were experiencing. This was later uncovered by conversations the researcher initiated with long-term clients as she understood how important it is to know if clients were remaining silent of PFD issues. Despite the researchers best attempts to provide conversations subtly and candidly about the pelvic floor and its importance during training, women would not acknowledge their concerns with her. The

questioning behind why most women avoided conversations about pelvic floor health when training, was the catalyst for the researcher to produce a literature review investigating pelvic floor muscle function in women and associated stigma for the purpose of obtaining a Graduate Certificate through the UniSQ, as a project forming part of the MPSR degree. The work-based project documented by this thesis allows the author to draw upon professional and specialized experience within her occupation to achieve the professional Masters qualifications, rather than the academic and professional researcher pathway.

Through working closely with other PTs and fitness professionals in the health and fitness space for nearly two decades, anecdotal and observational evidence suggested to the researcher that other PTs were experiencing similar communication barriers with female clients about their PFH possibly due to a lack of knowledge on behalf of their clients and embarrassment felt by clients to speak of their concerns. This anecdotal evidence is supported also by literature investigating the stigma associated with PFH within the health and fitness industry for the female clientele (further explored in the literature review). Studies revealed opportunities for future research to acknowledge the communication barriers that exist between health professionals and their female clients when discussing the personal matters of their PFH and in particular PFD. Shame and stigma surrounding PFD was a strong theme in the research indicating that providing more information and conversations around the topic of PFD was the most obvious and necessary action to be taken to assist the breakdown of communication barriers.

To enhance the researchers career development and become empowered as a professional learner, focus was to be given to the following learning objectives within the communication, intellectual and methodological capabilities listed:

- Systemised information gathering;
- Information management and dissemination;
- Professional knowledge;
- Analytical skills; and

- Technology adoption.

These learning objectives were addressed through the work-based project within the Professional Studies program. Developing further professional knowledge was required to address the relatively unknown and sensitive topic of PFD and how it affects women. Through the MPSR program the researcher has been exposed to immense amounts of information surrounding this specialised area of pelvic floor muscle training (PFMT) but no formal education has been undertaken to date.

Improvement of communication-related capabilities may be required to design and evaluate survey questions that assess the health status of the women participating in the research project. Information may be gathered in a systemized manner, adopting new technology to streamline the process, and through the surveys and interviews of the participants, there exists the opportunity to enhance analytical skills and the dissemination of data. Upon completion of this research project a deeper understanding on the effects of improving communication between PTs and their clients surrounding the topics of PFH and PFD will be accomplished. A summary of how these learning objectives were met through this work-based research project is provided in Chapter 5, section 5.3 Achievement of Learning Objectives.

This work-based research project will lead to the generation of benefits to three cohorts, also known as the "triple dividend" (Fergusson et al., 2018), which is unique to the Professional Studies program. More specifically, if is anticipated that this study will not only contribute to the knowledge and research skills of the researcher, but also provide organizational and professional contributions as it lends to an increased understanding about the research topic within the fitness industry and the researchers workplace. A summary of these contributions is provided in Chapter 5, section 5.4 Triple Dividend Contributions.

1.4 Research Questions

A review of the current literature regarding women's health and PFH identified that women currently struggle to communicate PFH concerns with their PTs. The literature also suggests that PTs may not be provided with enough theoretical and practical education/training to speak

confidently with their female clients concerning this specific and often perceived ‘taboo’ topic. These insights led to the development of the current research questions.

The current research focuses on deepening the understanding of the barriers to effective communication regarding PFH, and how to address these, via the examination of their perspectives of both parties: first, the knowledge and understanding of PFH female clients and their personal experiences regarding PFH; second, establishing how informed PTs are in the realm of PFH and specifically when communicating the concerns of their own. By gathering interview data pre- and post- completion of a ten-week exercise program, this research aims to evaluate whether the progressively built relationship between PTs and the women who train closely with them, affects the communication barriers suggested by prior research. It also aims to elicit whether the level of knowledge and understanding PTs have around PFH issues (from their training and experience) impacts their ability to communicate confidently with the women they train.

The research questions guiding the research project address the core aims of this research are as follows:

Research Question 1: What level of PFH knowledge do PTs have following initial training and/or their professional experiences, and what knowledge and/or tools are required for PTs to more effectively address and communicate issues surrounding PFH with their female clients?

Research Question 2: What knowledge and attitudes do women intending to engage in physical activity with personal trainers, have around PFH and PFD, and what impact (if any) does engagement in a ten-week exercise program under the close guidance of PTs and EPs have on their attitudes toward communicating PFH issues with them in the future?

1.5 Conclusion

This study seeks to address the disjointed communication regarding PFD between PTs and the women who exercise under their guidance in regional Queensland, Australia. The following chapter reviews the literature through the lens of the conceptual framework provided. An overview of the broader topic of women’s health and PFD flows into a closer inspection of

previous research surrounding the knowledge and attitudes female clients have about their PFH and then the knowledge PTs have of PFH and their levels of confidence speaking to their female clients, and what tools are necessary to facilitate more in-depth communication. Through a summary of the literature, research aims are proposed, and research questions addressed.

Chapter 3 explains the methodology adopted by the researcher to address the proposed aims of the study. The details of the methods utilized for this study include: the research paradigm and design; the two separate groups of participants, personal trainers, and female clients; the training program; data collection and data analysis; dependability and trustworthiness of the study; and ethical considerations.

Chapter 4 details the results and discussion of the analyses in two sections: Personal Trainers – here the lack of knowledge and understanding of PFH is explored with a sensitivity to the stigma surrounding the topic, and how communication around the topic helps to improve confidence of PTs; and the lack of knowledge female clients have of PFH, the awkwardness and embarrassment they experience and how they feel improved dialogue around the topic of PFH might assist them in communicating more openly.

Chapter 5 concludes the thesis and includes a brief discussion of the significance and implications of the study, recommendations for future research, and a summary of the outcomes for the learning objectives related to the MPSR program. It ends with, how this research will contribute to the wider body of knowledge in this field and potentially inform interventions to improve awareness and knowledge regarding PFH and how to improve associated concerns.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

A literature review investigating pelvic floor muscle function in women and associated stigmas informs this project. There are several areas of knowledge relevant to this investigation including: the overarching theme of cisgender women's health with specific focus on PFH and PFD; the current health literacy of clients and that of PTs on the topic of PFH and PFD, and the barriers and facilitators that interlace these themes. The literature review will position the research in the context of relevant literature and will aim to critically examine and highlight the gaps within this discourse that warrant further investigation in exploring the knowledge and understanding female clients have, and the knowledge, understanding and confidence PTs have, concerning PFH.

The main connection point between these themes is identifying to what extent the communication barriers and facilitators, between health professionals and their clients, affect their knowledge and attitudes regarding pelvic floor health. The figure below (Figure 1: Conceptual Model) illustrates these concepts and the interpreted view of how they interrelate. This framework provides the structure of the literature review to follow.

2.2 Conceptual Model

Illustrated below is the model developed to explain the framework that guided the literature review. The overarching theme of Women's Health and Pelvic Floor Health was the foundation of the research project. It was important to research the existing and current body of knowledge relating to the health literacy and education of PTs as well as that of the general female population. Through the literature review process, there were indications that directed the research towards the existence of barriers and issues with facilitators in the dissemination of information and the valuable and effective communication of these health issues. Current research indicates a need to further educate health professionals, as well as the general public, in the effects of PFD. Enhancing lines of communication will benefit both parties.

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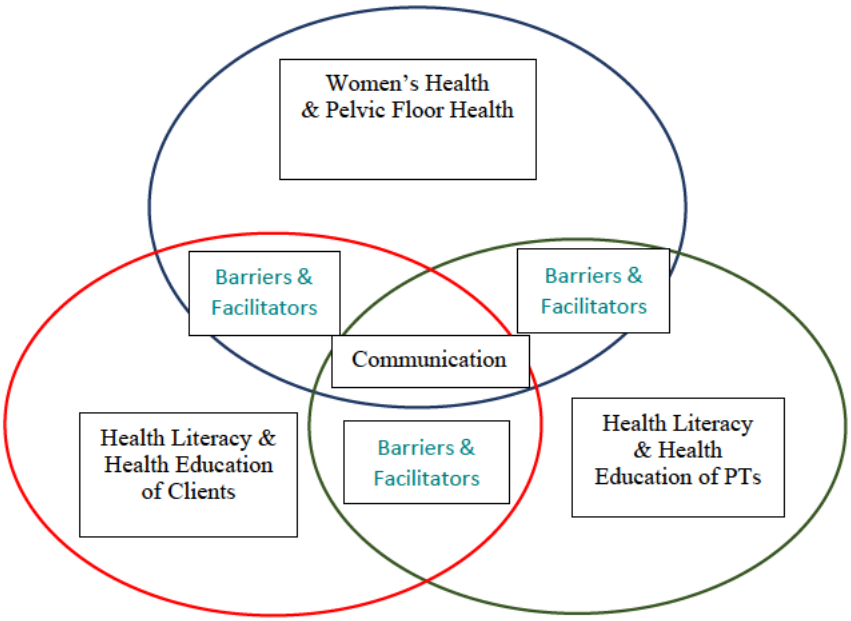

Figure 1: Conceptual model.

2.3 Women's Health and Pelvic Floor Dysfunction

Data relating to the general health status of populations around the world and more specifically, to regional and rural Queensland, Australia, provide insight to the factors affecting health care promotion and how this impacts society (Dalbo et al., 2015; Dray et al., 2016; Frakes et al., 2013; Murtagh et al., 2015; Vandelanotte et al., 2010). Physical inactivity is key when comparing the health statistics of diverse cultures around the world (Ding et al., 2016). Within Australia, Queensland has the highest rates of physical inactivity among adults (Brown et al., 2013). Understanding the health model within Australia and how different social determinants influence these levels of inactivity facilitates further discussion on how specific physical and emotional factors affect women's health (AIHW, 2018).

Barriers to a more active, healthy lifestyle for women can be connected to PFD (Nygaard & Shaw, 2016; Romero-Franco et al., 2021; Sherburn, 2021). Urinary incontinence (UI) defined as any leakage during a specific time frame requiring a particular level of frequency or severity, was found to be a moderate barrier to exercise for 28% of women as uncovered by Nygaard

and Shaw (2016). Women from this study who experience UI, 11-12% exercised less, changed the type of exercise they did, or chose not to exercise at all; but a third of those who had severe UI chose to exercise less or not at all. This data is a clear indication of a PFD being a strong barrier to exercise because of the discomfort and embarrassment they experience with leakage. The stigma associated with the embarrassment and bother of PFD may act as a barrier to effective communication between the women who suffer from it, and the health care professionals who could assist in improving their lived dysfunction, as the women living with PFD may stigmatise the issue, thereby impacting their overall health (Bonner & Boyle, 2017; Fritel et al., 2014; Pierce et al., 2015; Taylor & Cahill, 2018; Woodley & Hay-Smith, 2021). PFD also presents with barriers in other areas of life for women. Not only does the prevalence of this health concern diminish the QoL for the majority of women (Akkus & Pinar, 2016; Freitas et al., 2019; Geissbuehler et al., 2021; Taylor & Cahill, 2018; Tinetti et al., 2018; Woodley & Hay-Smith, 2021), it also impacts their daily life activities, sexual function and the ability to perform various forms of physical activities (Berzuk & Shay, 2015; Taylor & Cahill, 2018; Volløyhaug et al., 2015). The effects of these barriers and associated stigmas may also negatively impact their psychosocial health (Lai, 2016). For example, lowered self-esteem and anxiety about incontinence symptoms can result in women self-imposing isolation, which in turn may harmfully affect their QoL (Geissbuehler et al., 2021; Lai, 2016; Vrijens et al., 2017).

Despite the broad ramifications, this is often an under-reported area of health care knowledge and although the conditions are often treatable, women are reluctant to seek care (Bonner & Boyle, 2017; Pierce et al., 2015). This indicates it is vital to provide women health literacy on the topic of pelvic floor health. More specifically, an increased awareness and education of the prevalence of PFD is required so that preventable measures can be adequately implemented and the barriers surrounding self-seeking treatment can be reduced. As such, it is important to establish what knowledge and attitudes women engaging in physical activity with personal trainers have around pelvic floor health and PFD.

2.4 Pelvic Floor Health – Knowledge and Attitudes of Female Clients

To appreciate women's level of health by its physical and emotional outcomes, attention to the level of exercise is required (Laakkonen et al., 2017). Dalbo et al. (2015) have reported that 13.2% of the residents in rural and regional Queensland participate in strength-based exercise, and within this statistic, women and adults over the age of 55 years were less likely to partake than those within the 18-34 year age bracket. Knowledge alone of how to improve an individual's overall health to reduce the risk of many ailments, does not take into consideration the social determinants that impact a person's overall health (AIHW, 2018) such as pelvic floor health knowledge, availability of health services due to age or race, and financial access to specialised pelvic floor trainers and women's health physiotherapists (Nauheim, McKay, Laudano, & Abraham, 2020; Sayner et al., 2022).

Individual health literacy is about a person's ability to access, understand and apply health information to their daily lives (AIHW, 2018). For research and its outcomes and conclusions to benefit Australia and its regional population of women, a narrower lens is required; one that examines the many complex factors that contribute specifically to a woman's commitment, or lack thereof, to an active and healthy lifestyle. Through this examination of factors, it can be determined that more attention is required to improve the health literacy of this demographic of women. Arnautovska (2017) advocates advancing the understanding of psychological barriers and facilitators that compel older adults' decision-making regarding physical activity. One such barrier currently under-researched and relevant to the researcher's professional practice concerns the social embarrassment associated with incontinence. Desire to improve PFH and PFD on a holistic scale is ineffective if one does not consider social determinants of health including social constructs, bodily shame and stigma associated with this phenomenon (Heintz et al., 2013; Siddiqui et al., 2014; Wang et al., 2014; Xu, Liu, Qu, Chen, & Wang, 2016).

Stigma is defined as an attribute discrediting an individual, reducing them "from a whole and usual person to a tainted, discounted one" (Wang et al., 2014, p. 351). Research maintains

that stigma may be associated with a low rate of health service utilization for urinary incontinence in women who firstly use self-coping strategies to manage the problem (Peterson, 2008; Wu et al., 2015). Wang et al. (2014) contend that the level of shame and embarrassment associated with urinary incontinence is higher than that for depression and cancer. Women do not always seek care for urinary incontinence, even when it is severe, due to denial of the problem and/or bodily embarrassment and shame (Berzuk & Shay, 2015; Fritel et al., 2014; Peterson, 2008; Taylor & Cahill, 2018; Woodley & Hay-Smith, 2021). Further barriers to diagnosis and treatment include social stigma of the condition, the perception that treatment may require surgery, and common misconceptions that urinary incontinence is normal for aging and post-natal women and something women simply should endure (Dao & Dunivan, 2022; Freitas et al., 2019; Róin et al., 2015; Tinetti et al., 2018; Wu et al., 2015).

The effects of stigma and the potentially low levels of knowledge and understanding, and associated taboo surrounding the sensitive issue of pelvic floor health are extensive. Examples of these effects have been widely researched (Geissbuehler et al., 2021; Peterson, 2008; Siddiqui et al., 2014; Tinetti et al., 2018; Wu et al., 2015; Xu et al., 2016) and the negative impacts on women's psychosocial health by lowered self-esteem and of bodily dissatisfaction have been acknowledged (Geissbuehler et al., 2021; Lai, 2016; Schofield et al., 2018; Tinetti et al., 2018). However, the majority of women who are affected by urinary incontinence choose to suffer with their symptoms in silence despite the threat to their physical and mental health (Fritel et al., 2014; Wang et al., 2014). It is therefore no surprise that current research suggests correlations between increased severity of anxiety and incontinence symptoms (Lai, 2016; Vrijens et al., 2017). Due to this anxiety, women self-impose social isolation and experience further psychological distress (Geissbuehler et al., 2021; Heintz et al., 2013; Wu et al., 2015; Xu et al., 2016). Ultimately, the affected women's QoL is negatively impacted by PFD and remains a barrier for women to participate in sport, exercise and other physical activities (Lai, 2016; McCooty & Latthe, 2014; Romero-Franco et al., 2021; Vrijens et al., 2017). Despite the plethora of research alluding to the widespread psychosocial effects of women who suffer PFD

and how they deal with it on a global scale, there exists a paucity of knowledge regarding the improvement of communication barriers between fitness professionals and their female clients and how to increase the awareness around the prevalence and prevention of PFD, and even less so on a national and regional level in Australia. Hence, this thesis is interested in uncovering the ways in which this stigmatised issue can become a topic that is explored in general conversations between clients and fitness professionals. This will help to further improve women's health literacy, especially within inner regional Queensland.

2.5 Pelvic Floor Health – Knowledge, Confidence and Tools of Fitness Professionals

Currently, the formal education avenues for those wanting to become PTs within the fitness industry do not include training regarding the pelvic floor health of their future clients. There are additional courses available for qualified PTs to undergo in many areas of health and fitness – women's health being one of them.

Despite not being trained specifically or sufficiently in PFH and PFD, this thesis suggests that because fitness professionals have ongoing access to their clients, they are in prime position to not only communicate about pelvic floor health with their clients but also actively promote pelvic floor health to the clients they regularly work with. The proximity and frequency of contact between trainers and clients may equally allow the trainers to dispel any common myths and misconceptions linked to the topic (Wood, 2014). Ongoing training may be another avenue to ensure PTs manage their dearth of knowledge of PFH and PFD, enabling them to continue to assist their clients and overcome the primary barrier to engagement with women in this area of health.

As cited by Simpson, Deeble, Thompson, Andrews, and Briffa (2016), 49% of women attending community gym and fitness classes in Australia have symptoms of urinary incontinence. This suggests that fitness trainers have access to a portion of the female population who are knowingly or unknowingly suffering from PFD but may not disclose this information to each trainer they encounter due to various social and emotional reasons. This research is interested in exploring what knowledge and tools are required for PTs to address

issues surrounding pelvic floor health effectively and confidently with their female clients. Determining the barriers and facilitators of communication between PTs and their clients regarding improving pelvic floor health, and how to overcome them, may suggest best practice around positive communication.

While physiotherapy focuses on discipline rehabilitation of conditions including pelvic floor strength, the researcher's experience in the field of personal training is that these rehabilitation exercises often do not form part of the daily exercise routines of the client or may not be shared with the trainers they train with because of the reasons stated above. As there is not a singular model of care appropriate for all women with incontinence issues (Simpson et al., 2016) a collaboration of allied health and fitness industry professionals is required to ensure program design is individualised for clients. From professional experience in the field, it seems fitness professionals require a wider and deeper knowledge base appropriate to facilitate condition specific programs. These differing conditions where PFH is of paramount importance, include pre- and post-natal care, high impact/intensity athletics intervention, and women around the age of menopause.

2.6 Communication is the Key

As the picture surrounding the wide-reaching effects of PFD for women becomes clearer, the lens through which the promotion of physical activity for a population whose health statistics demand improvement, depends largely on public awareness of PFH and prevention of PFD. It is necessary to explore what knowledge and tools are required for fitness professionals to effectively and confidently address and communicate issues (both theoretically and in practice) surrounding PFH with their female clients. This research examines whether a focus on developing communication lines between fitness professionals and more qualified health care professionals may expand the scope of fitness professionals and contribute to enhancing their knowledge and confidence around PFD, and in turn facilitate better care for their clients. Improving the health literacy of clients and fitness professionals, to promote good PFH, may

help to dismiss common misconceptions surrounding the pelvic floor, and therefore overcome associated stigma related to the topic. Here, practical and emotional coping strategies can be facilitated for those living with incontinence. This may ease embarrassment and create a positive attitude toward discussions and engaging in pelvic floor muscle training in women (Lindgren et al., 2017).

2.7 Conclusion

Platforms for communication are areas that need further research with sensitivity to social determinants of health such as regional and rural access to preventative health measures. The aim of this study therefore is to extrapolate broad insights surrounding the complexities of communication barriers when needing to coach middle-aged women through pelvic floor activation while exercising, and potentially inform future education guidelines for fitness professionals regarding the importance of this underestimated coaching focus. Outcomes from the research project could in turn help to decrease prevalence of inactivity levels because of PFD and increase QoL for this population of women (Akkus & Pinar, 2016; Kocak et al., 2005; Kocaöz et al., 2010; Schofield et al., 2018).

CHAPTER 3: METHODOLOGY

3.1 Introduction

A qualitative research method was employed for this work-based research project, in line with the aim of gaining a deeper understanding of the themes that dominate the relationship between personal trainers and their female clients when discussing topics pertaining to PFH and PFD. To this end, the study will centre itself within a Constructivist paradigm. This orientation to research is deemed the most appropriate for critically examining the lived experiences of women training under the guidance of PTs, the influences the trainers may have on the delivery of information and whether the consistency of the interactions between PTs and female client provides an environment conducive to open discussions of the sensitive topic of PFH and PFD. On this basis, to construct new levels of meaning about a topic which is poorly understood in work-based settings.

3.2 Research Paradigm and Design

Within the Constructivist paradigm, qualitative researchers consider why individuals think or behave the way that they do and how they come to the complex thinking and actions within their lives (Denny & Weckesser, 2019). This research aims to identify the core themes associated with the communication of PFH issues between PTs and their clients. The research project was designed to consider the knowledge and understanding PTs have of pelvic floor issues, and their level of confidence if they spoke with their clients about these topics. It also sought to capture the knowledge and attitudes women had of their own PFH, by exploring their experience before and after they each participated in the same ten-week training program, a program which was guided by accredited exercise physiologists (EPs) and PTs. The content ten-week training program was for breast cancer survivors and was not a formal part of this research project. discern what factors influenced PTs when they discussed pelvic floor health with their female clients, and what factors, if any, may have influenced how women felt when discussing the topic openly with PTs.

The purpose of interviewing the women prior to participating in a guided and structured training program, was to gauge their viewpoint on these topics before they had any experience of consistent training under the guidance of trainers. The same line of exploration was followed again once they had finished a ten-week training program and provided insight into how these held viewpoints may or may not have changed, after having experienced the consistent training and after they had built rapport with trainers who coached through exercise.

The research design for this study incorporated two qualitative pathways of data collection; one for each of the cohorts of participants: PTs and female clients. Constructivism, which values the building of proof, lends itself to a qualitative methodology (Boynton, 2005) incorporating multiple platforms. In this case, a review of the literature guided the study to semi-structured interviews with PTs and their female clients. The literature review uncovered aspects of knowledge that require further investigation. These knowledge gaps inspired this research and informed the interview questions for the PTs and female clients. Reviewing the literature revealed that the broad topic of PFH was still deeply rooted in stigma for women in general, and where statistics reflected that this led to barriers for women who wanted to seek help as well as improve their knowledge and understanding around PFH issues. Interview questions for this research sought to explore the knowledge of PFH of, and the attitudes surrounding this topic that were held by a group of women beginning a new fitness journey as part of their breast cancer treatment.

This exploration of how women communicate around the topic of PFH, included interviewing the select group of women before and after the ten-week training program. The first interview, which took place at the beginning of the training program, gained insight into the extent of their knowledge of PFH and their experiences with PFD before they were exposed to the consistent interactions with PTs and EPs who guided them through their training program. The women were interviewed again toward the end of the ten weeks, which gave them the opportunity to reflect upon their experience when they were asked similar questions of their knowledge and understanding of PFH, but after they had spent time consistently training closely

with the same PT and EP coaching staff. The idea behind this reflective questioning in the second interview stemmed from the understanding that by training consistently with the same group of EPs and PTs, the women would have been given the opportunity to become more comfortable with the new training environment. The women would have become more aware of their bodies as they performed exercises that they may have never done before, and they would have become familiar with the same trainers, and perhaps established enough rapport with the trainers, to allow them to consider whether and how the issues of PFH had been addressed in conversations with them.

The exercise program they embarked on was unrelated to this research project, however, while the program had no specific PFH focus, there were times within the training program where the PTs and AEPs coaching the women, could have focused their coaching cues around pelvic floor safety. This study was interested in discovering if, or how, the experience of consistent training and/or the relationship between the women and trainers, might influence women's attitudes of PFH as well as the potential to address PFH issues in a way that occurs organically, rather than with set purpose. The study did not measure the amount of specific PF coaching cues given to the women and was not designed to be a training intervention where this can be measured. Rather, it was noted in the reflection interviews whether any coaching cues were used by the PTs or AEPs to build the knowledge and awareness of PFH during training sessions, and if this impacted the women's knowledge and attitudes of PFH in any way. It is possible that some of the women would not have thought about this during their training experience, however, the research was designed to explore if the women felt comfortable to partake in conversations of PFH and PFD during the time spent working closely with the coaching staff during their time in the gym.

A review of literature highlighted the need to improve the health literacy of clients and fitness professionals to promote PFH. To support best practice around the positive communication of PFH between fitness professionals and their clients, initial interview questions for PTs were geared toward gaining insight into their knowledge and understanding

of PFH in general; their knowledge of the ways in which the PF muscles are used to support the core during exercise; and whether this formed part of their initial training to become a qualified PT. It was important to establish if and how the PTs coached their clients through exercises that might require PF support. Further to this, interview questions aimed to discover how confident they felt in approaching and communicating effectively with their clients regarding this topic. The questions created for the semi-structured interviews acted as a guide for the interviewer. They allowed deeper enquiry into the experience of the trainers being interviewed and expanded the picture of their PFH knowledge or how this knowledge was translated to their clients during training.

It should be noted that the trainers selected for interview did not have any prior contact with the female clients selected for this study, as these two groups of participants were explored distinctly and separately. The training program that the female clients participated in as part of their cancer survivors' post treatment, occurred separately to the sessions facilitated by the PTs in this study. For disclosure, the researcher of this project is a PT and was overseeing the coaching staff of PTs and EPs for the ten-week training program. This meant the researcher was in the exercise sessions and overseeing the program on a weekly basis.

It is important to note this research was negatively affected by COVID-19 as the original timeline for the first round of interviews was scheduled for early 2020 when the pandemic hit. Gyms and fitness centres were forced to close operations by government guidelines and requirements. This halted the selection process for the group of women participants and impacted the normal progression of research. Following the COVID response of forced closures, it was months before the fitness industry was allowed to re-open, albeit within strict health and safety guidelines. It took the fitness industry over half a year to recover, especially within the allied health space that dealt with post-cancer treatment patients. As the specific group of women selected for this research participated in a structured training program designed for post-treatment cancer survivors, this meant that it would be a few more months again before the program would resume and selection for the interviews could commence. The next training

program block post-COVID began in January of 2021, and the interviewees were selected, and an initial round of interviews took place during January and February 2021.

Some of the women had already begun the training program at the time of their initial interview. The second round of interviews were held in April of 2021, and by the end of 2021 it was evident that the initial timeline incorporating the process of collecting, transcribing, and interpreting data would require more time, so a six-month extension was granted to account for the ten month pause caused by the COVID pandemic.

It was not established how the pandemic affected the women or the trainers interviewed in this study, as the aims and research questions for this research were designed before the impact of the pandemic was understood, and questions regarding the pandemic were not of importance to the research at the time. It could be suggested that the wearing of masks by coaching staff constructed a barrier to the women as to whether they felt comfortable enough to open up to the coaching staff about their PFH. By the same token, it could be suggested that the wearing of masks by the women during the training program could have been a deterrent to effective communication as the inability to see and interpret facial expressions would have impeded the ability to build rapport with their clients quickly.

3.3 Participants

This study drew participants from a city in regional Queensland with a population of over 100, 000 people. The two populations of interest are PTs and female clients who are training consistently for a short period of time under the guidance of PTs and EPs. All participants were either employees or clients of the same fitness centre.

3.3.1 Personal Trainers

An invitation to participate in the research study was sent to all PTs employed at the fitness centre, with a total of 11 trainers initially contacted by the researcher through an ‘expression of interest’ email delivered via the gym manager. Of the 11 PTs to be invited to participate, three opted to participate based on their availability and required to read the participant information sheet that outlined the purposes of the study and data collection procedures, and subsequently

sign the informed consent form to participate. Of the PTs invited to participate, two were male and one was female. All trainers were either 30 or 31 years of age at the time of the interviews, however their years of experience within the fitness industry as PTs differed greatly. As noted in the table below, at the time of the interviews, the two male trainers had over 10 years of coaching experience within the industry and the female trainer only had 18 months industry experience. There was no exclusion criteria for the selection of PTs for this research, however the inclusion criteria indicated the Certificate IV as a minimum requirement so as to classify them as a fully qualified PT. One of the PTs has furthered his study to a Bachelor of Sports and Exercise Science, however most of the experience gained by this PT was as a Certificate IV qualified PT. The Bachelor has only been completed recently at the time of the interviews.

Below is a table (Table 1: Fitness industry experience of personal trainers) showing the fitness industry experience and qualifications held by each of the personal trainers interviewed for this research. To protect their identity, their real names have been replaced with other names. These other names will be used throughout the Results and Discussion section.

Personal Trainer	Frankie	Rene	Jesse
Gender	Male	Female	Male
Age	31	31	30
Fitness Industry Qualifications	Bachelor of Sports and Exercise Science; Level 1	Certificate III & IV in Fitness	Certificate III & IV in Fitness;

	ASCA (Strength & Conditioning)		Level 2 ASCA (Strength & Conditioning)
Number of Years' Experience in Fitness Industry	On and off for 10 years	18 months	12 years

Table 1: Fitness industry experience of personal trainers

The research is centred around discovering how trainers felt in general about discussing topics such as PFH with their female clients, based on their knowledge and experience within the fitness industry rather than specifically coaching the women participating in the separate, breast cancer survivor training program. None of the PTs interviewed were part of the coaching staff for the ten-week training program undertaken separately by the female participants and therefore had no interactions with those clients interviewed for this research project.

3.3.2 Female Clients

The decision to select a specific cohort of women to be interviewed for this study arose from the researcher's involvement with a new and exceptionally unique training program pertaining to the positive effects of exercise on breast cancer treatment in women. The 10-week training program was designed for breast cancer survivors by exercise physiologists with influence from experienced strength and conditioning coaches. Creating this health initiative was driven by emerging new research from Edith Cowan University in Western Australia. The research produced by this university was the first of its kind in discovering how targeted exercise medicine can be used as a key weapon in cancer patients' battle against the disease by suppressing tumour growth and changing the biology of cancer cells. This university has been at the forefront of the science and clinical practice behind exercise oncology for over 15 years.

The researcher was employed by the privately owned fitness centre in regional Queensland whose team of exercise physiologists, spearheaded by a well-renowned and experienced Australian strength and conditioning coach, designed the targeted exercise training

program for breast cancer survivors. This training program was the first of its kind, and directly inspired by the ground-breaking research from Edith Cowan University, which centred on providing exercise during breast cancer treatment to enhance the effects of the treatment. The 10-week training program was developed by the fitness centre in regional Queensland to be available for women who had completed or were at the end of their breast cancer treatments, as a next stage in rebuilding strength, mobility and functionality post-cancer treatment. Women from regional south-eastern Queensland have been the very first groups of women in Australia to experience the benefits of the exercise training program for breast cancer survivors since 2017, and this fitness centre is the first and only commercial fitness centre to facilitate a scientifically proven exercise program specific to post-cancer treatment for breast cancer survivors in Australia.

As the researcher has been involved with the facilitation of the program since its inception, she has been witnessing the life-changing results that the women who were committed to completing the program experienced. What was obvious for the researcher during her time coaching the women, was that the emotional rollercoaster of being diagnosed with breast cancer is continued for these women in the post-treatment maintenance. They had to contend with enduring cancer treatments which often had side effects that lasted well beyond the completion of each treatment, and then undertake the recovery from extensive surgeries that change the way they can move their bodies. Each of the women had a unique experience with cancer; the treatment of their cancer, their recovery from treatment, and then life as a cancer survivor often including years of post-treatment medication with their own set of side-effects. What was clear from being a part of the facilitation of the exercise program, was that being thrust into an intimidating, unfamiliar and unknown environment was the first of many obstacles and challenges that each woman faced when accepting the invitation to participate in the program. For most women, that would not only be their first venture in training in a gym environment, but they were challenged by the idea of lifting weights and committing to ten weeks of consistent exercise. Every machine in the private gym space potentially looks like a

torture machine and can be quite daunting for newcomers. The women demonstrated increased comfort once they were able to respond to the way the coaches guided them through each exercise, checking their every move and assisting them where necessary. Each coach monitored the women, offering not only physical support with the exercises, but mental and emotional support as well. Most women began their training journey with the belief that they are weak and could not lift heavy weights, but over time and where the result of the progressions over the weeks were clear to see, their mental perspective changed, and they believed in their ability to grow and build strength. As they became aware that they were accomplishing, exercising had a profoundly positive impact on their self-confidence. One senior female participant who had resigned herself to the fact that she could no longer get down easily into a low chair and would never attempt to get down onto the floor or kneel down without requesting assistance. She felt immensely frustrated as it seemed that such a task was easy for every other person. Throughout the program were sitting and standing unassisted was one of the functional training exercises in the program, she would regularly be brought to tears of embarrassment at her inability to sit on a chair by herself without assistance. Coaches held her hands through this exercise and use firm encouragement to motivate her through each repetition, until slowly over the weeks she had finally built the strength to sit and stand unassisted and, more shocking to her, be able to get down and up off the floor unassisted. When she completed her first successful attempt, the whole group erupted in celebration and yet again she was brought to tears – but this time, they were tears of joy, pride and self-belief. She explained that she was now going to go and show off her new skills to her grandchildren and watch them play soccer – which was something she sadly never did with them because of her physical instability and weakness. This is an example of the type of vulnerability and intimacy that is shared between the women and coaches during the exercise sessions over the weeks.

It is always deeply touching, and rewarding, to witness a woman in the program having a breakthrough of any kind; whether that be physical (lifting a heavier weight, or finally being able to move in a way that they didn't think was possible anymore), emotional (pushing through

on a day when they are so exhausted they could cry, or letting down their guard and opening up to new friends and connecting on a deep level with other women who are going through similar or worse breast cancer situations) or mental (overcoming the fear of trying a new exercise or a heavier weight or when feeling depressed, using exercise in the knowledge that it will lift their mood and change their mental perspective for the day).

This intimate relationship that is built over the course of the intense training schedule for the women and the coaches who work with them, was a clear catalyst for the decision of the researcher to choose this group of women for the research of an equally, if not more, intimate, and private topic of PFH. The same reasons the women felt comfortable enough with the coaches for the program to develop close relationships and share deep and personal emotional experiences would be the same reasons the women would potentially feel comfortable enough to extend these personal and private conversations to include questions about their PFH.

The female clients that were thus invited to participate in this work-based research study were a part of the first cohort of women to participate in the ten-week post-cancer treatment training program since the COVID-19 pandemic began in 2020. This group of women was chosen to form part of this research project for the purpose of having equal access to frequent and consistent training sessions at the same place with the same coaches. The researcher invited all female clients who attended the information session for the ten-week training program to participate in the study. Of the 12 clients invited via an 'expression of interest' email, six elected to participate in the study and were required to read the participant information sheet that outlined the purposes of the study and data collection procedures, and subsequently sign the informed consent form to participate. The interviews with the six women were designed to illuminate greater understanding of the level of knowledge and the attitudes that women had about PFH and PFD prior to and post participation in a ten-week structured training program where they were coached by PTs and EPs. Below is a table listing the pseudonyms, age and place of residence regarding each of the women interviewed in this study. Their names have been changed to protect their identity.

Female Participant (pseudonym)	Age	Place of Residence
Nadia	66	Toowoomba
Tash	64	Toowoomba
Yolanda	70	Toowoomba
Audrey	69	Toowoomba
Rhonda	51	Toowoomba
Evelyn	41	Dalby

Table 2: Age and place of residence of the female participants.

The women that were interviewed had all undergone the life-altering experience of surviving breast cancer treatment, were all new to strength training, and most importantly, participated in the same three 60-minute strength training sessions per week for the duration of the ten-week training program, which was supervised by the unchanging group of PTs and EPs. Of the six women selected from this post-cancer treatment group, all women attended at least 90% of all scheduled training sessions over the ten weeks. This created a sense of consistency for the women as well as uniformity within the research allowing observations of the potential change in both how the women's knowledge and understanding of PFH were affected by their experience of regular strength training over a short period of time, as well as their developing relationships with PTs and EPs during their training sessions. Each of the interviewed women had the same access to coaching from PTs and EPs within the training program. This ensured all women were provided similar opportunity to converse and build rapport with the trainers. If the research had selected random women who attended the gym for group exercise classes or personal training sessions, it would have been challenging to accurately determine the level of exposure to personalised coaching from PTs and EPs. This research was partly based on the developing relationships between PTs and the women who were asked personal questions about

their PFH. The wider focus was to capture any change in the women's knowledge of and attitudes towards PFD after their experience of establishing and building relationships with coaches, as this emergence of trust and vulnerability was considered to be a key to expanding lines of communication around PFH issues.

3.4 Training Program

The ten-week training program, called "Training Program for Fight Back with Fitness", was not designed to be an intervention. The ten-week training program was provided by the local fitness center for women who had undergone breast cancer treatment; it was a well-informed, systematic, specialized strength and conditioning program which formed part of their recovery from breast cancer treatment. A copy of the specific training program for each session is depicted below as Figure 2.

Figure 2 shows the training for each day in the week. The women trained together three times a week on Mondays, Wednesdays and Fridays for ten weeks. Each session had different strength, mobility, flexibility and conditioning components so the workouts were varied each time. The Monday and Friday weightlifting programs followed the same pattern each week, where progressions in the weight lifted, the number of repetitions or sets, time under tension and intensity efforts were monitored and recorded, allowing each individual to work toward improving their results each session. The Wednesday sessions were circuit-based training modules which were rotated weekly to expose the women to exercises with a different focus each week.

MONDAY - [redacted]						
Workout	Set 1		Set 2		Set 3	
	Result	Reps	Result	Reps	Result	Reps
Note	10 mins Prehab (Glutes, Abs, Cuffs)					
A Dumbbell Bench Press		15		15		15
Tempo: 211						
A Neutral Lat Pull Down		15		15		15
Tempo: 211						
A Plank		30 secs		30 secs		
	Regress/progress as required (i.e. off box, two point, hands/elbows).					
B Chair Sit-to-Stand		15		15		15
	AMAP in 60secs for first set					
B Seated Dumbbell Shoulder Press		15		15		15
	Tempo: 211					
B Banded Lower Trap A Flutters		30 secs		30 secs		
C Row Ergo 1 min Intervals						
2 sets	Complete 1 min hard followed by 1 min recovery					
C Theraband Facepull		60 secs		60 secs		
	Increase by 1 rep each week					
C Push Up		60 secs		60 secs		
D 400m Walk/Jog						
1 set - Record time to complete 400 meters						

WEDNESDA[redacted]						
Workout	Set 1		Set 2		Set 3	
	Result	Reps	Result	Reps	Result	Reps
Note	10mins Prehab (abs, glutes, cuffs), 6x6mins stations (2min rest between stations)					
Row Ergo Max Distance						
1 set	2 Minutes Complete as many meters as possible in the time allocated					
A FBWF Wednesday Circuit 1	***1 round*** *- Complete AMSAP in:* Circuit 1 (Complete for 6 minutes) Choose either Rowing Machine or Stationary Bicycle Hard for 30secs / Easy for 30secs x6 Record Calories					
B FBWF Wednesday Circuit 4	***1 round*** *- Complete AMSAP in:* Circuit 2 (Complete for 6 minutes) Repeat As Many Rounds As Possible (AMRAP) of; Seated Cable Row x12 Dumbbell Bench Press x12 Jumping Jacks x12					
C FBWF Wednesday Circuit 6	***1 round*** *- Complete AMSAP in:* Circuit 3 (Complete for 6 minutes) Repeat As Many Rounds As Possible (AMRAP) of; Chair Sit-to-Stand x10 Shuttle Run (15m up & back) x2 (60m) Standing Plate Shoulder Press x10					

WEDNESDAY [redacted]						
Workout	Set 1		Set 2		Set 3	
	Result	Reps	Result	Reps	Result	Reps
D FBWF Wednesday Circuit 2	***1 round*** *- Complete AMSAP in:* Circuit 2 (Complete for 6 minutes) Repeat As Many Rounds As Possible (AMRAP) of; Supine Ring Pull-up x10 Incline Push-up x10 Box Step Ups x10ea					
E FBWF Wednesday Circuit 5	***1 round*** *- Complete AMSAP in:* Circuit 5 (Complete for 6 minutes) Complete the full circuit 4 times Dumbbell Boxing x30s Med Ball Slam x30s Slow Lateral Bodyweight Jumps x30s					
F FBWF Wednesday Circuit 3	***1 round*** *- Complete AMSAP in:* Circuit 6 (Complete for 6 minutes) Repeat As Many Rounds As Possible (AMRAP) of; Ski Ergo x60secs Bench Burpees x10 Dumbbell 3 Way Shoulder Raise x8ea					

FRIDAY [redacted]						
Workout	Set 1		Set 2		Set 3	
	Result	Reps	Result	Reps	Result	Reps
Note	10 mins Prehab (Glutes, Abs, Cuffs)					
A Single Arm Dumbbell Bench Press		10 (ea.)		10 (ea.)		10 (ea.)
Tempo: 211						
A Single Arm Dumbbell Row		10 (ea.)		10 (ea.)		10 (ea.)
Tempo: 211						
A Alternating Seated Dumbbell Shoulder Press		10 (ea.)		10 (ea.)		10 (ea.)
Tempo: 211						
A Dumbbell Goblet Squat		10		10		10
	Alternatives - Assisted Squat, BW Squat					
B Narrowgrip Smith Machine Bench Press		10		10		10
	Tempo: 211					
B Single Arm Lat Pulldown		10 (ea.)		10 (ea.)		10 (ea.)
	Tempo: 211					
B 2 Way Shoulder Raise		10 (ea.)		10 (ea.)		10 (ea.)
B Assisted Split Squat		10 (ea.)		10 (ea.)		10 (ea.)
Note	30mins CONDITIONING (CHALLENGE)					

Figure 2: Weekly schedule of ten-week training program

The ten-week training program was based on recent evidence from Edith Cowan University. A brief description of the program and its benefits is as follows:

"The program introduces exercise in a safe, supportive and private facility. Designed for women diagnosed with breast cancer, regular exercise during and following treatment has been shown to improve both physical and emotional health, and overall QoL. Evidence of the beneficial effect of exercise during and after breast cancer treatment is very strong regarding safety of exercise and improvements to aerobic fitness and

muscular strength. Traditionally cancer patients were advised to rest and avoid activity. However, recent evidence suggests exercise is safe along with appropriate screening and prescription. Improvements to aerobic capacity are noted with perception of effort completing these tasks being reduced. Regular strength training can assist with altering current movement patterns, which can assist with decreasing joint and muscle pain." (Kennedy et al., 2020).

The EPs engaged to facilitate the training program oversaw the female clients' overall health during the program, and considered their treatment plans, past, current and future, medications and contraindications to health, all of which could be affected by a change in daily exercise patterns. The personal trainers engaged to assist with the facilitation and coaching of the program, did so under the guidance of the EPs.

As noted above, the exercise program was conducted in a private facility that was separate from the main gym of the fitness center. This environment allowed the women, who were typically feeling an initial apprehension about participating in the new exercise program, to ease into the gym environment by starting on their training journey in a smaller, quieter, and private space. The program provided the added luxury of numerous coaches for the first few weeks, ensuring that the women felt supported, and the coaching more personalised. After the first four weeks of the ten-week program, and once the women had become familiar with the movements of the program, gained confidence in their abilities and established a solid level of trust in the coaches, the coaching staff was reduced to one EP and one PT each session, with the researcher providing weekly overseeing of the program. By utilising this coaching structure, it was expected that not only would the women improve their level of self-confidence, but that this would lead to them feeling comfortable with the coaches. It is important to acknowledge that for the purposes of this work-based research, it was expected that small group-based coaching in a quiet gym would allow open and honest conversations around more taboo topics such as pelvic floor health, during their exercising.

Coaches helped the women learn the required movements of a variety of strength-based body weight and weighted exercises that had a whole-body training focus. Each session began with a full group warm up directed by one of the coaches, after which the women were divided into smaller groups (usually around two to four of similar ability) to perform a cluster of exercises. In this situation, one coach supported a small group of women and therefore had the opportunity to connect individually with each woman, encouraging them throughout the full training session. Once they had completed the set number of repetitions and sets of each exercise cluster with the one coach, the groups rotated to ensure they were exposed to different coaching styles. When all strength exercise clusters were completed, the program was concluded with the entire group carrying out a 'cardio finisher' which was designed to increase the cardiac output for the women and generally improve their fitness.

The design of the program and the specialised attention each client was offered every training session over the ten weeks facilitated a stable and safe environment in which women could establish rapport with the trainers and coaches. A certain amount of trust was built as rapport was established and within that environment, honest conversations around taboo topics such as PFH could be addressed given that both parties felt more comfortable speaking candidly.

3.5 Data Collection

Individual interviews of the PTs took place at the fitness centre where they are employed. The date and time for each interview was flexible and made to accommodate the participants' individual schedules and ease of access to the gym. Semi-structured interviews incorporated questions that were designed to extract each PTs level of knowledge and understanding of PFH, the communication strategies that they, at that time, utilised when interacting with their female personal training clients around PFH, and what tools they may require to further enhance their ability to communicate appropriately with clients about PFH. Additional questions were posed to consider their level of confidence when speaking to their female clients about PFD and PFH.

A copy of the semi-structured interview questions for the PTs can be found in Appendix E: Interview Questions for Personal Trainers.

Initial individual interviews with each of the six female clients were conducted at the beginning of the ten-week training program (unrelated to this study). Enquiries regarding their knowledge of and attitudes toward PFH were made, and they were asked to elaborate on their personal experience (current or in the past) of PFH issues. Following this, the interview questions sought to determine how comfortable or confident the women thought they would feel speaking to the PTs who would be overseeing their exercising within the training program. They were invited to comment on the tools or information they felt would support them in becoming more confident discussing their individual PFH with the trainers. A copy of the semi-structured interview questions for female clients can be found in Appendix F: Interview Questions for Female Participants.

Upon completion of the training program guided by PTs and EPs, each female participant was interviewed again with a similar line of questioning to the first interview, to discover whether the identified viewpoints from the initial interviews may or may not have changed. Questions were posed to encourage discussion around the experience of training consistently for a set period of time and building familiarity with the exercises and the coaches of the program. Further exploration elicited how this had impacted their level of knowledge of, and influenced their attitude towards, PFH or PFD and also whether their confidence in speaking with the PTs about this topic changed over the time they had spent training. The added focus of the second interview was to determine what the female clients understood to be the trainers' level of knowledge and understanding of PFH and PFD after their experience of training consistently with them. The intention was to determine if the women considered that after building rapport with the trainers over the ten weeks of training, the PTs communicated more confidently around the topics of PFH and PFD, and or they felt more confident to bring up issues relating to this topic themselves. A copy of the semi-structured interview questions for the second interview with female clients can be found in Appendix G: Interview Questions for

Female Participants Post-Training Program. All initial interviews took place in January 2021, and follow-up interviews occurred in April 2021.

3.6 Data Analysis

In line with the research design, the qualitative data collected from participants during semi-structured interviews were subjected to thematic analysis as a "flexible and useful research tool to potentially provide rich and detailed, yet complex account of data" (Braun & Clarke, 2006, p. 78). To maintain trustworthiness and reliability, the research protocol was kept consistent, with each participant being asked the same set of questions in the same order. To address the validity of the research, interview questions were developed in relation to previous research findings and constructs

Each interview was audio-recorded then transcribed verbatim by the researcher. Participant confidentiality and anonymity was maintained by assigning each participant a pseudonym. Braun and Clarke (2006) outline six phases of thematic analysis. These six phases were used as a guide to initially code and analyse the interview data thematically, and include:

1. Familiarise – read and re-read data, noting ideas for coding;
2. Generate initial codes – code interesting features of the data systematically and collate data relevant to the codes produced;
3. Search for themes – collate codes into potential themes;
4. Review themes – check if themes work in relation to coded extracts and entire data set generating thematic 'map' of analysis;
5. Define and name themes – ongoing analysis of data to refine specifics of each theme and the overall story the analysis tells, generating clear definitions and names of each theme; and
6. Produce report – selection of vivid/compelling extract examples and final analysis relating back to the analysis of the research questions and literature review.

During phase one of thematic analysis, preliminary codes were identified manually from the data after thorough reading and re-reading of each transcript. Phase two involved the initial systematic generation of hundreds of data codes which was performed manually by the researcher. Interesting aspects of each piece of data were identified allowing the researcher to begin organising the data into meaningful groups. The data groups were then sorted into the preliminary themes as part of phase three. Initial themes were discussed in-depth with supervisors and this iterative process led to the identification of emergent themes that considered the aim, research questions and objectives of this research project. Codes were then reviewed in phase four to ensure each aligned coherently and in a meaningful way within the themes produced. Throughout this process, the codes were further refined to ensure they formed coherent patterns and each theme was reworked significantly to reflect the meanings apparent in the data set as a whole. As part of phase five, the ongoing analysis involved condensing hundreds of data codes to fewer data codes under more succinct and clearly defined themes. Finally, the researcher produced the report (results and discussion section) as the final phase of thematic analysis by choosing the most vivid and compelling extracts from the interviews to support the arguments made in relation to the research questions of the thesis.

3.7 Dependability and Trustworthiness

It was important to ensure that research was conducted in a manner that maintained a satisfactory level of dependability and trustworthiness. It can be thought that dependability in qualitative research is the equivalent of reliability in quantitative research. Reliability ensures that data are being collected in a way that maintains a level of consistency. In this study, dependability was assured by asking the exact same questions to the women and each PT interviewed. The method of utilising semi-structured interviews for the participants was to allow extra dialogue around the set questions to occur in an authentic way and thus provide extra depth to the data collected. Implementing this method sought to establish consistency in the interviews with the PTs and the female clients.

There are many criteria used to ensure the trustworthiness of qualitative research and these include: credibility, transferability, dependability and confirmability (Korstjens & Moser, 2018). Trustworthiness in qualitative research is the equivalent of validity in quantitative research. In this study, trustworthiness was maintained by deriving a set of interview questions that were informed by an in-depth literature review. The specific questions selected for the semi-structured interviews were designed to elicit information that would help to close gaps exposed in the literature of PFH and PFD and to question the stigma around this topic that make women uncomfortable in discussing the subject. While investigating this topic with study participants, there was a sensitivity required when developing the questions that would explore this intimate and taboo topic. The questions asked were direct and made specific enquiry of their knowledge and understanding of pelvic floor health in general, of personal experiences with potential PFH issues and how these had affected or continued to affect them. The PTs were asked questions around their confidence to speak to female clients about their PFH. By ensuring each participant was asked identical questions, the credibility and dependability of the research assured that a high level of quality was maintained. The aim was to articulate each of them and what it meant, as well as highlight the assumptions underpinning each one and what the implications of each theme would be. Each theme referred back to literature to build valid argument around each one (Braun and Clarke, 2006).

3.8 Ethical Considerations

This research project adhered to the ethical code of conduct required by UniSQ and the National Statement on Ethical Conduct in Human Research 2007 (updated 2018) ("National Statement on Ethical Conduct in Human Research ", 2018). The UniSQ Ethics Committee approved the commencement of this research project (approval code: H20REA060). Participation information sheets were developed and distributed to the prospective participants prior to their involvement. These provided an outline of the research project in general, details of their involvement in the project, the potential benefits and risk to them in taking part, details of how their information would be stored and used to report findings and the contact details of

the researcher as well as UniSQ Human Research Ethics Committee. Participants provided informed consent to take part in this research project and were made aware of their ability to withdraw this consent at any time, without consequence.

CHAPTER 4: RESULTS AND DISCUSSION

4.1 Introduction

Research as far back as 1998 revealed PFD to be the third most common chronic complaint among women in the US (Wood, 2014). Osborne et al. (2016) determined that pelvic floor dysfunction affects 25% of the female population and that surgery for pelvic organ prolapse and urinary incontinence is necessary for an alarming 11-21% of women in Western countries (Volløyhaug et al., 2015). Volløyhaug et al. (2015) established that "pelvic floor dysfunction includes symptoms of pelvic organ prolapse, urinary incontinence and faecal incontinence" (p964). As cited by Akkus and Pinar (2016), the International Continence Society (ICS) defines urinary incontinence (UI) as the involuntary leakage of urine, the most common types being stress urinary incontinence (SUI), urge urinary incontinence, and mixed urinary incontinence. Recent research from around the world collectively promotes the commonality of urinary incontinence among female populations, with Schreiber Pedersen et al. (2017) asserting that the prevalence rate of urinary incontinence in Germany equates to 48.3% and Denmark to 46.4%, noting that SUI was more frequent among younger women and that urge urinary incontinence and mixed urinary incontinence were higher among women who were in the 80+ years old age bracket. Akkus and Pinar (2016) maintain that 86.7% of women in Turkey are affected by UI to some degree. Within Australia 36.1% of all women aged 45-50 years report the prevalence of leaking urine (Pierce et al., 2015). One in four of women in the U.S. report moderate to severe symptoms of pelvic floor dysfunction. These research findings from the above studies indicate the importance of the consideration of not only the prevalence of these health concerns but the severity of the symptoms suffered by women.

It has been reported that 49% of women attending community gym and fitness classes in Australia have symptoms of UI but it is a rarely screened condition (Simpson et al., 2016;

Thompson et al., 2015). Fitness industry professionals are in the prime position to discuss the subject of PFH with their female clients and could be utilising a screening process designed to make it easier for women to acknowledge and communicate any pelvic floor issues they may have, before they begin an exercise program. Previously noted research confirms PFMT in a group situation is not inferior to training individuals (Dumoulin et al., 2020). It can be suggested that PTs facilitating a group exercise class, where almost half of the women suffer UI, can firstly screen the women, and then educate whole groups of women on PFMT techniques to assist them when exercising. While this research supports these findings, this poses the question as to what extent the screening process is being upheld by fitness professionals if their lack of knowledge and awareness of the importance of the pelvic floor muscles hinders their ability to realise it?

This research explored the ways in which PTs communicate with their female clients regarding pelvic floor health. The research aimed to determine the level of knowledge and understanding of PFH held by both PTs, and female clients new to exercise. Lived experiences of women embarking on a new fitness journey were captured at the beginning and end of a ten week training program, during which they were being coached and supported by PTs and EPs. Two main research questions (RQs) were at the core of the project which set out to explore the core issues impacting effective communication between PTs and their female clients. The first research question formed the basis of the line of questioning specifically for the PTs interviewed in this research project - what level of PFH knowledge do Pts have following initial training and/or their professional experience, and what knowledge and tools are required for PTs to more effectively address and communicate issues surrounding PFH with their female clients? The second research question encapsulated what this research project was interested in exploring of the female clients experience and inquired what knowledge and attitudes do women intending to engage in physical activity with PTs have around PFH and PFD, and what

impact (if any) does engagement in a ten-week exercise program under the close guidance of PTs and EPs have on their attitudes toward communicating PFH issues with them in the future?

Fitness professionals oversee the facilitation of overall health improvement and are therefore in a prime position to discuss and assist in the management of PFH. However, prior research suggests that this sensitive topic is often avoided in conversations between trainers and clients (Taylor & Cahill, 2018). This has also been evident in the professional experiences of the researcher.

Despite broad ramifications of PFD, it is an under-reported area of health care knowledge (Freitas et al., 2019; Tinetti et al., 2018) and although the conditions are often treatable, research shows that women are reluctant to seek assistance for pelvic floor muscle concerns (Bonner & Boyle, 2017; Taylor & Cahill, 2018; Tinetti et al., 2018). Previous research has associated this with certain barriers, such as stigma, embarrassment, shame, and lack of knowledge, that women feel when speaking about this topic (Berzuk & Shay, 2015; Freitas et al., 2019; Taylor & Cahill, 2018; Tinetti et al., 2018; Woodley & Hay-Smith, 2021). In light of this, the decision was made to interview the women before, and then after, their ten-week experience of training with EPs and PTs in order to address some of these barriers to open and honest communication, thereby seeking to encourage a deeper insight into the women's experiences and knowledge of PFH. The barriers to open and effective communication regarding this topic were explored from the perspective of the PTs interviewed, as well as the female clients who have spent ten weeks training with a group of PTs and EPs.

The findings from a series of individual semi-structured interviews with PTs as well as with a group of female clients are presented separately, and then concludes by connecting and discussing the two interrelated data sets. Three PTs were interviewed once, and a group of six female clients were interviewed before, and after, a ten-week training program for breast cancer survivors that was not a formal part of this research project. Section 4.2 encompasses the analysis and discussion of data provided by the PTs.

Presented in this section are the themes elicited via thematic analysis listed as sub-sections: 4.2.1 Lack of knowledge and understanding of PFH; 4.2.2 Stigma surrounding PFH; and 4.2.3 Communication to improve confidence. Following this section, 4.3 examines the analysis and discussion of data collected from the female clients. The themes produced in this section are as follows: 4.3.1 Lack of knowledge; 4.3.2 Awkwardness and embarrassment; and 4.3.3 "Language – perhaps that's the key to it": Improve dialogue between PTs and Female Clients.

Interwoven throughout the presentation of main themes within the two data sets, will be a deeper examination of how the findings from each group of participants relates to the other. Findings will be interpreted and discussed through the lens of existing research and the investigated attitudes and beliefs of the individuals interviewed. Implications and inferences regarding key findings will complete this chapter, along with an inspection of the direction of current research and also suggestions for future research to expand on the present study.

4.2 Personal Trainers

Data from interviews with the PTs were organised into common topics and then analysed to further identify themes. The following section outlines the major themes identified in the data. During their interviews, PTs were asked to describe their knowledge and understanding of PFH and concepts related to this topic. The overwhelming conclusion was that PTs were not well informed about this topic and the first part of this analysis section will explore the 'Lack of Knowledge and Understanding of PFH' as the first and strongest theme to be developed through analysis of data. This line of questioning was followed by a discussion on what might impact the level of confidence PTs have in initiating comfortable conversations with their female clients. The responses generated data which were grouped into two further themes to be explored: stigma surrounding pelvic floor health; and communication to improve

confidence. In the following sections, each of these major themes will examine the key findings from the study and in turn interpretations and implications will be discussed.

Below is a table which depicts the significant information drawn from the interviews with the PTs, including their level of self-reported knowledge of PFH and PFD; whether they have pursued their own specific PFH training or education outside of the Certificate IV in Fitness; their self-reported experience of delivering coaching for pelvic floor exercises to their clients; and the level of confidence they feel they had when delivering coaching for pelvic floor exercises and in having specific conversations with their clients about PFH and PFD.

Trainer	Frankie	Rene	Jesse
Level of self-reported knowledge of PFH and PFD	Low	Low – Moderate	Low
PF training and education	None	Own research (limited)	Own research (limited)
Self-reported experience in coaching PFE	Low	Low	Low
Confidence in delivering PF coaching	Low	Low – Moderate	Low – Moderate
Confidence in having PFH conversations with clients	Low	Low – Moderate	Low

Table 3: Personal trainers self-reported knowledge, understanding and confidence in discussing pelvic floor health with clients.

4.2.1 Lack of Knowledge and Understanding of Pelvic Floor Health

The strongest theme identified from the interviews with the PTs was their 'lack of knowledge' and understanding of pelvic floor health in general. For example, none of the PTs were able to consistently and succinctly identify where the pelvic floor muscles (PFM) are located in the body, or accurately identify how they are used to stabilise the pelvis, support pelvic organs and provide continence control. Only ambiguous and generalised knowledge of pelvic floor muscles, and how they affect overall health, was expressed by each of the PTs. Frankie for example, provided the following vague response when seeking to showcase his understanding related to the location of the pelvic floor: "obviously pelvic floor generally relates to the use or control of certain muscle groups in the abdominal sort of glute area as well, that obviously women generally have issues with around pregnancies and stuff like that". Rene indicated a similar uncertainty, stating "Is it like just the small group of muscles that sits on the floor of the pelvis? It helps with the controlling of urine…that's all I know." Meanwhile, Jesse remarked "they are a group of muscles that brace down the lower part of the abs – that is pretty much the extent of my knowledge." None of the interviewees were able to identify any of the pelvic floor muscles or describe more than one, if at all any, specific function of the pelvic floor.

The abovementioned findings align with recent research into the prevalence of incontinence in women with the recommendation that the education of fitness professionals required to screen women for PFD demands improvement (Berzuk & Shay, 2015; Thompson et al., 2015). The PTs interviewed for this study clearly expressed a lack of knowledge and understanding of PFH, even though each had completed the required training and certification to become personal trainers, and regardless of the length of time they had been working as a PT within the fitness industry. Although it is evident that the scope of a PT, compared to an EP

or physiotherapist, is quite limited, they are expected to have a sound knowledge and understanding of the major muscle groups involved in different exercises. Despite the importance and function of the pelvic floor muscle group to provide stability and control to the pelvis during exercise, compounded by the data noting high prevalence of PFD, PFH and PFD is not a major focus in the Certificate IV qualification to become a PT. We cannot expect PTs to retain an unreasonable amount of information, however it does not seem unreasonable for educational bodies to include information of this muscle group as it has an important yet overlooked role in supporting core strength during exercise, and as this research and past data suggests, there is high prevalence of PFD and PTs have great opportunities to engage in conversations with their clients to support them accessing specialist advice and are are able to assist in doing exercises to improve their PFD – just as they do when they are informed by clients of injuries to other parts of their bodies, e.g. shoulder impingement or knee ligament injuries. PTs are not expected to know how to treat or diagnose a shoulder or knee injury as a physiotherapist does, however, PTs are expected to collaborate with health specialists when it relates to their clients and be guided by them to assist clients through exercises to improve injuries or work around injuries.

During the research interviews, when asked *how* the PTs, with varying levels of experience, have come to their understanding of knowledge of PFH and PFD, they continued to reveal that despite their formal training, they were poorly informed on this topic:

> I've done that sort of thing with some pregnant ladies through the prescription of physios and their obstetricians…and then some research of my own and I know general sort of exercises…but apart from that, no, I don't really know how else they treat it [PFD]. (Frankie)

> To be honest I didn't really know too much about it [PFH] until I went through my experience of childbirth. (Rene)

> Only from previous clients having issues or going through pregnancy themselves and just telling me about it [PF]…I don't know. (Jesse)

When asked how he obtained information regarding PFH and PFD, Frankie, declared "a little bit of research…Google…and I still remember bits and pieces from university." Frankie went on to reveal that his exposure to PFH and PFD concepts within the university education (Bachelor of Exercise Science), was limited to a broader topic of Women's Health which includes pre- and post-natal care. However, according to Frankie, little information had been offered regarding PFH; rather, information delivered through the degree centred around "hormones and stuff, and the periodizing (of training programs) depending on their sport…if they're more physique-based athletes, how they controlled their menstrual cycle around that." Frankie explained the degree placed no emphasis on the prevalence of PFD among the female population and how this may impact their level of comfort and competent in the fitness environment.

Parallel to this, the comments from the PTs interviewed suggest that there is currently little importance placed on PFH in their certification and training process, even from a higher education perspective. Jesse confirmed this sentiment, stating:

> I haven't been giving it importance. I haven't been told by anybody in particular that its super important to be cueing. The importance has been put on not hurting anybody, not on the PFH. And so it's something I haven't really been cueing.

However, it is not only within the fitness industry that the professionals are not placing as much importance on the education and treatment of these health issues as they should be. For example, Rohini et al (2020) concluded that healthcare professionals (HCPs) and some women know that the pelvic floor muscle exercises (PFME) are important, but these were not prioritised and that midwives were not communicating the significant benefits that come from pelvic floor muscle training. Further challenges for these midwives preventing them from

effectively teaching PFME included lack of confidence, lack of perceived guidelines and policy that prioritise PFME, and assumptions held by the women they coached, that PFD is a normal outcome of pregnancy. This research highlights the importance of normalising PFME education, rather than normalising the inevitability of PFD conditions, such as urinary incontinence (UI).

The lack of information and training provided for PT students to successfully coach women through training while adequately accounting for their PFH highlights a major oversight on behalf of the educating bodies within Australia. This oversight is perhaps caused by a reluctance to accept the prevalence, and therefore the importance, of PFH and PFD among the female population. Research into this field revolves mainly around the belief that education and recognised importance of the dissemination of information about PFH should remain within the medical field where doctors, physiotherapists and nurses who are more qualified should shoulder the responsibility of lifting the awareness of the general population (Geissbuehler et al., 2021; Terry et al., 2020; Tinetti et al., 2018). However, despite the research encouraging more training and education for health and fitness industry professionals, Frawley, Neumann, and Delany (2019) conclude:

> The assessment and management of PF complex is not addressed as a core component of most entry-to-practice physiotherapy programs despite being within the scope of physiotherapy practice which is in contrast with the knowledge and skills that physiotherapists graduate with in core areas of clinical practice.

Statements such as this, indicate that if there is a need for further education in the field of physiotherapy, this need would also be required to filter down to the fitness industry when educating PTs. Some studies have highlighted the need for non-clinical instructors and fitness professionals to be educated regarding the high prevalence of PFD, have a good understanding of the relevant physiology and be provided with high quality training to ensure PFME can be

correctly taught (Dao & Dunivan, 2022; Sayner et al., 2022; Stephen et al., 2019; Thompson et al., 2015; Woodley & Hay-Smith, 2021).

While it is recognised that the results of this study cannot be generalised to all PTs, it should be noted that the three PTs who were interviewed for this study gained education Certificate III and IV qualifications in fitness, as well as one attaining a university degree in sport and exercise science, and did so at differing times in the last 10-15 years when the subject of PFD, and how and when to proactively treat it, was largely overlooked. Considering this span of time, the above findings indicate that the PTs have not had any continuing professional development or post-accreditation training to increase their knowledge of PFH nor the means to guide women to maintain a healthy PF. Despite further education opportunities being available, insight on behalf of PTs to engage in this training may not be prevalent. Research shows that for the general population, education workshops concerning PFH and PFD can successfully increase knowledge and awareness on the topic which then improves or resolves PFD symptoms. However, it was noted that knowledge retention decreased after three months which indicates a need for frequent re-education (Berzuk & Shay, 2015). This supports the idea of the need for ongoing education for health and fitness professionals as previously explained (Taylor & Cahill, 2018).

Knowledge regarding this major muscular system and how it affects a person's core strength and ability to participate safely in exercises prescribed by PTs appears limited. Without a thorough knowledge of PFH and awareness of potential PFD, fitness professionals, at best, may be doing a disservice to their clients and, at worst, are risking the safety of their clients during exercise guidance. Stephen et al. (2019) suggest that high quality training for non-clinical instructors (which would include PTs) requires a sound knowledge and understanding of the relevant physiology. Potential injuries can occur if trainers are not able to address functional strength issues that stem from a lack of understanding of pelvic floor function during exercise. As previously highlighted, current research supports these findings

and addresses the knowledge gap, highlighting the need to raise awareness of normal PF function through high quality formal education for health professionals and awareness campaigns for general populations (Berzuk & Shay, 2015; Stephen et al., 2019; Taylor & Cahill, 2018; Thompson et al., 2015; Tinetti et al., 2018). Data from the present study emphasises the importance of not overlooking the non-clinical health and fitness professionals who have the ability to connect with women on a regular basis, as an influential part of the dissemination of information.

On the topic of including pelvic floor health in the formal curriculum for future PTs (university and TAFE qualifications) Stephen et al. (2019, p. 48) suggest:

> If community based pelvic floor muscle exercise (PFME) training is to be made more widespread, non-clinical instructors require high quality training in order to ensure they teach correctly…. Training for non-clinical instructors should incorporate a behaviour change component, as well as a good understanding of the relevant physiology.

Drawing on Stephen et al. (2019) research, data from this study suggest that the provision of an understanding of relevant physiology is also currently lacking in the education provided during the qualification process for fitness professionals in Australia. If more education is prioritised and provided to the health professionals in the field of health and fitness, then not only the medical field, but the female population would benefit from this application and expansion of knowledge, thereby prompting more frequent comfortable and candid conversations (Salmon et al., 2017; Sherburn, 2021; Terry et al., 2020; Woodley & Hay-Smith, 2021).

Considering that PTs are fitness professionals who have a duty of care to ensure their clients exercise correctly and safely, a thorough knowledge of the major muscles involved in common functional movements would be an essential requirement. PFH is included under this banner of major muscles. It is not common knowledge that the PFM are an important part of core control. Therefore, further information and training in this area should become a focused

learning point for PTs within the Certificate III and IV in Fitness. Either of these qualifications allow trainers to coach groups of individuals. There is an opportunity for PTs to improve knowledge and understanding of PFH to raise awareness for their female clients of the importance of exercising safely with PFD. The psychological aspect of clients training, maintaining healthy lifestyles to support their training and addressing mental disorders through physical exercise are also important parts of why and how people train and become successful when achieving their health and fitness goals. This is an area where future research will potentially establish how exercise can positively influence mental health and the importance of PTs having been informed to initiate conversations about their client's mental health status. As it is an important aspect of the health and fitness space, further research is required to determine how much more education could be provided regarding raising awareness of the types of psychological barriers and motivators that affect a client's success in their health and fitness journeys. This research project focused on just one aspect of opening conversations and raising awareness of an important part of a clients' health and fitness while training with a PT. However, it is imperative for future research to consider the mental health/psychological barriers and motivators to achieving health and fitness goals which can also inform recommendations to improve the education of PTs.

As detailed in the Qualification Details section of training.gov.au one of the Core Units of Competency within the Certificate III is 'SISFFIT047 Use Anatomy and Physiology Knowledge to Support Safe and Effective Exercise' it would be expected that PFH would be covered in this section as it is part of the anatomy and physiology of the human body.

A foundational skill is identified as having the oral communication skills to explain information that includes anatomical and physiological references using terms that participants can understand. Moreover, within the Certificate IV of Fitness, there are no Units of Competency that specifically address women's health that might include training and education

for PTs to address this with their clients. There are special populations addressed in the training which include the elderly, youth clients, diverse people, and clients with disabilities.

As the examples above show, the three PTs in this study have not been exposed to relevant information allowing the formation of a theoretically or practically informed understanding regarding what PFH means for themselves, and the female clients they serve. This hinders their ability to raise awareness about the prevalence of PFD when speaking to their clients, and to encourage proactive prevention of PFD. The evident gap in theoretical and practical knowledge of these PTs regarding PFH and PFD is concerning. The findings from this research highlight a lack in education not only provided in Certificates III and IV in Fitness, but in Women's Health studies as a component of university degrees (apart from physiotherapy degrees which has a focus on the treating of PFD in men and women). The previous research and current data underscore the importance of further education/training of PFH and PFD for PTs who already hold a Certificate III or IV in Fitness, and also for those future PTs who are yet to attain this accreditation. Thompson et al. (2015) supports the notion of lifting education standards to align with the prevalence of PFD in society, noting that fitness professionals require further education concerning the high prevalence of urinary incontinence (UI) in women attending community fitness classes. This highlights the importance that PTs understand how the stress of exercise impacts the pelvic floor muscles for women who attend their training sessions.

Initially, the PTs were questioned specifically about their current knowledge and understanding of PFH and PFD, and unsurprisingly there was found to be a clear gap. As it is not part of their learning within the Certificate III and IV in Fitness, most PTs could be expected to have limited knowledge of PFH and PFD. The PTs were questioned on this initially because it is quite possible for PTs to broaden their own knowledge of certain aspects of physical health and fitness throughout their careers. This line of questioning was to establish if any of the PTs interviewed had achieved any further education or training in the broad area of womens health,

which may improve their knowledge of PFH and PFD. Further into the interviews with the PTs, the questioning revisited this issue with an interest in linking this to how they might begin to discuss PFH with their female clients, given that their knowledge and understanding was limited. They were unable to show how they interact specifically with their female clients who might be at risk of having higher chances of PFD. When asked about the conversations they have with their female clients regarding PFH, they indicated that they did not often speak to women about it. They expressed that due to their lack of knowledge and understanding of PFH and PFD, they were not confident in speaking to their female clients regularly about these topics. It is important to note that this subject area was not accorded any substance in their initial training to become PTs and therefore, they deemed PFH issues not important topics of conversation when training their clients. They were not aware of the prevalence of PFH concerns for women or that PFD is a treatable condition and should not just be accepted as a normal part of what women experience after childbirth or as they age.

Highlighting the gaps between the initial training and their ability to confidently address this important aspect of female health, the responses from the PTs were insightful:

> I haven't been giving PFH any level of importance…If I understand something myself, I can help coach somebody and talk to them about it…if I don't have any PF knowledge then I can't talk to them about it…even in Certificate III and IV (in Fitness) there is very little information in there and it wasn't deemed important. (Jesse)

> I had to do my own research…having more in-depth training on it would help to know how to cue and bring it up in conversation without making myself or them feel uncomfortable. (Frankie)

> Only a little bit of information from university around how you can help people during pregnancy maintain PF, but recommend referring (Rene)

These comments clearly indicate that the PTs lack knowledge regarding this subject, a lack that stems from the little information acquired during their formal training to become qualified, and limited access to high quality PFH and PFD information outside of the Certificate III and IV. It also points to how this lack of knowledge can affect the way the PTs engage, or not engage, in conversations with their female clients. PTs have a significant opportunity to provide initial 'diagnosis' in the form of noting potential indicators of PFD then referring them to women's health specialists, through having conversations with women and supporting them to access the specialist advice then assist in practicing given exercises to improve PFD. Further investigation into how these factors can affect the relationship between PTs and their clients will be discussed in more depth when the data from the female clients are analysed. It could be argued that this could be where the well-researched communication barriers begin and where it may be possible for PFH education to reach the female population more effectively. A question in favour of future research is whether delivering more in-depth and specific PFH training to future and current PTs to improve their knowledge and understanding, would benefit them in their ability to ask questions of their female clients about PFH and PFD and whether this would facilitate more open conversations between trainers and clients?

For trainers to bridge the knowledge gap in PFH and PFD, they currently would have to complete further study at their own expense, having completed their full Certificate III or IV in Fitness. Supported by evidence from current research, this work-based study suggests that this topic becomes a mandatory component of the Certificate III and IV in Fitness, rather than an optional course. PTs in Australia are encouraged to acquire professional registration with Fitness Australia, which is one of the governing bodies of the fitness industry, despite this industry being largely self-regulated. Fitness Australia is responsible for setting industry standards of practice as they relate to consumer protection. Within the current Certificate III and IV in Fitness, as there is currently no requirement for in-depth education/training around PFH and PFD, providers of these courses do not include it in the syllabus. Perhaps as an option

this further training could be a component of professional development via reaccreditation with Fitness Australia.

However, the governing bodies of the fitness industry have the power to include in-depth training in the field of PFH for the accreditation of the certificates, making it mandatory that providers do include it in their accreditation courses. As it currently stands, this topic and area of study is not regarded as a high priority. It is these governing bodies that would need to determine the level of knowledge required to ensure fitness professionals safely and correctly disseminate information on PFH. Lifting awareness within the fitness professional community benefits not only that sector but the general population that is investing time and money with fitness professionals, critically safeguading their health and interest as they utilise fitness services.

4.2.2 Stigma Surrounding Pelvic Floor Health

Effective, accurate and confident communication between PTs and their female clients around PFH and PFD is impacted not only by their lack of knowledge and understanding of these phenomena, but also by the stigma attached to these sensitive bodily topics. As such communication pertaining to PFH and PFD may seem awkward and/or embarrassing to explore. Taylor and Cahill (2018) explain that incontinence carries a significant stigma. Their research illuminates the considerable effects of the stigma of PFD for women. PFD, such as UI, has a negative impact on many parts of women's lives including their ability to work, travel and play sport and indeed on social interactions and participation in community life as well as sexual relationships and satisfaction. These physical disabilities can significantly affect their QoL and mental health, a topic to be dissected in further detail in section, 4.3.2 Awkwardness and Embarrassment, where data from the female clients and further research into the effects of stigma is explored. Most of the research around the stigma of PFD focuses on the way women feel stigmatized, rather than on the health professionals who are responsible for providing

knowledge and increasing public awareness on the topic of PFH. However, stigma was identified as a salient theme from the interview data when each PT was asked if they felt confident talking to their female clients about pelvic floor health. On this topic, Rene shared "I won't say anything if they haven't ticked the form [regarding pelvic floor issues]…I'm probably more 'not confident' I guess." Even if PTs felt comfortable talking to their clients about PFH or PFD, their lack of perception of how awkward or embarrassed their clients might feel about the topic was of major concern. This lack of insight is supported by research suggesting that the majority of women who are affected by incontinence choose to suffer with their symptoms in silence despite the threat to their physical and mental health (Fritel et al., 2014; Tinetti et al., 2018; Wang et al., 2014). Further to this, it was evident that the reciprocal cycle of stigma affected the way PTs interact with their female clients and how confident they feel bringing the subject into conversation. In light of this, Frankie expressed this reciprocity sharing his thoughts:

> It can be an awkward thing…especially PFD…because it can affect everyday life…I find it awkward; I guess the only thing though is I don't know what way to make it comfortable bringing it up when I'm talking to them (female clients). I don't want to make them feel uncomfortable.

These comments imparted by Rene and Frankie suggest that certain assumptions can be made of the stigma surrounding PFH and PFD: the trainers perceive women as uncomfortable talking about PFH and PFD, so they avoid the topic to make their clients feel more comfortable; this in turn makes the trainers feel less confident. The two male PTs also expressed that just because they are male, women assume they do not know anything about PFH and this may lead to women feeling less comfortable broaching the subject with male trainers compared to female trainers. Jesse explained, "I suppose it's a bit of a hard thing to talk to a guy about. Because guys just aren't going to understand. Not to the extent that women will." It is feasible that this

negative cycle of assumption and stigma could be broken by the application of a more casual approach to conversing about PFH.

Experiences shared by Rene indicate that women become more open to candid conversations regarding their PFH when trainers (even males) approach the topic casually and non-invasively, “I found [through] the casual approach most people are pretty open and don’t hide anything…I’m not confronting. Sometimes I just slip it into conversation. They generally open up about it.” Despite the data uncovering these uncertainties PTs may experience when broaching the subject of PFD or PFH with their female clients, much of the research regarding the stigmatization of the topics come from the perspective of the females themselves and not the fitness professionals initiating the conversations. This study reinforces the notion that while stigma is a barrier to open communication between PTs and female clients it is not only held from one side. While research shows the many ways in which women feel the stigmatization of the topic of PFD and how this can negatively affect their communication around it, the data from this study indicates that stigma could be a potentially strong barrier to communication from the perspective of the PTs.

Parallel to this, the PTs interviewed indicated a belief that these conversations should be initiated more frequently by the fitness professionals overseeing the overall health regimes of their female clients:

> Having more in-depth training on it…like knowing cues and just knowing how to bring it up in conversation without making myself or making them feel uncomfortable and then talking about it. (Rene)

> I’ve got to keep cuing people regardless of who they are. It should just be another thing that becomes second nature. It just hasn’t been a focus. (Jesse)

Taken from the conversations with the three PTs, there are strong links between the awkward and stigmatised feelings when talking about PFH and PFD with clients, and an expressed desire

to connect on a deeper level to circumnavigate those negative feelings. It could be reasoned that the antidote to the awkward interactions between trainers and clients around PFH and PFD, is training with an emphasis on this topic built into the Certificate IV in Fitness, and also keeping the communication with clients as casual, as when discussing other parts of the body. And if so, it can be emphasised that PTs would require a broader knowledge base to enhance their confidence to connect and communicate with their clients. Taylor and Cahill (2018, p. 264) encapsulate a fuller sentiment stating, "the stigma of incontinence needs to be replaced with facts, compassion, understanding, and proactive care management to improve the QoL of those living with incontinence, their family and friends, and those who care for them". However, stigmatisation goes beyond just PTs and is a wider social issue. Therefore, deeper research is required into the impacts of communication barriers from the perspective of fitness professionals, especially PTs, initiating conversations with their female clients.

4.2.3 Communication to Improve Confidence

It has been widely researched that there is a need to increase the awareness around the prevalence and prevention of PFD within society (Berzuk & Shay, 2015; Freitas et al., 2019; Taylor & Cahill, 2018; Tinetti et al., 2018), and data from this research indicate that PTs are in a prime position to have conversations with their clients and could be an important link in communication with referring practitioners. The interview data also strongly suggest that PTs require further education on PFH and the potential impact PFD has on women be included in their certification training. This will go towards ensuring these conversations are informed dialogues, both theoretically and practically. Along with limited knowledge and education of PFH and PFD, the stigma associated with PFH has been shown to potentially impair the confidence of PTs to broach the subject with their clients. To improve their confidence when speaking to women about PFH, each trainer expressed the need to be proactive and open lines of dialogue on the topic. Frankie shared "Probably more conversation needed…more feedback and putting it into the sessions if I'm training with them one on one." In fewer words Rene

responded “Not often [talk to women about PF]…we probably need a lot more [conversation].” Jesse was more specific in expressing the need to be proactive when opening lines of dialogue to make conversations more casual, relaxing and natural, “I feel if I was to engage with them first [in conversation] they would probably be fine [talking about PFD].”

To allow them to break the negative cycle of avoidance that is currently inducing awkward and uncomfortable feelings when exploring this topic with their clients, PTs would benefit from further instruction on how to raise and introduce the topic of PFH and PFD to be able to ease any tensions of communications felt between themselves and their clients around the stigma so closely attached to these sensitive bodily topics. This is in line with earlier research from Terry et al. (2020) who conclude that to address the lack of confidence in midwives to teach PFME, specific and further training can address the challenges and concerns for women to learn about PFME. PFD has been included under the banner of chronic diseases for the aging population according to Geissbuehler et al. (2021), who note that new concepts in managing treatment for differing chronic diseases such as interprofessional collaborations, have been implemented in different settings. This call for interprofessional collaboration is echoed in the research by Tinetti et al. (2018) who stress the importance of educating the global community on PFD through awareness raising campaigns to the public and increasing PFH education for all health professionals. But equally important is the collaboration of GPs with women’s health physiotherapists and continence nurses to encourage early help-seeking behaviour to potentially minimise dysfunctions and long-term implications. These conclusions illuminate the need for not only GPs, but all health professionals working with women to advance education in PFH and ensure screening processes are in place for early assessment of PFD symptoms.

Alongside this research advocating the need for PTs to be more informed about PFD there is a strong recommendation for PFMT to be the first-line treatment for women with PFH issues and as a preventative for further PFD (de Andrade et al., 2018; Dumoulin et al., 2020;

Romero-Franco et al., 2021; Salmon et al., 2017; Sherburn, 2021; Szumilewicz et al., 2018; Woodley & Hay-Smith, 2021). Most of this current research however looks at the PFMT provided by trained maternity care providers and physiotherapists targeting pregnant women and women who have more complicated PFD conditions. While this is an important part of the PFH conversation and the management of symptoms for women already experiencing PFD, the data from this research project asserts the notion that there is potential for PTs within the fitness industry to be part of the system which could provide women with more knowledge and understanding of their PFH and how best to prevent or treat PFD in its earliest phases. Thompson et al. (2015) support this notion that fitness professionals would benefit from further education on the high prevalence of SUI in women attending their fitness classes, and to be informed of a screening process for women where if they are identified as incontinent, they have PF 'friendly' options available to them that can be taught during their training. Sherburn (2021) showed that while there are inadequate resources for the healthcare system to support the need of patients for individual PFMT, group training has healthcare cost benefits and has been shown to enhance individual patient's self-efficacy and self-management of their PFH conditions. Dumoulin et al. (2020) also support group-based PFMT as first-line treatment for UI and SUI, noting the limits of financial resources when delivering this training on an individual basis. Although PFMT has been promoted by current researchers, it does require a deep knowledge base which maternity care practitioners hold, as well as the confidence to screen women appropriately and assess whether PFMT is an option or where referral to specific health care professionals is necessary (Sherburn, 2021). Should governing health bodies choose not to include in-depth PFH and PFD education within the Certificate III and IV in Fitness, it would be advantageous to facilitate the alignment of relevant health professionals who specialise in treating PFD with PTs as a referral system for clients who potentially require assessment and treatment. These relationships between PTs and health professionals would provide more wholistic care for clients.

Further to this, research also shows that activation exercises for PFM can be easily incorporated into community-based training programs designed with a PFM focus, although the non-clinical instructors teaching them will require high quality training to ensure correct coaching of these exercises (Stephen et al., 2019). This will be an avenue where group-based PFMT can reach a wider audience through the channels of general fitness in personal training settings or group fitness sessions within the gym environment. Currently, this is not part of the education PTs receive in their certification so further research is required in this space to ascertain how to best approach the lack of knowledge and confidence PTs have when discussing PFH with their clients. An equally important focus for future research is how instruction on the implementation of screening processes that determine how PFD affects each client, what can be done to prevent further dysfunction and assist in recovery of dysfunction, can be incorporated into the training for PTs. As suggested previously, the alignment of PTs with health professionals who specialise in PFH and PFD would also inform the creation of screening processes and enhance PTs knowledge of when best to refer their clients.

4.3 Female Clients

As part of this work-based study, six women were also interviewed before and after a 10-week training program for breast cancer survivors. During the initial interview, they answered questions regarding their knowledge and understanding of PFH in general and PFD and were invited to share their personal experience (past or current) with pelvic floor issues and how this may have affected them mentally, physically and/or emotionally. This line of discussion was revisited in a follow-up interview once they had completed the ten-week training block however, in this interview, the emphasis was placed on the ways in which, if any, the training program or perhaps the amount of time they had spent with the coaching staff, had on their knowledge and understanding of PFH.

Through the semi-structured interview process with each of the six women selected for this research project, the data produced was grouped into common themes that were identified

in the data analysis stage. It became clear from the interview questions and the subsequent responses regarding the women's knowledge and understanding of topics and issue within the PFH space based on personal experiences, that lack of knowledge of PFH and the feelings of awkwardness and embarrassment were strong and obvious themes. The most common theme when the women spoke candidly about their past experiences, and their experience of participating in the training program as a group with consistent access to the same trainers, was communication. This is a major theme throughout the whole research project. The women's viewpoint regarding communication was slightly different to that of the trainers who held a different perspective because of their differing roles within this research project. The following sections of Chapter 4 will unpack the themes from the data. Section 4.3.1 Lack of Knowledge; 4.3.2 Awkwardness and Embarrassment; and 4.3.2 "*Language – perhaps that's the secret to it"*: Improve Dialogue Between PTs and Female Clients, as those which were identified through the data analysis process.

Below is a table which captures the important knowledge and history information initially held by each of the women who were interviewed and participated in the training. It is a snapshot of ladies' standing before they began the training program, and the information was gathered from the first interview with each of them to determine their previous training experience and what their knowledge and experience was of PFD and how this affected them.

Female Participant (pseudonym)	Nadia	Tash	Yolanda	Audrey	Rhonda	Evelyn
Training Experience	Yoga	None	None	None	None	Some in the past
Self-reported	Low – Moderate	Low – Moderate	Low	Low – Moderate	Low	Low

Knowledge of PFH and PFD						
History of PFD	Y	Y	Y	Y	N	Y
Severity of PFD	High	High	High	High	N/A	Moderate
Effects of PFD	Negative	Negative	Negative	Negative	N/A	Negative

Table 4: Women's self-reported knowledge of pelvic floor health and pelvic floor dysfunction and history of pelvic floor dysfunction

4.3.1 Limited Knowledge of Pelvic Floor Health

Research suggests that one of the largest barriers for women seeking care for PFD is their insufficient knowledge about the topic (Freitas et al., 2019; Neels et al., 2016; Tinetti et al., 2018). Many sources note that on a global scale, low levels of PF knowledge are associated with a high prevalence of PFD, which leads to positive associations to depression, psychological distress, low self-esteem and low satisfaction with life (Berzuk & Shay, 2015; Freitas et al., 2019; Taylor & Cahill, 2018; Tinetti et al., 2018; Woodley & Hay-Smith, 2021). Freitas et al. (2019) note that studies have shown women have limited knowledge of the anatomy of the PF, the function of the PFM, PFD and how PFMT can enhance PFH. This lack of knowledge impairs women's ability to search for appropriate health care, reducing their chances of receiving treatment for the PFD that affects their QoL. Women, generally, are also unaware of PFD treatment options, creating a barrier to seeking help (Freitas et al., 2019; Tinetti et al., 2018). Current research parallels with the data from this research project as some of the women were able to express general knowledge of the PF muscles:

> The PF is the area in your lower abdomen, and it controls your bladder and a bit of the bowel but I'm not sure about that. (Nadia)

> The PF keeps everything intact when it comes to the bladder and the bowels and mid torso. The core. (Evelyn)

However, as more data emerged, it was evident that most of the women interviewed lacked anything more than a basic knowledge of the function of the PF muscles. They described how their lack of PFH knowledge has affected them:

> Fourth pregnancy at 39, I had an episiotomy and the nurse said I would have to exercise my PFM. That was the first time I was even aware of it. Then I ended up with a prolapse. I didn't know what I was doing [with PFM exercises] so I went to a physio. (Audrey)

> In the past it [PFH] wasn't really explained. (Rhonda)

> I had no knowledge about PFH. I ended up with a triple prolapse. (Tash)

> Nursing [is how I came to understand PFH concepts] but not much [knowledge of PF] at all…unless you were doing maternity you wouldn't have any need to really know [about PFH]…I don't know if my prolapse is due to the PF – that worries me a bit. (Yolanda)

There was, however, no clear indication that lack of knowledge was one of the reasons these women did not seek help. They identified different reasons for their failure to bring up any issues or concerns they had about their pelvic floor with PTs. Yolanda, Evelyn and Rhonda each referred to their experience being that people don't talk openly about issues relating to their PFH or PFD, adding that they consider that this is due to fear that they are the only one experiencing issues, or that in a fitness environment, PTs would not consider it important. Prior research has similarly shown that women are often reluctant to seek care for PFH concerns

(Bonner & Boyle, 2017; Taylor & Cahill, 2018; Tinetti et al., 2018) due to societal stigma attached to the condition, limited knowledge of PFD and not having tools to address these disorders (Berzuk & Shay, 2015), including the perception that treatment may require surgery, and common misconceptions that urinary incontinence is normal and something aging and post-natal women should simply endure (Róin et al., 2015; Tinetti et al., 2018; Wu et al., 2015). These personal experiences shared by the participants of this study allude to the fact that women may be avoidant of the discussion of PFH due to various levels of unfamiliarity with the subject of PFH. This shared experience of silencing and avoiding communication about PFH and PFD creates a significant barrier for women to become more aware and knowledgeable about their bodies. The resulting limitations on their knowledge and awareness can mean they are less open to conversing about the phenomenon, and once again the journey of normalising this stigmatised health matter faces resistance.

It was an important aspect of this research project to compare the responses from the women at the beginning of their ten-week training program to those they gave after they had completed the program to determine whether these knowledge limitations improved from interactions with the PTs. When asked about how their knowledge and understanding of PFH and PFD may have changed, most of the women expressed that their awareness of their own pelvic floor muscles had improved. For example, Tash explained she had "…become more aware of it (PF) and strengthening it", and the testimonies' of Yolanda and Rhonda echo this response explaining they were conscious and aware of the pelvic floor muscles since having completed the training program. This is a key part of the research study because it demonstrates that despite the fact that the ten-week training program did not involve any specific PFMT for the women and was not designed to do so, naturally there was some coaching around the PF as a muscle group to be conscious of during the training sessions. This small amount of conversation presented to be enough to change the perspective of some of the women when asked of their knowledge and understanding of PFH and PFD. Rhonda, Nadia, Tash and

Yolanda all expressed how they were more aware of their PF since participating in the ten-week training program because of the small amounts of conversation that were had about it. Positive effects such as strengthening PFM, improved attitude and awareness of PF and improving confidence to bring up the topic of PFH and PFD with trainers were also expressed by some of the women in the second round of interviews. It must be noted that the coaching staff were not aware of this research study or that the women training under their guidance would be interviewed about their experiences of spending time training with the coaches. This was to ensure it would be a true reflection of natural conversations occurring within this relationship.

As alluded to in the previous section relating to the personal trainers in this study (see 4.2.1 Lack of Understanding and Knowledge of Pelvic Floor Health), it is important to recognise the sentiments expressed by female clients in this research as well as in previous research suggesting concentrated efforts are required to:

> …diffuse existing knowledge to close the knowledge gaps, both at the clinical language level for clinical nurses and family physicians, as the gatekeepers to specialist care, and in simplified layperson's language for the healthcare worker, family carer, and person living with incontinence. (Taylor & Cahill, 2018, p. 216)

This is not a one-sided approach to closing knowledge gaps as a way to enhance understanding and communication of PFH and PFD between women and health professionals, but it requires a continual and concerted effort on all parts to address these issues (Berzuk & Shay, 2015; Freitas et al., 2019; Stephen et al., 2019; Taylor & Cahill, 2018; Terry et al., 2020; Thompson et al., 2015; Tinetti et al., 2018).

The negative effects of PFD have been expounded in depth and there is strong research showing that increasing public knowledge and awareness of PFH and PFD will significantly improve the QoL women experience as a direct response to the decrease in PFD symptoms that can be achieved with PFMT (Berzuk & Shay, 2015; Dumoulin et al., 2020; Salmon et al., 2017;

Sherburn, 2021; Szumilewicz et al., 2018). Considering this gap in knowledge and the clear correlation between improving public knowledge and reducing negative effects of PFD, the research supported by the results of this study continue to point to one of the ways in which to improve the public perception of PFD and PFH, and that is through educating the health care professionals (HCPs). This should include the PTs who potentially have far more regular and consistent contact with the public than more qualified HCPs.

4.3.2 Awkwardness and Embarrassment

When discussing their knowledge of PFH and experiences with PFD, another salient theme identified from the data revolved around negative feelings and experiences associated with PFD. From the women's personal experiences with PFD, feelings of fear, frustration, disappointment, embarrassment, judgement, and guilt (Nadia, Tash, Yolanda, Audrey and Evelyn) were expressed. These negative thoughts and emotions can be more broadly summarised as embarrassment and feelings of awkwardness when talking about PFD. With one exception, all the women when interviewed prior to completing the training program told of having experienced feelings of embarrassment at some point in their lives, either when relating to others or silently judging themselves harshly about their PFD. These findings highlight how social embarrassment may act as a barrier and even a deterrent against women feeling comfortable about having open and honest conversations about their PFH. Prior research suggests that there is a need to understand more about how these psychological barriers potentially impact the decisions of older women to exercise (Arnautovska, 2017). It should also be noted that in the past, research into the stigma surrounding PFH and PFD contends that the level of shame and embarrassment associated with urinary incontinence is higher than that associated with depression and cancer (Wang et al., 2014). Consequently, as the women interviewed have had each undergone breast cancer treatment prior to this research project, their levels of shame and embarrassment could be deemed to be exponentially higher

as they deal with the effects of breast cancer treatment and potential PFH concerns, as well as the impending training load expected of them to achieve for the ten-week training block.

The negative impacts of PFD on women, in general, such as anxiety, self-imposed isolation, reduction in QoL and psychological distress has been researched in-depth (Freitas et al., 2019; Geissbuehler et al., 2021; Taylor & Cahill, 2018; Tinetti et al., 2018; Vrijens et al., 2017; Wu et al., 2015). Through this work-based research project it has been established that the women felt the negative impacts and stigma associated with PFD:

> After childbirth I did PF exercises regularly and it did help but I still couldn't jump on the trampoline…I would say no to a lot of things because of it (PFD). The worst bit was it stopped me from exercising. I've always tried to keep fit and healthy, but it was too debilitating. (Evelyn)

> I used to get frustrated that I couldn't exercise and in hindsight I can see that it affected me. (Tash)

> I was unable to work after because I had issues. (Nadia)

These experiences, deeply rooted in stigma, along with a self-proclaimed lack of knowledge of PFH and PFD, had been part of the reason they felt silenced and too embarrassed to engage in conversations in the past and initially during the training program with their trainers (see above section 4.3.1 Limited Knowledge of Pelvic Floor Health). However, once the women had spent time during their training sessions becoming familiar with the exercises and the trainers, their experiences changed.

Negative feelings, such as embarrassment and awkwardness, associated with PFD were echoed by all of the women interviewed initially:

Mentally and emotionally my thoughts were 'I don't want to do that because what if I have leakage?' and it was frustrating…I am disappointed with myself both for not doing my exercises and for where I am at. (Evelyn)

I find it embarrassing to talk about. (Audrey)

It's not something people feel comfortable talking about. (Rhonda)

My prolapse affects me emotionally and it makes me feel as if I'm not fully whole. (Yolanda)

I feel like people were judging me because I felt a bit lazy for not being able to do normal things. (Tash)

I would very much like to avoid talking about my prolapse. Its very embarrassing. (Nadia)

These feelings expressed by the women have significant impact on them and the data point to these negative emotions and lived experiences as strong barriers to talking about PFH concerns. The women continued to describe the ways in which they maintained their silence on the topic or withheld information that would lead to conversations opening up this topic.

No, I didn't ever talk to anyone about it because I was young and way back then I guess it's probably not something that was considered important…I wouldn't let the trainers now know I was feeling something [PF weakness]. (Evelyn)

It's such a private kind of experience. I don't know if I could talk to the lads. I'd be more comfortable with the women trainers. (Audrey)

> You just don't talk about it – probably in the fear that you're the only one. (Rhonda)

> You don't actually talk about it…I feel confident to talk to female trainers, but not male [trainers]. (Yolanda)

Research has shown that the major reasons for this reluctance to speak out about PFH concerns are closely linked to the stigma and shame attached to the topic (Fritel et al., 2014; Sherburn, 2021; Woodley & Hay-Smith, 2021). There is little research around the communication practices between HCPs and their clients, and the data from this research project points to women feeling more comfortable speaking with female trainers than with male trainers Therefore, future research could explore whether women's confidence and willingness to seek support for PFD is influenced by whether they are communicating with male or female HCPs. A further outcome of this research is the recognition of the need for better awareness raising to be provided to women through education campaigns and to the HCPs that are responsible for helping women improve their PFD (Berzuk & Shay, 2015; de Andrade et al., 2018; Taylor & Cahill, 2018; Terry et al., 2020; Tinetti et al., 2018). The indications are that the positive associations to QoL are significantly improved by providing education to women and normalising the need for women to engage in PFMT to improve their overall PFH, reduce the risk of PFD or worsening PFD symptoms over time.

Through the course of participating in their ten-week training block and working closely with the PTs and EPs who guided them throughout, the women developed a different perspective on how their thoughts and feelings around communicating about their PFH. Rhonda, Tash and Yolanda all specifically expressed that they felt the training experience had "normalised" the once stigmatised topic and had increased their awareness of their own PFH and that they considered this would be of benefit for others. Most of the women explained that

their confidence in speaking to the trainers about their PFH had increased during the training program and while building rapport with the trainers:

> No worries speaking to PTs now that I've done the training program. Didn't feel embarrassed, especially with the male trainers. (Yolanda)

> I've got more confidence talking to the trainers. (Audrey)

> We're more comfortable and confident to talk about it as a group now that we know each other more and we've built rapport with the trainers. (Rhonda)

> If we had more reminders and talk about it through the sessions, I would feel more confident talking. (Tash)

> I feel more confident bringing it up and I'm not as reticent about talking about it. (Evelyn)

Expressing these sentiments of improved confidence in talking to trainers about their PFH shows that it is an achievable task to enhance the lines of communication between women and their PTs through building relationship and rapport. This means where it was once embarrassing and awkward for women to discuss the topic with their trainers by opening lines of communication and spending time building affinity with the PTs and EPs, the topic had become normalised and this in turn improved the confidence of the women to speak openly. It is important to note that the data obtained from the women prior to beginning their training program reflected a lack of confidence speaking to PTs, an attitude that transformed through their training experience. As indicated in the data obtained from the interviews conducted after the training program, they felt communication was easier, even with male trainers because of the way the trainers naturally initiated conversations throughout the ten weeks. From the conceptual framework in 2.2 it is clear that this study has mirrored the ideas drawn from the

current research, where barriers may still exist between women and trainers, the way around those is by opening up the lines of communication.

4.3.3 "Language – perhaps that's the secret to it": Improve Dialogue Between Personal Trainers and Female Clients

Research points to PFD acting as a barrier to effective communication between the women who suffer from it, and the health care professionals who could assist in improving their lived dysfunction (Bonner & Boyle, 2017; Fritel et al., 2014; Pierce et al., 2015; Taylor & Cahill, 2018; Tinetti et al., 2018), so it was important to ask the ladies questions about their confidence in speaking with trainers about their own pelvic floor health, and their willingness to disclose important information to the trainers. From these discussions, the ladies were asked to consider what things might support them in building this confidence.

The experience of the women interviewed in this study suggests that although there is a significant lack of knowledge on their behalf regarding PFH, however, through building relationships over time with the PTs and EPs who were overseeing their training, they were able to feel more comfortable and confident to talk about their PFH. The stigma of shame and embarrassment was felt and expressed by the women interviewed, as explored in section 4.3.2 Awkwardness and Embarrassment. Further to this, it was established that their confidence to speak about their PFH with trainers improved when they began to build relationship with the trainers over time. What also contributed to the success of these relationships, and therefore the level of trust and comfort the women grew to feel over a short time, was the environment provided by the fitness facility. The space was not part of the main gym but rather a smaller and more intimate space in a separate building which allowed this group of women to establish close connections as they trained together over the ten weeks. This was a space where a group of women experiencing the same major life changes in relation to their cancer treatment, were able to come together and the group setting provided a level of trust and comfort to talk about these intimate issues, knowing they were not alone on this journey.

The women interviewed, conveyed that their experiences within this training space improved when the trainers communicated in more confident and open ways about PFH and when the trainers were the ones to initiate conversations around this topic. In the same way the women perceived that where trainers who were more confident to speak openly about the pelvic floor muscles during the training sessions, and PFH in general, they themselves felt their confidence to speak openly with trainers about their PFH increase to the point of feeling as if the topic was being normalised in this training space. Below are some of the statements that arose in the interviews with the women once they had spent the time with the trainers performing the regular training program.

> Because we have open communication about it [PFH]…that makes me feel comfortable…talking about it normalises it. (Tash)

> Participating in the training program expanded my knowledge of PFH and normalised it. We're comfortable and confident to talk about it as a group now we know each other more and we've built rapport with the trainers. (Rhonda)

> I have no worries speaking to trainers now that I've done the training program…I was confident with the trainer because he was open and confident…the more experience and authority they show helps me discuss PFH issues. (Yolanda)

> I've got better language and confidence to bring things up and a better relationship with the trainers. (Evelyn)

The women in this study have pointed to the fact that they consider it the role of the trainers to initiate conversations about PFH, whether that be through regular reminders during exercises or delivering information to the group. Their experience has been that when the trainers are

talking about the topic regularly, the issues related with PFD are normalised and the women's confidence to speak candidly builds, as suggested below:

> They (trainers) need to be prepared to confront…exude confidence in the subject and communicate it…start the conversation and have the language in place. (Audrey)

> Using terminology amongst themselves and the correct terms when they are explaining exercises…it becomes normalised. (Yolanda)

> I think if they mentioned it more I would feel it was more natural...it should be led because they are the expert. (Evelyn)

> If that dialogue was there it would be easier to talk about my history…I'd be more comfortable saying if there was an issue. (Tash)

> I think if it were initiated by the personal trainer, they're speaking about it, it would make you feel freer to join the conversation on that. (Nadia)

> It would be good if they spoke about it more…start a conversation – especially for the older women and those who are uncomfortable. (Rhonda)

This is another avenue for future research to address the communication barriers that exist due to the lack of knowledge women and trainers have around PFH and PFD, and the stigma that holds both parties back from openly communicating. From the data this work-based research project provide, it has become clear that when trainers initiate conversations, women's confidence shifts, allowing more open and honest communication of PFH.

4.4 Conclusion

The themes produced by the data of this study show similarities in how PTs and female clients feel about PFH and PFD. As illustrated in Figure 3. Themes of Data Collected, lack of, or

limited, knowledge was a shared theme for both data sets. Stigma was another theme that affected each group in a slightly different way but was nevertheless a significant barrier to effective communication. Finally, it is clear from the data and supported by current research, that improving communication was important for both groups to focus on, and for similar reasons.

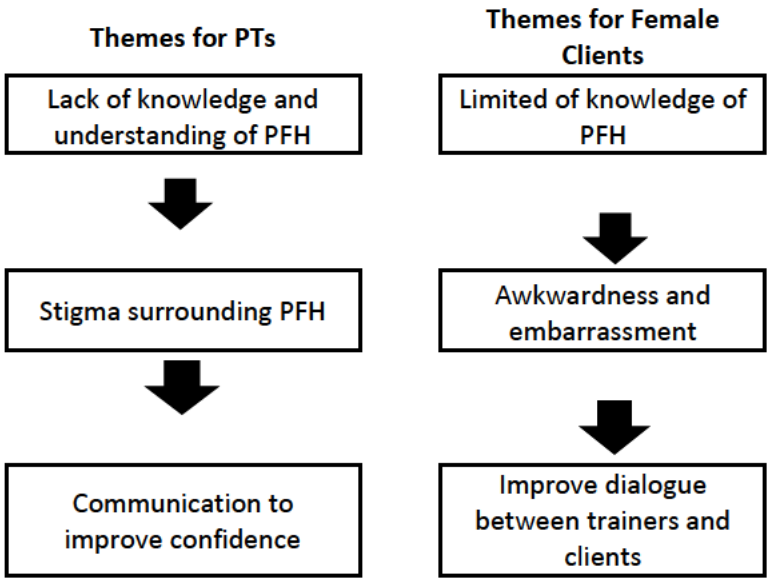

Figure 3: Themes of data collected.

In accordance with the findings of this research project, as PTs can be the initial point of contact for some women who experience PFD, they need to be supported to address PFH issues including PFD by having a greater knowledge and understanding of PFH and how PFD can affect their female clients. The responsibility of ensuring PTs are equipped with this knowledge and understanding falls upon the training organisations who provide education and certification for PTs. Forming part of the research questions which guided this project, the interviews with the PTs uncovered this concerning outcome when exposing the instability of awareness trainers have when broaching the subject of PFD with their clients. Research supports the notion that PTs require a deeper understanding of PFH and for them to be well-equipped to initiate

conversations with their clients, the implementation of formal education around screening and training protocols for women with PFD is paramount.

Similarly, data from the female clients interviewed in this study exposed a limited knowledge base of PFH and PFD, however it was through their personal experiences of PFD that they had some understanding of how it impacts normal day-to-day life. This knowledge deficiency is one of the major barriers to effective communication between PTs and their clients, as illustrated in the conceptual framework diagram in Figure 1. The health literacy of a PT encompasses their knowledge and understanding of PFH and how the effects of PFD can impact women. As discerned through this research project, there are clear barriers between PTs and their female clients, and it was initially suggested that communication is the key that sits at the centre of this framework and provides the link in improving knowledge and understanding of women's health and PFH and allowing PTs and female clients to connect with each other.

Stigma around PFD is a strong barrier to effective communication, and it also restricts the ability of women and PTs to enhance their knowledge about the effects of PFD and PFH information in general. Women do not feel comfortable enough to share intimate details regarding their PFH and PFD, and remain silent unless qualified and experienced HCPs are able to confidently initiate conversations about PFH and PFD. This means that through opening lines of communication and spending time building affinity with the PTs and EPs, the topic that was once considered too embarrassing for the women to discuss with their trainers becomes normalised in the eyes of the women and this in turn improves their confidence to speak openly. Without improving the knowledge base of PFH and PFD, PTs lack the confidence required to initiate these conversations. This aligns with the way each of these aspects are shown, in the conceptual framework, to be intrinsically linked to the overall desired outcome of enhancing the communication between PTs and female clients. This avenue for future research will impact the way PTs are educated and the flow-on effect of PFH teaching

is the dissemination of this information to the general public. As information becomes more readily available and PTs become more confident to speak freely with their clients about PFH and PFD, the improved communication will benefit their female clients, who have clearly shown a willingness to speak candidly once conversations have been initiated by trainers.

CHAPTER 5: CONCLUSION

5.1 Introduction

This study aimed to investigate the level of knowledge, understanding and confidence of PTs in regional Queensland while discussing PFH with their female clients. At the same time, it was a goal of this research project to determine the knowledge and attitudes middle-aged women of regional Queensland hold regarding their PFH and PFD. This research further investigated whether attitudes held by the women would improve as they formed relationships with PTs and HCPs through the strength and conditioning sessions to be complete within the ten-week training program.

This concluding chapter will discuss the work-based project and provide recommendations based on how the data from this project was able to answer the research questions posed at the beginning of this thesis. It will begin by considering how the research questions were answered and what relevance this has to the workplace. Following this, an exploration of the researcher's achieved learning objectives through the process of this research project also pointing to how this work-based project has had a triple dividend contribution - benefiting the workplace, the fitness industry, and the researcher. Limitations of the study will be addressed, and last suggestions for future research will be offered.

5.2 Research Questions and Recommendations

Initially, it was established through the review of current and past literature, that women struggle to communicate their PFH concerns with HCPs and simultaneously, PTs and HCPs require further education in PFH and PFD to build knowledge and confidence in speaking with their clients about these concerns. This project set out to answer two main research questions pertaining to the core issues that may impact effective communication between PTs and their female clients.

Research Question 1. What level of PFH knowledge do PTs have following initial training and/or their professional experience, and what knowledge and tools are required for PTs to more effectively address and communicate issues surrounding PFH with their female clients?

Research Question 2. What knowledge and attitudes do women intending to engage in physical activity with PTs and EPs have around PFH and PFD, and what impact (if any) does engagement in a ten-week exercise program under the close guidance of PTs and EPs have on their attitudes toward communicating PFH issues with them in the future? Through the qualitative analysis of data collected during this project, these two specific research questions were answered to varying degrees.

Informing the interview questions for the PTs in this study, was the first research RQ. It was identified early on in the interviews that their base level of knowledge of PFH and PFD was low, and this was a direct reflection of the lack of specific training within their education to become qualified PTs. This highlights a need for the Certificate IV in Fitness to incorporate a specific unit that would educate PTs in PFH and PFD, providing PT students with more awareness and understanding and, in turn, more confidence when fully trained to address these topics with their female clients (male clients can benefit from this education as well, however this was not within the scope of this research project). Current literature shows HCPs within other fields of health also require further education in this area specifically. It equally indicates the necessity, within the health and fitness industry, of implementing effective screening processes that will allow HCPs and PTs alike to determine when clients with potentially more severe cases of PFD should be referred to women's health physiotherapists and doctors, and when women with mild PFD may benefit from PFME and PF coaching cues to prevent worsening symptoms.

Stigma surrounding the sensitive issues that relate to women's PFH and PFD presented as one of the main contributing factors to the PTs avoiding communicating these topics with

their clients. Thematic analysis afforded this understanding of their perceptions of how awkward or embarrassing it may be for their clients to discuss their PFD from their perspective. This reciprocal cycle of stigma creates a barrier to effective communication as it affects the confidence of PTs to initiate conversations. It does highlight the importance of further education to expand their knowledge and understanding which in turn allows them to feel more confident in connecting and communicating with their clients about PFH and PFD. Consequently, it has been identified through this work-based research project there are many avenues to explore the improvement of knowledge, and the tools required, for PTs to become more confident and effective in their communication with female clients surrounding PFH issues.

The most significant adjustment will be the incorporation of specific education in PFH and PFD, and potentially training in PFME for PTs, in the Certificate IV in Fitness. Recent research suggests collaboration of more knowledgeable and highly qualified HCPs and governing bodies in fitness education is the minimum requirement for a successful adjustment to the current qualifications available. Further education for future PTs will go towards ensuring conversations between PTs and their clients are informed dialogues, both in theory and practice. Following this, the fitness sector could consider finding strategies for the implementation of screening processes for the early assessment of PFD symptoms in all female clients. The scope of this research was limited to investigating women's knowledge and attitudes towards PFH and PFD, and future research should expand this investigation to explore that of men's experiences as well. Built into the screening processes needs to be a genuine endeavour to enhance the collaborative efforts between HCPs and PTs within the health and fitness industry so there is continues to be improved development of PTs practical knowledge and skills in discussing PFH with clients. Just as there exists collaboration between athletes, coaches and physiotherapists in the elite and often amateur sporting space, HCPs can assist PTs with screening and provide PFME to women with differing degrees of PFD that present

themselves in the gym, and in sporting or fitness arenas. The alliance between PTs and HCPs will demonstrate to the clients that the PT is actively engaged in cross-referral and the inter-disciplinary collaboration which in turn directly impacts clients to improve their PFH knowledge and potential PFD. Further research conducted on the current collaborative efforts between HCPs and the PTs within the fitness industry will contribute to the findings from this study to demonstrate the value of this connection.

The second RQ guided the interviews for the female clients. The results of this research indicate that despite a majority of these women experiencing negative and severe effects of PFD, their self-reported knowledge of PFH and PFD was low to moderate. Research indicates that lack of knowledge impairs women's abilities to seek health care and receive the treatment necessary to improve their QoL, hence the identification that women would benefit from a deeper knowledge and understanding of their PFH and PFD is an important outcome of this project. Initially, the evidence from this study did not favour the notion that women's lack of PFH and PFD knowledge is a barrier to communicating about them. When asked about how the time spent with trainers during the ten-week training program affected their attitudes towards PFD, the overwhelming response from the women signalled improved confidence where trainers-initiated conversations about PFH and PFD.

The women identified stigma around the topic of PFD as being a major factor in avoiding discussions with trainers. Emerging evidence from this study shows the perceptions, beliefs and experiences of the women have of PFD are in line with the literature. Where there is successful dissemination of information to professionals and the general population providing education on the effects of PFD and benefits of maintaining a healthy pelvic floor through proper exercise and other lifestyle choices, there is a higher occurrence of improved communication, a reduction in the negativity displayed by women and in the limitations that stigma enable around this topic. The integration of educating PTs and other health professionals who can speak with and coach females, is an important connection to nurture and facilitate, as

the improvement of communication about PFH and PFD between clients and PTs is the strongest influence in breaking the barrier of stigma. When considering current gaps in knowledge, this research is essential to provide guidance for the direction of future research.

A goal of this research project was to highlight any gaps for future research to navigate and to establish what training is required for PTs who are currently working in the fitness industry and to adjust the education standards for future PTs. While this research has confirmed there is a need for PFH and PFD education in the Certificate IV in Fitness, the viability of implementing any of these suggestions along with the proposition of screening processes to be established in the fitness sector, remains to be investigated. It will be incumbent upon the governing body of fitness education to continually monitor and improve any new processes to maintain commitment to a higher standard of healthcare, it remains to be confirmed whether this could be a priority area for the governing bodies.

5.3 Achievement of Learning Objectives

Throughout the MPSR program, I have been given the opportunity to develop certain skills that were identified at the beginning of the program as learning objectives. These revolved around communication, intellectual and methodological capabilities that I would require to complete this work-based research project. Initially the requirement to conduct a thorough review of literature addressing the relatively unknown and sensitive topic of PFD and how it affects women, offered a chance to develop ‘systematised information gathering’ skills. Locating and identifying information that was specific to this research project, storing and managing this information via dedicated software are tasks that I feel competent at achieving through the practice that has spanned over the last couple of years. These are skills that will also fall under the capability of ‘information management and dissemination’, as I was able to manage the relevant information from hundreds of sources for the purposes of supporting the arguments of this thesis.

Producing a thesis requires certain ‘analytical skills’ which were displayed through the processes of: researching and selecting the evidence to support the notions of the thesis; justifying the research methods chosen; interpretation of results; and any recommendations that were suggested. This process enabled me to build on my ‘professional knowledge’ in the areas of PFH and PFD. Finally, the use of EndNote as a reference managing system through the MPSR program from the initial literature review to the final production of this thesis, improved my capabilities in the form of ‘technology adoption’. It enabled me to manage the hundreds of references I used for this thesis as I imported and cited references directly into EndNote and then into my thesis document with ease.

The overall goal of completing this MPSR program was to develop my professional knowledge in the areas of PFH and PFD and improve many skills that I have not utilized in the past, as stated above. I have a newfound and deep appreciation of the challenges faced by researchers in professional practice areas, now that I am aware of the enormous amounts of time and energy required in the complex process of conducting research. The guidance and mentoring provided by my supervisors has been a valuable and appreciated impetus to build and maintain the momentum required to complete such a challenging undertaking.

5.4 Triple Dividend Contributions

The data produced as an outcome of the thesis, has generated benefits to three cohorts, also known as the “triple dividend” (Fergusson et al., 2018), which is unique to the Professional Studies program. This work-based study has not only contributed to enhancing the knowledge and research skills of the researcher but has also increased understanding about the research topic within the fitness industry and, in particular, providing an organisational contribution to the workplace involved in the study. The work-based research project also had an academic knowledge contribution by providing insights to a topic that is currently under-researched in regional Queensland.

The researcher has benefited from this project both personally and professionally. As described above in 5.3 Achievement of Learning Objectives, the researcher has gained benefits in multiple disciplines throughout the process of researching, compiling a thesis and working closely with her supervisors who provided enormous support and much needed professional knowledge in the field of research and writing. The high-level skills gained from the completion of this program are transferrable and relevant to the current workplace when coaching female clients. For the researcher, the completion of the MPSR program revolves around achieving scholarly professional status. As such, the researcher will continue professional and personal development to enhance future employment opportunities.

The organisation involved with this research project has also greatly benefited through a deeper understanding of the effectiveness of communication between PTs and their clients, and in determining the knowledge and tools required for the trainers to communicate with confidence. The research and interviewing process allowed this researcher to share her insight into the female clients' views of the benefits of the PFMT focus and how better-informed and more confident PT's influences their knowledge and attitude to PFD. The organisation can, and is strongly encouraged to, address the communication issues between the trainers and clients around this topic.

These direct outcomes can inform industry-training standards for PTs within the fitness industry. The research project has delivered knowledge surrounding the current status of information communicated between PTs and their female clients' PFH, and highlighted the importance of further enhancing this line of communication through additional specific education to improve the knowledge and confidence for PTs to initiate conversations regarding PFH and PFD. The results of this project and the publication of a journal article have the capacity to inform current training standards within the fitness industry and academically contribute significant new knowledge.

5.5 Limitations

As with any research project, there are matters that can potentially act as limitations. The limitations restricting this research project include the small sample size, the limited time frame where the interviewer could build rapport with clients, the socio and cultural disposition, vested interest of the researcher as the interviewer and the influence of AEPs in the during the 10-week training program.

This exploratory study sought to address the current relationships surrounding by communication barriers between PTs and the women who exercise under their guidance, within regional Queensland. This research aimed to determine to what degree PTs are equipped with the knowledge, tools and confidence required to effectively address and communicate PFH issues with the women they train. The scope of this research limited the number of PTs engaged for interviews and study to three. Similarly, the study invited a small population of six female clients from the 'Fight Back with Fitness' training cohort. This brought the number of interviewees for this research project to nine. The research project could not have accepted additional participants within the timeframe (including the time extension due to the Covid-19 pandemic) without shifting the scope of the research. The factors that came into play when considering the time constraints included the number and length of interviews and interviewees, the time required to compile and analyse the collected data and then integrate the results with current and prior research. While this may have potentially reduced the impact of the data, it is not meant to represent the viewpoint of a whole population but is rather an appreciation of some viewpoints at a point in time.

Initially, it was thought that the seemingly short period of time from when the researcher met the participants, obtained consent to participate in the project to the completion of the training program when the second round of interviews took place, could have impacted the ability of the researcher to build rapport. It was necessary for the researcher to develop a trusting relationship with the women in order to gain authentic information regarding their

PFH. However, the results of the data collected in the second interview showed that the women were able to provide feedback honestly and openly. This was directly due to the relationships they had developed with the researcher and the coaching staff through the ten-week training program, and the nature of conversations that were had during this period. It can therefore be assured that this limitation was not as restrictive as was first anticipated.

This research project hinged around a particular group of women who were all part of the ten-week training program, however this program did not involve any specific pelvic floor muscle training for the women and was not designed to do so. What this project wished to capture, was whether there was naturally any coaching around the PF as a muscle group to be conscious of during the training sessions, as the importance and function of this muscle group to provide stability and control to the pelvis during exercise, has been highlighted previously. It must be noted that the coaching staff were not aware of this research study or that the women training under their guidance would be interviewed about their experiences of spending time training with the coaches. This was to ensure it would be a true reflection of natural conversations occurring within this relationship, however this limitation could be adjusted in future research to gain a deeper understanding of the improvements in clients PFH and PFD knowledge.

Future research into this area is required to broaden the scope of the socio and cultural disposition of the participants. The majority of participants within the 'Fight Back with Fitness' program are 'Caucasian' women of middle-income background. The middle-income and non-diverse ethnic background of the female clients may have affected the output of data as they could be considered as culturally non-diverse and lacking representation from the lower socioeconomic population within regional Queensland.

The findings of this research thesis demonstrated that PTs have not been exposed to relevant information to inform their understanding of what PFH means for themselves, and PFD how can affect the female clients they serve. This hinders the PTs ability to raise

awareness about the prevalence of PFD when speaking to their clients, and encourage proactive prevention of PFD. PTs have a significant opportunity to provide initial 'diagnosis' in the form of noting potential indicators of PFD then referring them to women's health specialists, through having conversations with women and supporting them to access the specialist advice then assist in practicing given exercises to improve PFD. The evident gap in theoretical and practical knowledge of the PTs from this study highlighted a significant limitation which could have affected the way PTs interacted with their clients regarding PFH and PFD issues. It would be of great importance to anticipate this dearth of knowledge for future research to effectively investigate how providing a sound level of knowledge in this area may support the ability of PTs to have meaningful conversations with clients regarding their PFH.

Another limitation of this study was that the researcher was the interviewer and does have a vested interest in the outcome of the research. This potential bias was overcome by the researcher following an interview guide for the semi-structured interviews, as was followed through the process of thematic analysis (Braun & Clarke, 2006).

5.6 Conclusion

There is currently a gap within the literature around the discourse of PFH as an ill-health in regional Queensland, Australia. PFD is an important health concern that requires further examination of the way that it directly impacts the holistic wellbeing of women in Australia and around the world. As discussed, knowledge alone of PFD issues is not enough to facilitate change. The information obtained from this research project can be used to influence future discussion and research that would explore preventative health measures and health literacy options surrounding PFH. Data from this research project supported by current evidence, points to the need for more intensive education programs for fitness industry professionals in order to facilitate change. This should be coupled with the development of stronger, more informed communication lines between PTs and their female clients.

The relationship between PTs and other HCPs in the health industry is a collaborative avenue that requires further investigation, as PTs seem to be the missing link that can assist in providing holistic care and incorporate PFMT into general fitness training methods. Improving the health literacy around PFD through health education, confronting issues around stigma and dismantling barriers, and dispelling common misconceptions around PFH, are all ways that will positively impact the line of communication between PTs and their female clients suffering from PFD. In turn, this provides a pathway to improve women's QoL and also empowering women to lead physically and mentally more active and healthy lifestyles.

APPENDICES

Appendix A: Participant Information Sheet for Female Clients

University of Southern Queensland

Participant Information for USQ Research Project

Title of Project:	**The Relationship Between Middle-Aged Women's Knowledge of, Attitudes Towards, and Behaviours Around Pelvic Floor Dysfunction, and that of the Personal Trainers Overseeing their Training Programs**
Human Research Ethics Approval Number:	H20REA060

Research Team Contact Details

Principal Investigator Details

Mrs Danah Hillman

[redacted]

Supervisor Details

Dr Lee Fergusson, USQ

[redacted]

Dr Annette Bromdal, USQ

[redacted]

Description

This project is being undertaken as part of a Masters (Research) Project of Professional Studies.

Pelvic floor dysfunction (PFD) is not uncommon and affects 25% of adult females around the world. This high rate of occurrence is not a new statistic. It has been shown from research as far back as 1998, that PFD was stated the third most common chronic complaint among women in the United States. Despite its high frequency, stigmas associated with this phenomenon lead to women being reluctant to seek care due to existing communication barriers around the topic. The prevalence of PFD runs parallel to the shortfalls among women's adherence to recommended physical activity, and research in regional Australia suggests that women's physical inactivity levels are high which may have a negative impact on their overall health and wellbeing, including pelvic floor health.

When exploring this topic within the fitness industry, there remains social stigma surrounding pelvic floor muscle dysfunction, and those affected are women of all ages. Personal trainers can have a positive impact against this stigma by promoting conversations about the importance of pelvic floor health with their clients and identifying appropriate physical activities to activate the pelvic floor muscles so as to positively influence the overall health and wellbeing of clients. This research project seeks to respond to gaps in the research literature required to inform the successful and replicable models of communication between fitness professionals and middle-aged women they encounter who could potentially suffer from health issues related to their pelvic floor.

As such, the purpose of this research project is to develop a greater understanding around the relationship between middle-aged women's knowledge of, attitudes towards and behaviours around pelvic floor health and PFD, and how an intervention program guided by personal trainers could contribute to increasing awareness surrounding pelvic floor health and how to implement it.

The research team is seeking your assistance because you are a female of middle age and are about to embark on the Fight Back With Fitness 10 week training program, under the guidance of Exercise Physiologists and qualified Personal Trainers.

Participation

Your participation in this research project will involve a preliminary interview with the researcher to develop an understanding of what your personal knowledge of, attitudes towards and behaviours around the topics 'pelvic floor health' and 'pelvic floor dysfunction', which will take approximately 30-45 minutes of your time before the 10 week Fight Back With Fitness program begins. This interview will be separate, and in addition to, the initial consultation with the Exercise Physiologist.

The preliminary interview will take place in March 2020, at The Fit Lab Health and Fitness Centre, 231 James Street, Toowoomba, QLD, in the Rehabilitation Unit. For your convenience, the researcher can be available at the time you meet with the Exercise Physiologist, so you can participate in this interview at the same time as completing the initial consultation.

Throughout the 10 week Fight Back With Fitness program, the researcher will be part of the coaching staff for two out of the three fitness sessions you will participate in every week. This will allow you to ask any questions you may have as you undertake the exercise program, regarding your pelvic floor health.

Following the completion of the 10 week fitness program, there will be a final interview with the researcher, approximately 45 minutes in length, to consider how embarking on the fitness program with a focus on the pelvic floor may have impacted your knowledge and understanding of pelvic floor health and PFD.

There are no costs to you for participating in this research project and your participation is entirely voluntary. If you do not wish to continue with your participation, you are free to withdraw from the research project at any stage. You may also request at that point, that any data collected about you be withdrawn and confidentially destroyed. If you wish to withdraw from this project or withdraw data collected from you, you can contact the Research Team directly (contact details are at the top of this document). Any decision you make regarding to take part in this research project, or not take part, or to take part and then withdraw, will in no way impact your relationship with the Research Team from the University of Southern Queensland, the coaching staff of the Fit Lab's Fight Back With Fitness program, or the Fit Lab Health and Fitness Centre.

Expected Benefits

It is expected that this research project will provide benefits to you and the personal trainers involved, including insights to the effectiveness of communication between the coaching staff of the 10 week Fight Back With Fitness program and program participants, such as yourself. More specifically, this research aims to inform and educate participants around how to potentially enhance this line of dialogue so as to further improve your understanding of, attitudes towards and behaviours around pelvic floor health, and that of the personal trainers.

It is hypothesised that by investigating these lines of communication between educated fitness professionals and their clients, specifically the middle-aged women they work with, practical and emotional coping strategies can be facilitated for those living with incontinence and other pelvic floor related health issues. These insights may potentially inform industry-training standards for personal trainers in the future.

Risks

There are minimal risks associated with your participation in this project. A small risk is with consideration to time. You will be required to participate in two 30-45 minute interviews – one before and one after the 10 week Fight Back With Fitness program. The extra time it will take you to participate in these interviews may be a deterrent, however as explained above, you are free to decline participation without consequence.

There may be some discomfort around the disclosure of private and personal information regarding your pelvic floor health and the way in which this information will be handled by the Research Team once divulged, which can be confronting. To minimise this potential discomfort and reduce this risk include the discreet and secure handling of your private and personal information in accordance with the Information Privacy Act 2009. The information you choose to divulge will be treated confidentially and your identity will remain anonymous (see further details below regarding Privacy and Confidentiality).

If you experience health concerns that are non-urgent throughout this process, contact the Health Direct helpline at any time on 1800 022 222, for access to free expert health advice and reassurance from a registered nurse. For urgent health concerns, please contact Up and Active Physiotherapy on 4613 1394, to meet with a women's health physiotherapist who specialise in diagnosing and treating pelvic floor dysfunctions. Also, you can call Lifeline for further emotional or mental support on 13 11 14. You may also wish to consider consulting your General Practitioner (GP) for additional support.

Should this project spark your interest to learn more about your pelvic floor health, further resources can be found at the following websites:

www.healthdirect.gov.au
www.continence.org.au
www.thewomens.org.au
www.pelvicfloorfirst.org.au

Privacy and Confidentiality

All data will be treated confidentially unless required by law.

It is anticipated that the results from this research project will be published and/or presented in a variety of forums. Any publication or presentation that may result from this research, your data will be published in a way that you cannot be identified.

All data will be treated confidentially. Any data collected as a part of this project will be stored securely as per USQ's Research Data Management policy. Only the Primary Investigator and the two supervisors will have access to the stored data. All information is non identifiable and will be reported as a group of information. The data will be recorded and transcribed by a professional for analysis, and the recording will be deleted in line with the "National Statement on Ethical Conduct in Human Research" 2018. The transcribed data will be stored securely on a password-protected file.

You will be provided with an opportunity to review and/or edit the transcribed document so as to add any further details that may have come to mind upon reflection of the interview process. The data may be used in future research, to compare this group with information collected from other regions or collected during other periods of time. The data will be stored in laboratory notebooks, as primary Research Data, questionnaires, Microsoft office files, SPSS/NVIVO files, and other records that are necessary for the reconstruction and evaluation of the reported results of research. These data will be made available through the USQ QCIF's Nextcloud after the project has been completed.

The principal investigator, Danah Hillman (Masters student) will have access to this information until such time she completes her Research Masters. At this point the data will be assigned to USQ as indicated in the USQ Intellectual Property Policy and Procedure. The data will be protected by copyright and will be created and collected within Australia. All data upon completion of the project will be deposited in the University's Digital Resources Collection (DiReCt) repository (or any successor) which material will be appropriately stored by DiReCt staff under published University approved processes. This is in line with section 5.8 Copyright Compliance of the USQ Intellectual Property Policy and Procedure.

Participants and other interested stakeholders can request a general summary of results (non-identifiable) by contacting Danah Hillman at w0025220@umail.usq.edu.au

Any data collected as a part of this project will be stored securely as per University of Southern Queensland's Research Data Management policy.

Consent

We would like to ask you to sign a written consent form (enclosed) to confirm your intended participation in this research project.

Please return your signed consent form to the principal investigator of the Research Team, Mrs Danah Hillman (contact details are at the top of this form).

Questions or Further Information about the Project

Please refer to the Research Team Contact Details at the top of the form to have any questions answered or to request further information about this project.

Concerns or Complaints Regarding the Conduct of the Project

If you have any concerns or complaints about the ethical conduct of the project, you may contact the University of Southern Queensland Manager of Research Integrity and Ethics on +61 7 4631 1839 or email researchintegrity@usq.edu.au. The Manager of Research Integrity and Ethics is not connected with the research project and can facilitate a resolution to your concern in an unbiased manner.

Thank you for taking the time to help with this research project. Please keep this sheet for your information.

Appendix B: Pariticpant Information Sheet for Personal Trainers

University of Southern Queensland

Participant Information for USQ Research Project – Personal Trainers

Project Details

Title of Project:	**The Relationship Between Middle-Aged Women's Knowledge of, Attitudes Towards, and Behaviours Around Pelvic Floor Dysfunction, and that of the Personal Trainers Overseeing their Training Programs**
Human Research Ethics Approval Number:	H20REA060

Research Team Contact Details

Principal Investigator Details

Mrs Danah Hillman

[redacted]

Supervisor Details

Dr Lee Fergusson, USQ

[redacted]

Dr Annette Bromdal, USQ

[redacted]

Description

This project is being undertaken as part of a Masters (Research) Project of Professional Studies.

Pelvic floor dysfunction (PFD) is not uncommon and affects 25% of adult females around the world. This high rate of occurrence is not a new statistic. It has been shown from research as far back as 1998, that PFD was stated the third most common chronic complaint among women in the United States. Despite its high frequency, stigmas associated with this phenomenon lead to women being reluctant to seek care due to existing communication barriers around the topic. The prevalence of PFD runs parallel to the shortfalls among women's adherence to recommended physical activity, and research in regional Australia suggests that women's physical inactivity levels are high which may have a negative impact on their overall health and wellbeing, including pelvic floor health.

When exploring this topic within the fitness industry, there remains social stigma surrounding pelvic floor muscle dysfunction, and those affected are women of all ages. Personal trainers can have a positive impact against this stigma by promoting conversations about the importance of pelvic floor health with their clients and identifying appropriate physical activities to activate the pelvic floor muscles so as to positively influence the overall health and wellbeing of clients. This research project seeks to respond to gaps in the research literature required to inform the successful and replicable models of communication between fitness professionals and middle-aged women they encounter who could potentially suffer from health issues related to their pelvic floor.

As such, the purpose of this research project is to gain better insights into the levels of knowledge, understanding and confidence personal trainers have when discussing the topic of pelvic floor health with their middle-aged female clients. Through also exploring the relationship between middle-aged female client's knowledge of, attitudes towards and behaviours around pelvic floor health and PFD, and how an intervention program guided by personal trainers could contribute to increasing awareness surrounding pelvic floor health, it is suggested this could highlight any disjointed communication between fitness trainers and the middle-aged women who exercise under their guidance.

The research team is seeking your assistance because you are a qualified Personal Trainer with more than 5 years' experience in the fitness industry.

Participation

Your participation in this research project will involve a 45 minute interview with the researcher to explore the your levels of knowledge, understanding and confidence when discussing the topic of pelvic floor health with your middle-aged female clients.

This interview will take place in January 2020, at The Fit Lab Health and Fitness Centre, 231 James Street, Toowoomba, QLD, in the Rehabilitation Unit. For your convenience, the researcher can be available at any time you may suggest to work around your schedule.

There are no costs to you for participating in this research project and your participation is entirely voluntary. If you do not wish to continue with your participation, you are free to withdraw from the research project at any stage. You may also request at that point, that any data collected about you be withdrawn and confidentially destroyed. If you wish to withdraw from this project or withdraw data collected from you, you can contact the Research Team directly (contact details are at the top of this document). Any decision you make regarding to take part in this research project, or not take part, or to take part and then withdraw, will in no way impact your relationship with the Research Team from the University of Southern Queensland, or the Fit Lab Health and Fitness Centre.

Expected Benefits

It is expected that this research project will provide knowledge surrounding the current status of information communicated between personal trainers and their female client's pelvic floor health, and how to potentially enhance this line of communication. Expected benefits for personal trainers include providing insights to the effectiveness of current communication and discovering what further knowledge and tools are required for personal trainers to communicate with confidence on these issues.

It is hypothesised that by investigating these lines of communication between educated fitness professionals and their clients, specifically the middle-aged women they work with, practical and emotional coping strategies can be facilitated for those living with

incontinence and other pelvic floor related health issues. These insights may potentially inform industry-training standards for personal trainers in the future.

Risks

There are minimal risks associated with your participation in this project. A small risk is with consideration to time. You will be required to participate in a 45 minute interview which may be a deterrent, however as explained above, you are free to decline participation without consequence.

There may be some discomfort around the disclosure of honest information that is private and personal to you or your female clients regarding pelvic floor health or potential concern with the way in which this information will be handled by the Research Team once divulged. To minimise this potential discomfort and reduce this risk include the discreet and secure handling of your private and personal information in accordance with the Information Privacy Act 2009. The information you choose to divulge will be treated confidentially and your identity will remain anonymous (see further details below regarding Privacy and Confidentiality).

If upon discussing pelvic floor issues you realise a female client of yours has urgent health concerns, please advise them to contact Up and Active Physiotherapy on 4613 1394, to meet with a women's health physiotherapist who specialise in diagnosing and treating pelvic floor dysfunctions. Also, if you or your clients require further emotional or mental support, call Lifeline on 13 11 14. There is also the option of consulting a General Practitioner (GP) for additional support.

Should this project spark your interest to learn more about pelvic floor health, further resources can be found at the following websites:

www.healthdirect.gov.au
www.continence.org.au
www.thewomens.org.au
www.pelvicfloorfirst.org.au

Privacy and Confidentiality

All comments and responses will be treated confidentially unless required by law.

It is anticipated that the results from this research project will be published and/or presented in a variety of forums. Any publication or presentation that may result from this research, your data will be published in a way that you cannot be identified.

All data will be treated confidentially. Any data collected as a part of this project will be stored securely as per USQ's Research Data Management policy. Only the Primary Investigator and the two supervisors will have access to the stored data. All information is non identifiable and will be reported as a group of information. The data will be recorded and transcribed by a professional for analysis, and the recording will be deleted in line with the "National Statement on Ethical Conduct in Human Research" 2018. The transcribed data will be stored securely on a password-protected file.

You will be provided with an opportunity to review and/or edit the transcribed document so as to add any further details that may have come to mind upon reflection of the interview process. The data may be used in future research, to compare this group with information collected from other regions or collected during other periods of time. The data will be stored in laboratory notebooks, as primary Research Data, questionnaires, Microsoft office files, SPSS/NVIVO files, and other records that are necessary for the reconstruction and

evaluation of the reported results of research. These data will be made available through the USQ QCIF's Nextcloud after the project has been completed.

The principal investigator, Danah Hillman (Masters student) will have access to this information until such time she completes her Research Masters. At this point the data will be assigned to USQ as indicated in the USQ Intellectual Property Policy and Procedure. The data will be protected by copyright and will be created and collected within Australia. All data upon completion of the project will be deposited in the University's Digital Resources Collection (DiReCt) repository (or any successor) which material will be appropriately stored by DiReCt staff under published University approved processes. This is in line with section 5.8 Copyright Compliance of the USQ Intellectual Property Policy and Procedure.

Participants and other interested stakeholders can request a general summary of results (non-identifiable) by contacting Danah Hillman at w0025220@umail.usq.edu.au

Any data collected as a part of this project will be stored securely as per University of Southern Queensland's Research Data Management policy.

Consent

We would like to ask you to sign a written consent form (enclosed) to confirm your intended participation in this research project.

Please return your signed consent form to the principal investigator of the Research Team, Mrs Danah Hillman (contact details are at the top of this form).

Questions or Further Information about the Project

Please refer to the Research Team Contact Details at the top of the form to have any questions answered or to request further information about this project.

Concerns or Complaints Regarding the Conduct of the Project

If you have any concerns or complaints about the ethical conduct of the project, you may contact the University of Southern Queensland Manager of Research Integrity and Ethics on +61 7 4631 1839 or email researchintegrity@usq.edu.au. The Manager of Research Integrity and Ethics is not connected with the research project and can facilitate a resolution to your concern in an unbiased manner.

Thank you for taking the time to help with this research project. Please keep this sheet for your information.

Appendix C: Consent Form for Female Clients

University of Southern Queensland

Consent Form for USQ Research Project Interview – Female Client

Project Details

Title of Project:	**The Relationship Between Middle-Aged Women's Knowledge of, Attitudes Towards, and Behaviours Around Pelvic Floor Dysfunction and that of the Personal Trainers Overseeing their Training Programs**
Human Research Ethics Approval Number:	H20REA060

Research Team Contact Details

Principal Investigator Details

Mrs Danah Hillman

[redacted]

Supervisor Details

Dr Lee Fergusson, USQ

[redacted]

Dr Annette Brömdal, USQ

[redacted]

Statement of Consent

By signing below, you are indicating that you:

• Have read and understood the information document regarding this project.	☐Yes / ☐ No
• Have had any questions answered to your satisfaction.	☐Yes / ☐ No
• Understand that if you have any additional questions you can contact the research team.	☐Yes / ☐ No
• Understand that the interview will be audio / video recorded.	☐Yes / ☐No

• Understand that you can participate in the interview without being audio/ video recorded.	☐Yes / ☐No
• If you **do not want** to be audio/ video recorded during the interview, please initial here: _____ ___.	
• Are over 18 years of age.	☐Yes / ☐ No
• Understand that any data collected may be used in future research activities [all future research activities OR only those related to this field].	☐Yes / ☐ No
• Agree to participate in the project.	☐Yes / ☐ No

Participant Name	
Participant Signature	
Date	

Please return this sheet to a Research Team member prior to undertaking the interview.

Appendix D: Consent Form for Personal Trainers

University of Southern

Consent Form for USQ Research Project Interview – Personal Trainers

Project Details

Title of Project:	**The Relationship Between Middle-Aged Women's Knowledge of, Attitudes Towards and Behaviours Around Pelvic Floor Dysfunction, and that of the Personal Trainers Overseeing their Training Programs**
Human Research Ethics Approval Number:	H20REA060

Research Team Contact Details

Principal Investigator Details

Mrs Danah Hillman

[redacted]

Supervisor Details

Dr Lee Fergusson, USQ

[redacted]

Dr Annette Brömdal, USQ

[redacted]

Statement of Consent

By signing below, you are indicating that you:

• Have read and understood the information document regarding this project.	☐Yes / ☐ No
• Have had any questions answered to your satisfaction.	☐Yes / ☐ No
• Understand that if you have any additional questions you can contact the research team.	☐Yes / ☐ No
• Understand that the interview will be audio / video recorded.	☐Yes / ☐ No

• Understand that you can participate in the interview without being audio/ video recorded.	☐Yes / ☐ No
• If you **do not want** to be audio/ video recorded during the interview, please initial here: _____ _____.	
• Are over 18 years of age.	☐Yes / ☐ No
• Understand that any data collected may be used in future research activities [all future research activities OR only those related to this field].	☐Yes / ☐ No
• Agree to participate in the project.	☐Yes / ☐ No

Participant Name	
Participant Signature	
Date	

Please return this sheet to a Research Team member prior to undertaking the interview.

Appendix E: Interview Questions for Personal Trainers

University of Southern Queensland

Research Project Interview Questions Personal Trainers

Title of Project: **Pelvic Floor Health: Examining the Knowledge, Attitudes and Experiences of Personal Trainers and Middle-Aged Women in Inner Regional Queensland**

Q. Explain the extent of your knowledge of the pelvic floor, pelvic floor health, and pelvic floor dysfunction.

Q. How have you come to your understanding of knowledge of these concepts?

Q. Do you feel confident to speak to women, within the fitness environment, about their pelvic floor health? And why or why not?

Q. How often do you speak to women, within the fitness environment, about their pelvic floor health? Do you think this is enough?

Q. Do you ever feel uncomfortable or not confident to speak to women within the fitness environment about their pelvic floor health? And why or why not?

Q. Do you feel the women you speak to, within the fitness environment, about their pelvic floor health are able to express to you their concerns or find more information about their pelvic floor health?

Q. What further tools would support you to feel more confident to speak to women within the fitness environment, about their pelvic floor health?

Appendix F: Interview Questions for Female Participants

University of Southern Queensland

Research Project Interview Questions Female Participants

Title of Project: **Pelvic Floor Health: Examining the Knowledge, Attitudes and Experiences of Personal Trainers and Middle-Aged Women in Inner Regional Queensland.**

Q. Explain the extent of your knowledge of the pelvic floor, pelvic floor health, and pelvic floor dysfunction.

Q. How have you come to your understanding these concepts?

Q. Explain your experience (current or in the past) with pelvic floor issues?

Q. How has your experience (current or in the past) with pelvic floor issues affected you mentally, physically and or emotionally?

Q. Do you feel confident to speak to personal trainers, within the fitness environment, about your pelvic floor health? And why or why not?

Q. How often do you speak to personal trainers, within the fitness environment, and how often do personal trainers speak to you, about your pelvic floor health? Do you think this is enough?

Q. Do you ever feel uncomfortable or not confident to speak to personal trainers within the fitness environment about your pelvic floor health? And why or why not?

Q. What further tools or information would support you to feel more confident to speak to personal trainers within the fitness environment, about your pelvic floor health?

Appendix G: Interview Questions for Female Participants Post-Training Program

University of Southern Queensland

University of Southern Queensland

Research Project Interview Questions Female Participants Post-Training Program

Title of Project: **Pelvic Floor Health: Examining the Knowledge, Attitudes and Experiences of Personal Trainers and Middle-Aged Women in Inner Regional Queensland.**

Q. In what ways has the ten-week training program influenced your knowledge of the pelvic floor, pelvic floor health, and pelvic floor dysfunction?

Q. How has that influenced your attitude toward pelvic floor health?

Q. How has that influenced your confidence to speak to the personal trainers and coaches in that exercise space about your pelvic floor?

Q. What further tools or information do you think you need to feel more confident talking to the personal trainers and coaches in this space and about your pelvic floor in particular?

Q. What level of knowledge would you like to see personal trainers have around pelvic floor health?

Q. What do you believe would raise the confidence of personal trainers to start talking about that?

Q. How has this overarching experience influenced your awareness of pelvic floor health?

Appendix H: Core Syllabus and Qualification Details for Certificate IV in Fitness

Qualification details

SIS40210 - Certificate IV in Fitness

Summary

Releases:

Release	Status	Release date
4	Current	2013/09/14
3	Replaced	2013/03/06
2	Replaced	2011/11/28
1	Replaced	2011/06/07

Usage recommendation: **Superseded**

Mapping:

Mapping	Notes	Date
Is superseded by SIS40215 - Certificate IV in Fitness	Not Equivalent. Revised qualification structure. Number of units required for completion increased from 15 to 20 units.	2015/09/03
Supersedes SRF40206 - Certificate IV in Fitness		2011/06/07

Training packages that include this qualification

Code	Title	Release
SIS10	Sport, Fitness and Recreation Training Package	2.1 - 3.1

Units of competency

Code		Title	Essential
BSBFRA402B		Establish a franchise	Elective
BSBFRA403B		Manage relationship with franchisor	Elective
BSBHRM402A		Recruit, select and induct staff	Elective
BSBSMB306A		Plan a home based business	Elective
BSBSMB401A		Establish legal and risk management requirements of small business	Core
BSBSMB402A		Plan small business finances	Elective
BSBSMB403A		Market the small business	Core
BSBSMB404A		Undertake small business planning	Core
BSBSMB405B		Monitor and manage small business operations	Elective
BSBSMB406A		Manage small business finances	Elective
BSBSMB407A		Manage a small team	Elective
BSBSUS201A		Participate in environmentally sustainable work practices	Elective

CHCIC301E		Interact effectively with children	Elective
CUFIND401A		Provide services on a freelance basis	Elective
ICAICT203A		Operate application software packages	Elective
SISCAQU202A		Perform basic water rescues	Elective
SISCAQU312A		Assist participants with a disability during aquatic activities	Elective
SISFFIT311A		Deliver approved community fitness programs	Elective
SISFFIT312A		Plan and deliver an endurance training program	Elective
SISFFIT313A		Plan and deliver exercise to apparently healthy children and adolescents	Elective
SISFFIT314A		Plan and deliver exercise to older clients with managed conditions	Elective
SISFFIT415A		Work collaboratively with medical and allied health professionals	Core
SISFFIT416A		Apply motivational psychology to provide guidance on exercise behaviour and change to meet health and fitness goals	Core
SISFFIT417A		Undertake long term exercise programming	Core
SISFFIT418A		Undertake appraisals of functional movement	Core
SISFFIT419A		Apply exercise science principles to planning exercise	Core
SISFFIT420A		Plan and deliver exercise programs to support desired body composition outcomes	Core
SISFFIT421A		Plan and deliver personal training	Core
SISFFIT422A		Implement inclusive aquatic activities for specific population groups	Elective
SISSSTC301A		Instruct strength and conditioning techniques	Elective
SISSSTC402A		Develop strength and conditioning programs	Elective
SISXIND406A		Manage projects	Elective
SITXHRM401		Roster staff	Elective

Classifications

Scheme	Code	Name
ANZSCO Identifier	452111	Fitness Instructor
ASCED Qualification/Course Field of Education Identifier	0921	Sport And Recreation
ASCO (occupation type) Identifier	6396-11	Fitness Instructor
Qualification/Course Level of Education Identifier	511	Certificate IV
Taxonomy - Industry Sector	N/A	Fitness Industry
Taxonomy - Occupation	N/A	Exercise Trainer

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