

Plymouth Marjon University

Keep on running: A co-produced, evidence-based
intervention for coaches to support beginner runners in
maintaining behaviour change

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Abstract

The aim of this PhD was to create a practical, evidence-based intervention that could support beginner runners with maintaining running after they have started. Running provides many health and wellbeing benefits, but often people do not continue long enough to reap these benefits. The PhD consisted of three qualitative studies to support the development, delivery, and evaluation of the intervention. The first study involved an analysis of a pre-existing, longitudinal dataset related to the experiences of 20 beginner runners. Thematic analysis was used to explore runners' experiences through time, seeking to understand how some people maintained running and why others stopped. Sixty-five interviews were analysed to help inform the development of an intervention that supports beginner runners with maintaining running. The results demonstrated the dynamic nature of motivations, barriers, and support systems. Identifying a meaningful reason or "why" for running could support the maintenance of running by helping runners to prioritise running, to gain confidence, and to start to enjoy running. Some runners, however, experienced unequal life circumstances (e.g., related to health, wealth, caring responsibilities) that led to life getting in the way of running. Being disadvantaged by societal privileges limited the opportunity to progress and enjoy running, which in turn, led to stopping.

The second study aimed to identify how these results could be transferred to a running club using co-production. Thirteen coaches, 23 runners, and five applied practitioners took part in the study involving focus group workshops, observations, and situated interviews. The outcome of this study was an intervention, which integrated Study 1 findings, participant feedback from Study 2, and behaviour change literature with the aim of increasing coaches' skills, knowledge, and confidence in supporting beginner runners with maintaining running. The co-produced intervention, "Keep on Running: The 5 Pillars of Support" consisted of five interrelated Pillars; Purpose, Progress, People, Planning and Play, which broadly covered motivation, confidence, social support and inclusivity, self-

regulation, and enjoyment, respectively. The aim of the intervention was to educate running club coaches on the psychological principles related to these Pillars.

The third study delivered and evaluated the “Keep on Running – The 5 Pillars of Support” intervention at two running clubs through interactive workshops. A core group of 11 coaches took part in most of the workshops (five and six coaches in each club). The intervention was qualitatively evaluated using interviews, observations, surveys, and focus groups. Eight coaches were interviewed, and 10 coaches took part in the focus groups to understand how the intervention had influenced their coaching practices. The results showed that the intervention was well-received by coaches in both running clubs, demonstrating transferability. The intervention changed coaching practices and resulted in changes for the beginner running programmes. While some modifications are needed for the intervention, the preliminary evidence suggests the “Keep on Running – The 5 Pillars of Support” is a promising intervention that can be applied to other running clubs beyond this research.

Overall, the results supported the complex nature of behaviour change, demonstrating how maintaining running can depend on many factors at an individual, social, and environmental level; all of these factors need to be considered in interventions. The key contribution was the creation of “Keep on Running – The 5 Pillars of Support”: a practical and evidence-based intervention that shows potential to be applied to running clubs nationwide. To the best of my knowledge, this is the first co-produced intervention that educates coaches on how to be more psychologically supportive of beginner runners and support runners with maintaining running.

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Declaration

I declare that the work contained in this thesis is my own, except where otherwise stated. I confirm that this thesis has not been submitted for any other award.

Ethical Approval

Each study was granted separate ethical approval from Plymouth Marjon University's internal ethics panel. Ethics application codes below.

Study 1: EP073

Study 2: EP174

Study 3: EP198

PhD Research Outputs

Journal Publications

McCormick, A., **Pedmanson, P.**, Jane, B., & Watson, P. (2024). How do new runners maintain their running, and what leads to others stopping? A qualitative, longitudinal study. *Psychology of Sport & Exercise*, 70. Doi: 10.1016/j.psychsport.2023.102515.

Conference Presentations

Pedmanson, P., McCormick, A., Watson, P., & Gibson, K. (2023). The 5 pillars of support: Training coaches on the use of psychological principles to support beginner runners with continuing running. British Psychological Society Division of Sport and Exercise Psychology Annual Conference, Edinburgh. Oral presentation.

Pedmanson, P., McCormick, A., Watson, P., & Gibson, K. (2022). Co-producing a psychological intervention to support new runners with behaviour maintenance. British Psychological Society Division of Sport and Exercise Psychology Annual Conference, Swansea. Oral presentation.

McCormick, A., **Pedmanson, P.**, Jane, B., & Watson, P. (2021). How do new runners maintain their running, and what leads to others stopping? A longitudinal qualitative exploration of new runners' experiences. British Psychological Society Division of Sport and Exercise Psychology Annual Conference, Liverpool. Oral presentation.

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Chapter 1: INTRODUCTION

Introduction to the PhD

Developing practical interventions that support the maintenance of physical activity reflect an opportunity for sport and exercise psychologists. Physical activity can be defined as any form of physical movement that requires energy expenditure (WHO, 2022). It can therefore encompass domestic activities like cleaning, transportation activities like walking to work, as well as more structured forms of exercise, such as running or cycling. The physical and mental health benefits of regular physical activity are widely researched and recognised (Pearce et al., 2022; Pojednic et al., 2022; Posadzki et al., 2020). The consequences of insufficient physical activity can be serious; research into the Covid-19 pandemic suggested that consistently inactive people were most likely to be hospitalised and die from the virus (Sallis et al., 2021). The World Health Organization (WHO, 2022) guidelines state that adults should aim for at least 150 minutes of moderate-intensity aerobic physical activity; or at least 75 minutes of vigorous-intensity aerobic physical activity each week. A survey in England found that 30% of men and 41% of women did not meet these guidelines and were classed as inactive (NHS Digital, 2023). These results, however, are based on a self-report, which tend to over-estimate activity, suggesting even lower percentage may be active (Sallis & Saelens, 2000). Inactivity, therefore, remains a challenge for sport and exercise psychology (Guthold et al., 2018).

Researchers have contributed to developing interventions that support people's physical activity levels, and while many of these behaviour change interventions can have a positive impact on participants' physical activity levels initially, the effects tend to wear off once the intervention ends (McEwan et al., 2022). People need to continue with their activity levels, however, to reap the health benefits (Penn et al., 2008). The challenge, therefore, is not only to initiate activity but also to support the maintenance of it. Behaviour change interventions commonly target the initiation of exercise; they focus on getting people to *become* active. It is less common to see interventions targeting those who have already initiated exercising and supporting them with the maintenance of behaviour change, which is what this PhD aims to do.

Behaviour change maintenance can be defined as the “continuous performance of a behaviour following an initial intentional change at a level that significantly differs from baseline performance in the intended direction” (Kwasnicka et al., 2016, p. 280). Researchers have argued that the psychological factors that enable someone to initiate behaviour might not be the same as the ones that help to maintain it (e.g., Nigg et al., 2008; Strobach et al., 2020; van Stralen et al., 2009), which is why knowing what supports physical activity behaviour change maintenance specifically would be helpful to guide future interventions. Kwasnicka et al. (2016) proposed a model of health behaviour change maintenance, including physical activity behaviour change maintenance, theorising that people need motivators, self-regulatory skills, resources, and a supportive environment before a new behaviour can become a habit and therefore be maintained. Their model suggests that people initiate behaviour change when their motivation is the highest and opportunity costs are the lowest. People need at least one sustained motivator to maintain behaviour change but given that motivation will likely drop, and costs will likely increase over time, they also need self-regulation to maintain that change in challenging conditions. Continuously using a lot of self-regulatory resources is not sustainable; stress, tiredness, and negative affect can make self-regulation of behaviour harder. This is where habits come in; when the new behaviour gets repeated, it becomes more habitual, meaning that eventually less self-regulation is needed. Finally, behaviour change happens in a context, meaning that environmental and social factors can either support or hinder the maintenance of the new behaviour (Kwasnicka et al., 2016). A few other behaviour change maintenance models and theories have been proposed, some for health behaviour more broadly (Rothman, 2000), and others for physical activity specifically (e.g., Nigg et al., 2008; Strobach et al., 2020), but limited research has tested these models. Overall, the psychological processes behind physical activity behaviour change maintenance are less studied, and consequently the focus of the first study in this PhD. This PhD will focus on maintenance of running; a popular, and relatively accessible form of exercise that still has high drop-out rates (Fokkema et al., 2019). Although running can be viewed as a more structured form of exercise, exercise is still a subset of physical activity (Caspersen et al., 1985). Therefore, in this PhD,

running is defined as physical activity, but both the terms exercise and physical activity will be used when reviewing the broader research and literature around the topic depending on the authors' terminology.

Beginner runners often start running through organised programmes such as Couch to 5k (C25K), and with running clubs. It seems logical to intervene in that context to maximise beginner runners' behaviour change maintenance. There generally seems to be a lack of research implementing physical activity interventions in the community and in this context (e.g., at running clubs) (e.g., Cooper et al., 2021). There is also a lack of focus on educating those working with beginner runners (e.g., coaches) on how to use psychological strategies in their coaching. To my knowledge, there are no behaviour change interventions arranged at running clubs or targeted for running clubs specifically, and no interventions co-produced with running clubs. There is also a lack of interventions that could be easily applied to the real-world and delivered by sport and exercise psychologists or coaches. Tailoring the intervention to a specific context, together with those who would benefit from the intervention has the potential to make the interventions more applicable, and translatable to the real-world (Powell & Coward, 2022), while also contributing to bridging some of the "research-practice gap" (Keegan et al., 2017; Martens, 1987). Therefore, the overall aim of this PhD is to develop a practical, evidence-based, and context-specific intervention that could support beginner runners with maintaining running after starting. The PhD consists of three studies that build on each other to achieve the overall aim.

PhD Structure

This PhD consists of seven chapters. The present chapter has introduced the topic (i.e., behaviour change maintenance), the population (i.e., beginner runners), the context (i.e., running club), and the overall aim of this PhD. Chapter 2 presents a literature review that will build upon the introduction and will finish with specific aims for each study that makes up this PhD. The literature review chapter will be followed by Chapter 3: the Methodology chapter, where the overall

methodology for the PhD will be discussed. The three study chapters will then follow. Chapter 4 presents Study 1, an analysis of a pre-existing dataset from longitudinally collected interviews with 20 beginner runners after they started running. Chapter 5 presents Study 2, a co-production study detailing how an intervention that supports beginner runners with behaviour change maintenance was co-produced with coaches, runners, and applied practitioners. Chapter 6 presents Study 3, where a co-produced intervention was delivered and evaluated at two running clubs. Each study chapter includes a brief background specific for the respective study, methods for the study, results of the study, and a discussion of the results linking the study to the literature and overall aims of the PhD. The seventh and final chapter is the PhD synthesis where the PhD will be concluded with an overall discussion of the results, implications, and recommendations for future.

Chapter 2: LITERATURE REVIEW

Chapter Introduction

The following literature review will firstly introduce running as a form of physical activity. It will then discuss behaviour change theories and associated physical activity interventions, before discussing behaviour change techniques. This will be followed by some of the proposed solutions to making behaviour change interventions more effective, such as considering the context and the needs of those who the interventions are aimed at. Finally, the applied focus of this PhD will be explained, before outlining the specific study aims and the ways in which these aims will be addressed.

Running

Recreational running is one of the most popular forms of physical activity. It is easy to start, relatively inexpensive, requires little equipment, and it can be done alone without requiring any facilities (Eime et al., 2015). Like other physical activity, running is associated with many health benefits, such as lowering the risk of heart disease and diabetes (Oja et al., 2017; Wang et al., 2019), and increasing mental health and wellbeing (Nezlek et al., 2018; Oswald et al., 2020). Pedisic et al. (2020) reported that running just once a week can reduce mortality risk and increase longevity. Given the practicality, and wide benefits, running initiatives are recommended by GPs (general practitioners) to encourage people's physical activity (e.g., Lowe et al., 2022). Running is therefore deemed suitable for intervention development.

It is estimated that around 7 million people in England run regularly (England Athletics, 2021), and according to some surveys, running's popularity grew during the Covid-19 related lockdowns as well. RunRepeat found that 28% of runners they surveyed started during the pandemic (RunRepeat, 2023), and Nielsen Sports found 13% of the runners they surveyed began after lockdown restrictions were implemented (Nielsen Sports, 2021). Although both datasets are limited in terms of participant numbers, the results suggest that there was a likely increase in new runners because of the pandemic and the related restrictions (e.g., gym closures), although it is unknown whether these runners

continued post-lockdown. On the other hand, another study in the US found that inexperienced runners were more likely to decrease their running frequency during the pandemic, citing fewer motives to continue (DeJong Lempke & Hertel, 2022). The authors speculated that this could have been due to novice runners relying more on social support, which was limited during the pandemic. DeJong Lempke and Hertel's (2022) study also found that while running volume in general increased during the pandemic, it decreased again during the first month when restrictions eased. Less opportunities to maintain running due to childcare, work, and life changes were reported by the respondents.

It can be particularly difficult to start and maintain running or other activities for certain populations (e.g., parents, people from lower socio-economic backgrounds) (e.g., Khanom et al., 2020). Women's activity levels were more negatively affected in England during the Covid-19 related lockdown (Sport England, 2021), showing that gender plays a role in enabling physical activity. Prioritising running can be more difficult due to logistical challenges with childcare, or lack of access to suitable areas, but also due to feelings of guilt about taking the time to run (e.g., Hamilton & White, 2010; McGannon & Schinke, 2013). There are also arguments to suggest running is gendered and more of a middle-class activity, that might exclude women or people from lower socio-economic backgrounds (e.g., Abbas, 2004; Nilson et al., 2021). For example, run commuting in the UK (i.e., running between work and home), which could be a way to fit running into one's day better, tends to be most popular amongst middle-aged White men in highly paid jobs (Cook, 2021). A further consideration for women is safety. Two recent studies have demonstrated that women might encounter potentially dangerous situations on their runs, such as street harassment (e.g., Allen-Collinson, 2023; Brockschmidt & Wadey, 2022). Both studies included the perspectives of more experienced runners, although it is likely that safety will also be a concern for those starting out.

Despite the challenges some might face with running, England Athletics reported that more people, and more women, are running now than since their last report from 2017 (England Athletics,

2021). This may be supported by various initiatives. For example, This Woman Runs (previously This Mum Runs) is one of the biggest social running networks meant for women, that aims to encourage mums and other women to become more active and run together (<https://www.thiswomanruns.com>). Parkrun, a free, weekly, 5 km outdoor running event, is another global initiative that started in the UK in 2004 and is a good example of running's popularity. Parkrun has seen an increase in participants and locations over the years, with there now being 1251 parkrun events in the UK alone (<https://www.parkrun.org.uk>). There is even some evidence showing that parkrun attracts people who are non-runners or occasional joggers (Stevinson & Hickson, 2014), supporting its role in encouraging people to become active. Some researchers, however, suggest that parkrun attracts those who have existing social ties to other (park)runners and physically active people, therefore potentially excluding people from certain neighbourhoods (Wiltshire & Stevinson, 2018), and reinforcing the idea that running is a more of a middle-class activity (Baxter, 2021). In addition, although parkrun encourages walkers to join as well, the 5 km distance can still be relatively challenging for those more sedentary.

Couch to 5K (C25K) is an app that is aimed at sedentary people, helping them build their fitness up to that 5 km distance. It was started in 1996 by Josh Clark (BBC, 2018), and is now branded as the NHS Couch to 5K (NHS, 2020). It is a free app that gradually guides people to running 5 km over nine weeks (NHS, 2020). A recent report shows the app has been downloaded 6.5 million times since its launch in 2016 (Department of Health and Social Care, 2023). Relph et al. (2023) suggested that programmes like C25K should link up with local parkruns to help those who have completed the 9-week programme to maintain their running habit after finishing. Alternatively, signposting people into other community-based activities or to running clubs could also support beginner runners' behaviour change maintenance after completing a C25K (Relph et al., 2023). Many running clubs offer their own beginner programmes that are similar to C25K, giving people the opportunity to start (and maintain) running with others.

Running clubs have grown in popularity, with England Athletics affiliated running clubs increasing by 300 over the last 10 years (England Athletics, 2019). Some people may join a running club when they are first starting to run (e.g., C25K), others might be more experienced and join for opportunities to socialise and compete (e.g., Pedersen et al., 2018). There are also mass participation sports events (MPSEs) and races that have grown exponentially (England Athletics, 2019). As was suggested with parkrun, MPSEs can even attract those who are new to running. People participate in mass events from parkruns to marathons for various reasons related to health and fitness, for the social aspect, goal achievement, and for charity reasons (Bennett et al., 2007; Coleman & Sebire, 2017; Stevinson & Hickson, 2014). Training for a MPSE such as a 10 km race or a marathon can help people become more physically active, but the activity might drop after the event suggesting that the events only work to increase activity in the short-term (Funk et al., 2011; Lane et al., 2012), further supporting the need to focus on long-term change. Taken together, these findings demonstrate running is popular, but also indicate that there is a need to find ways to support long-term maintenance of running, particularly for less privileged populations. Behaviour change theories inform many running and physical activity interventions, and these will be turned to next.

Behaviour Change Theories

The aim of this PhD was to develop a practical and evidence-based intervention; therefore, behaviour change theories played a key role in the content development. A hundred or more health-related behaviour change theories exist (Kwasnicka et al., 2016), but discussing all theories is beyond the scope of this PhD. Five theories relevant to physical activity and exercise behaviour change are overviewed: self-determination theory (Ryan & Deci, 2000), the social identity approach (Tajfel & Turner, 1979; Turner et al., 1987), self-efficacy theory (Bandura, 1977), the health action process approach (Schwarzer & Luszczynska, 2008), and affective-reflective theory (Brand & Ekkekakis, 2018). The following theories particularly resonated during the analysis of the data for Study 1 (Chapter 4)

and consequently informed the intervention content and delivery of the intervention (Study 2 in Chapter 5). These theories and their application to physical activity will therefore be outlined next.

Self-Determination Theory and Its Application to Physical Activity

Self-determination theory (SDT; Ryan & Deci, 2000) is one of the leading theories of motivation that also explains engagement with physical activity. The central distinction in the theory is between autonomous (self-determined) and controlled motivation, where the former means behaving according to your own volition and free from pressures, and the latter means behaving according to internal or external pressures (Ryan & Deci, 2000). The theory suggests motivation lies on a continuum from amotivation to intrinsic motivation with different types of extrinsic motivation in between (Ryan & Deci, 2000). Amotivation refers to the absence of motivation. Intrinsic motivation is the most autonomous form of motivation; intrinsically motivated people would engage in behaviours because they find the behaviours enjoyable, interesting, fun, or engage in them out of curiosity to learn. The behaviours themselves are inherently rewarding (Deci & Ryan, 1985). Although intrinsic motivation is deemed an important form of motivation, Deci and Ryan (1985) noted that people engage in a lot of activities that are not intrinsically motivating, and other types of motivations might be more relevant, especially for physical activity (Ryan et al., 2009). To explain people's motivation to engage in behaviours that are not necessarily inherently satisfying, the organismic integration theory (i.e., a mini-theory within SDT), further categorises extrinsic motivation into four different types depending on how autonomously regulated that motivation is (Deci & Ryan, 1985). These types of motivations are external, introjected, identified, and integrated regulation, listed in the order of least to most autonomous. External regulation is the most controlled form and means doing something because of external rewards, or to avoid punishment (Ryan & Deci, 2017). Introjected regulation means doing something because of external or internal pressures (e.g., avoid feeling guilty) and is also a controlled form of motivation (Ryan & Deci, 2017). Identified regulation means doing something because you value the activity or the outcomes you might get from the activity and is

considered an autonomous form of motivation (Ryan & Deci, 2017). Integrated regulation means that the behaviour aligns with your identity and is considered the most autonomous form of motivation (Ryan & Deci, 2017). These regulations have been used to explain the quality of motivation for physical activity behaviour change (Fortier et al., 2012).

The organismic integration theory suggests that the more autonomous our motivation is (i.e., identified, integrated, intrinsic), the more likely we are to engage and persist with behaviours (Ryan & Deci, 2000). For example, in a study that compared new exercisers and long-term exercisers' motivational regulations, they found that long-term exercisers had significantly higher levels of autonomous (identified and intrinsic) motivation and less controlled forms of motivation than the new exercisers (Rodgers et al., 2010). The researchers also found that identified regulation was more endorsed by the new exercisers, and changed quicker than intrinsic motivation for them, which indicates that people might start to value the health outcomes of exercise before they start to enjoy the exercise itself. In other words, people might be more likely to persist with behaviours they value or find meaningful compared to the ones they enjoy (e.g., Van den Broeck et al., 2021), suggesting that trying to help people see the value in engaging with exercise could prove fruitful.

Self-determination theory has been widely researched, and reviews have predominantly supported SDT's predictions regarding health behaviour, including physical activity behaviour change (i.e., that autonomous motivation supports behaviour change) (e.g., Sheeran et al., 2021; Teixeira et al., 2012). The results have been mixed when looking at the facilitative effects of the four types of regulation on exercise, however (e.g., Lindwall et al., 2017). While SDT originally suggested that introjected regulation is a more controlled form of motivation, and therefore maladaptive for physical activity, some newer studies have found that introjected regulation is not maladaptive as long as other more autonomous forms of motivation are also present, which offers critiques against the motivational continuum (Kinnaefick et al., 2014; Lindwall et al., 2017; Miquelon et al., 2017), suggesting that the motivational regulations might not be as straightforwardly classed into ones that positively

predict physical activity behaviour and ones that do not. Essentially, people might have multiple reasons for exercising and cannot be placed on a continuum based on one regulation type (Rhodes et al., 2019).

Basic psychological needs theory, another mini-theory within SDT, proposes that there are three psychological needs that are essential for our wellbeing and autonomous motivation (Deci & Ryan, 2000). These needs are competence, relatedness and autonomy (Deci & Ryan, 2000). Competence refers to feelings of capability and mastery of tasks, relatedness is the need to feel supported and connected with others, and autonomy reflects the sense of choice and ownership over one's actions (Ryan & Deci, 2017). SDT suggests that people pursue goals that satisfy these psychological needs and will show more perseverance for behaviours that satisfy these needs (Ryan & Deci, 2017). In contrast, people are less likely to persist with a behaviour if their basic needs are not satisfied or if they are thwarted. When a person's three basic psychological needs are met, they are more likely to be more autonomously motivated and therefore engage in and maintain behaviours such as physical activity (Ryan & Deci, 2000; Springer et al., 2013).

In the context of running, SDT, organismic integration theory, and basic psychological needs theory suggest that for people to maintain running, they would need to have autonomous motivation, which can be targeted through enjoyment (i.e., intrinsic), through helping them see how running aligns with their identity (i.e., integrated regulation), through helping them see the value in the outcomes of running (i.e., identified regulation), and through satisfying their needs for autonomy, competence, and relatedness (Ryan & Deci, 2017). Reviews have suggested that SDT-informed interventions show positive effects across different health behaviours, such as physical activity (e.g., Fortier et al., 2012; Ntoumanis et al., 2021), and unsurprisingly many physical activity interventions target the constructs from the theory. For example, a Keep on Running trial (Pereira et al., 2021) had a similar aim to this PhD: to support beginner runners with behaviour change maintenance and prevent them from relapsing. The web-based intervention was based on both SDT and self-regulation theory and

consisted of short app-based sessions including modules on motivation and self-regulation. They targeted participants who had already been running for a maximum of three months to evaluate whether the intervention could support them in maintaining their running. In alignment with previous research, they hypothesised that increased basic need satisfaction, increased autonomous motivation, and self-regulatory processes would act as the key mediators in maintaining running behaviour (Pereira et al., 2021). Only the pilot study has been published currently, therefore the results of the randomised controlled trial are still unknown (Pereira et al., 2021). Nevertheless, their research suggests that SDT constructs could also be valuable in interventions that target behaviour change maintenance, in addition to supporting those who are initiating behaviour change.

Physical activity interventions can also be delivered through the instructors using SDT-informed principles, such as being need-supportive in their communication. For example, Sanz-Remacha et al. (2021) arranged a 20-month long physical activity intervention for disadvantaged women where the instructor used needs-supporting strategies (e.g., cooperative games, positive feedback, enabling decision-making). Discussion groups, interviews, and field notes were used to qualitatively evaluate how the intervention was perceived. The results demonstrated that the women's basic psychological needs were satisfied through the instructors' need-supporting strategies and the social support they received from the programme, which consequently had a positive influence on their autonomous motivation, enjoyment, and wellbeing (Sanz-Remacha et al., 2021). Relatedness-support from the instructor was seen as one of the key aspects to help the disadvantaged women feel part of the group and increase group cohesion, especially at the beginning. While the study reported an increase in basic psychological need satisfaction, autonomous motivation, and affective outcomes, it did not report whether these had an impact on the women's physical activity levels or adherence to the intervention. Furthermore, while the intervention itself was 20 months long and participants were interviewed at the end, there were no follow-ups to see whether the positive effects or physical activity levels remained. Nevertheless, one of the key outcomes is that those delivering physical activity interventions would likely benefit from being need-supportive (Sanz-

Remacha et al., 2021). While this study focused on a specific population, other studies have also highlighted the positive impact need-supportive behaviours from health professionals and those who lead exercise programmes can have on physical activity adherence (e.g., Rodrigues & Macedo, 2021). For example, Ntoumanis et al. (2017) showed that training exercise-class instructors to be need-supportive in their communication can increase basic need satisfaction and result in stronger intentions to exercise in future. Taken together, these studies suggest that training people working with beginner runners (e.g., coaches) on how to be need-supportive, could be beneficial for maintaining running.

Basic needs theory still has its critiques. Some researchers have questioned whether there are only three psychological needs (e.g., Baxter & Pelletier, 2019; Sheldon et al., 2001); it is not clearcut which need is most important for exercising, and whether some needs are more important when initiating exercise versus when trying to maintain it (e.g., Kinnaick et al., 2014). The research linking increased basic need satisfaction with higher physical activity levels, and physical activity adherence, however, is largely supported (e.g., Springer et al., 2013). The feeling of relatedness can also facilitate the development of social identity (e.g., Walsh et al., 2018), which is what the next theory will address.

The Social Identity Approach and Its Application to Physical Activity

Social identity theory (SIT; Tajfel & Turner, 1979) and self-categorization theory (SCT; Turner et al., 1987), form the social identity approach. This approach suggests that parts of our identity can be derived from the social group(s) we belong to and that in social situations we often view ourselves as group members rather than individuals. People can perceive themselves to belong to certain social groups, identify and define themselves as members of those groups, act in alignment with the behaviours of those groups, and therefore mutually influence each other (Turner, 1991). People internalise and behave according to the norms and values of the groups they self-categorize or identify with (Turner, 1991). The social identity approach aims to understand how and why people assume

these social identities and act according to them instead of their personal identities (Ellemers & Haslam, 2012).

People might start their running journey with a group or club, or they might start running alone and later join a group or a club. Social identity can be useful for understanding running behaviours and behaviour change in a group (Stevens et al., 2017). For example, beginner runners who start running with a running club could come to identify themselves as members of that club and depending on the strength of the identification with that club, they might assume the behaviours (i.e., running) of that club, consequently supporting their behaviour change (Reynolds et al., 2020). In a parkrun context, Stevens et al. (2019) showed a positive correlation between social identification and participation in parkruns, demonstrating that those parkrunners who identified strongly as parkrunners were more likely to attend parkruns. They additionally found that the stronger the identification as a parkrunner, the higher the runner's satisfaction with parkrun. Given the nature of correlational research, the results could also mean that those who attend frequently develop a stronger identification as a parkrunner. Regardless, the study offers support on the potential of using social identity to promote physical activity participation (Stevens et al., 2019). On the other hand, Strachan et al. (2012), who compared role identity and social/group identity in runners who were part of structured running groups, suggested that while identifying with a running group can be beneficial for maintaining running, identifying strongly with a group can result in stopping running if the group disbands. Their study used a hypothetical scenario, asking runners to imagine how difficult running would be if their running group disbanded which might mean the responses would differ for actual group disbandment. But behaviour change maintenance is shown to be difficult, with many interventions only showing short-term effects (McEwan et al., 2022). Given that identity is important in behaviour maintenance with people more likely engaging in behaviours that support the beliefs they hold about themselves (Bracken, 1996), it is plausible that running could stop if a person loses the group they have been running (and identified) with.

The social identity approach has offered some guidance for group-based behaviour change interventions. For example, in group interventions, people should first be encouraged to establish a sense of shared social identity with the other members of the group to support the effectiveness of the intervention (Tarrant et al., 2020). The social identity model of behaviour change hypothesises that when people define themselves in terms of shared social identity that gives them meaning, they are more likely to support each other, influence each other and develop a sense of collective agency, which will then lead to enacting according to the norms of that identity (Haslam et al., 2018, as cited in Tarrant et al., 2020).

Given all the potential positive effects of how shared social identity can influence people, it seems important to focus on building shared social identity within behaviour change interventions. The deliverer of the intervention, or the one facilitating the intervention group has a key role to play in this (Steffens et al., 2014). For example, Stevens et al. (2018) looked at how promoting a shared sense of identity might influence group identification and attendance in sport and exercise settings. Social identity leadership (i.e., developing and promoting a shared sense of identity within their group) was positively linked with group identification, which was in turn positively linked with attendance. This could mean that anyone leading an exercise group, such as a beginner running group, could focus on developing and promoting a shared sense of identity amongst the runners to support their social identity formation and continued participation.

In practice, social identification can be built through encouraging shared activities and group decision making (Steffens et al., 2021). Tarrant et al. (2020) also offered techniques to promote shared social identity, which include the use of inclusive (“we”-orientated) language, encouraging interaction between members (e.g., by asking them to share experiences), encouraging members to identify commonalities with each other through paired activities, and promoting the role of the group in helping the members to reach their goals. Different techniques for enhancing social identity and subsequent behaviour change have been provided, and a positive relationship between social identity

and behaviour change has been suggested, which shows promise for social identity-based interventions. Yet, actual social-identity based interventions for physical activity are still uncommon (Estabrooks et al., 2011).

One example of a social identity intervention comes from Fransen et al. (2022) who aimed to test whether group leadership that focused on social identification between members could have a positive effect on a walking intervention. The researchers focused on group leaders since they play a significant role in enhancing shared social identity and used the 5R Shared Leadership Program to create different peer leaders within the walking group (i.e., task leader, motivational leader, social leader). The five Rs stand for readying, reflecting, representing, realising, and reporting, and the approach includes group activities like defining core values, uncovering shared identity, setting identity-related goals for the group, implementing strategies to achieve the group goals, and monitoring progress towards the goals (Fransen et al., 2022). The study had control groups who also attended a similar 12-week walking programme but without the creation of the peer leaders. The pre- and post-intervention measures demonstrated that the 5R programme enabled peer leaders to develop a shared sense of social identity. The participants in the 5R intervention programme experienced higher group cohesion and increased their frequency of walking compared to the control group. Notably, the participants in the organisations they recruited through were generally healthy and active already, with 72% of them engaging in other exercise beyond the walking programme (Fransen et al., 2022), which means the results may not generalise to more sedentary groups. Nevertheless, the study offers some support for the positive role of the social identity approach in supporting physical activity behaviour change. The social identity approach can offer some useful considerations for developing interventions that consider the social aspect but given the complexities with health-related behaviour change (e.g., Kelly & Barker, 2016), it would not be sufficient for explaining behaviour change maintenance on its own. It is likely that other factors, such as our belief in our abilities, also shape our physical activity behaviours.

Self-Efficacy Theory and Its Application to Physical Activity

Self-efficacy is a widely studied construct within the social-cognitive theory (SCT). SCT is a behaviour change theory that considers the interaction between the individual and their social environment (Bandura, 1986). The SCT consists of constructs such as self-efficacy, outcome expectations, self-regulation, and social support (Bandura, 1986). The key construct and the most relevant to this PhD is self-efficacy, which is the belief in one's ability to successfully carry out a behaviour (Bandura, 1977). According to Bandura (1977), self-efficacy can develop as a result of mastery experiences, vicarious experiences, verbal persuasion, and perceptions of physiological and affective states. The beliefs that people hold about their abilities affect their behaviours; people will likely not try to initiate or persist in behaviours when faced with obstacles if they do not believe in their own ability to do so. The higher the perceived self-efficacy for any given behaviours, the more effort is expended (Bandura, 1977). In the context of running, it would mean that those who believe in their ability to run would be more likely to start and maintain running. Self-efficacy has been widely researched across different contexts, including physical activity. The general finding is that a high self-efficacy is linked with higher engagement in physical activity (e.g., Bauman et al., 2012; Young et al., 2014). Greater self-efficacy has also been linked to greater likelihood of running in beginner runners (Plateau et al., 2024), which suggests that interventions could benefit from focusing on increasing beginner runners' self-efficacy.

Given the positive link between self-efficacy and physical activity, it is important to understand how someone's self-efficacy for physical activity can be targeted and changed. Ashford et al. (2010) investigated the best ways to change self-efficacy to promote physical activity in interventions. From their analysis of 43 papers, they found that vicarious experiences and offering feedback on performance resulted in significantly higher physical activity self-efficacy compared to intervention studies where these methods were not used. In contrast, techniques such as persuasion, graded mastery, and barrier identification resulted in significantly lower physical activity self-efficacy

when compared with interventions that did not use these techniques (Ashford et al., 2010). Barrier identification being linked with lower self-efficacy was surprising given that identifying barriers is a technique often used in physical activity interventions (e.g., Estabrooks et al., 2011). Ashford et al. (2010) speculated that perhaps focusing on the challenging aspects of physical activity at the start of the intervention might remind the people why the behaviour change will be difficult and consequently decrease their belief in being able to cope. The timing and language that is used is key and using the barrier identification technique could instead emphasise exploring the strategies that the person can do to overcome barriers. The meta-analysis highlighted the importance of considering which techniques to use for physical activity interventions, but it is worth noting that they sought to specify the techniques that increased self-efficacy measures but did not compare how the interventions (and the increase of self-efficacy) affected physical activity behaviour itself.

Self-efficacy interventions have supported changes in self-efficacy measures but have also shown a positive link with physical activity. For example, Buckley (2016) found support for the link between self-efficacy and physical activity. They conducted a 12-week self-efficacy intervention for women living with overweight and obesity, measuring exercise energy expenditure and self-efficacy as the outcome measures. The intervention was based on wider SCT and included goal setting, asking participants to identify reasons why exercise was important and what type of exercise they enjoyed, a self-regulation task (identifying barriers and worries the participants had, and finding solutions), a relapse management task (identifying strategies to re-establish exercise), and an exercise achievements task (reflecting on exercise achievements, and identifying rewards for achieving their goals). For exercise self-efficacy, they used three measures: schedule efficacy, worries self-efficacy, and physical efficacy. The intervention involved an in-person meeting at the start where baseline measures were taken, and the intervention materials given out, followed by a 6-week assessment and a 12-week post-intervention assessment using questionnaires. The intervention significantly increased self-efficacy for scheduling exercise and completing physical activities for the inactive participants, and there was also a link, albeit statistically non-significant, for overcoming worries about exercise

(Buckley, 2016). On the other hand, the control group decreased in self-efficacy. Whilst Buckley's (2016) intervention study offered support for increasing people's self-efficacy through self-directed experiences, it has its limitations. Like many other exercise intervention studies, Buckley's (2016) study relied on self-report measures of exercise. This can be an issue especially in people living with overweight and obesity where there is over-reporting of physical activity (Rzewnicki et al., 2003). Although they included a follow-up measure post-intervention, this was done after 12 weeks limiting the ability to see the long-term effects. The study also only included women who were already attending a WeightWatchers programme and were therefore perhaps more motivated to attend than the general population.

Some researchers have indeed critiqued the concept of self-efficacy as being more reflective of a person's motivation rather than their perceived capability (e.g., Kirsch, 1985). Self-efficacy is usually measured by asking the participant if they *can* do something, which could mean that when people say yes they *can*, they are already motivated to do the given behaviour, rather than because they feel physically capable of doing it (Kirsch, 1985). This differentiation matters in physical activity behaviour change as it would be important to know if low self-efficacy for physical activity is the result of people perceiving themselves incapable of being active or if it is because they have low motivation to be active (Williams & Rhodes, 2016). Williams and Rhodes (2016) support the self-efficacy-as-motivation argument and contend that whilst Bandura's original claim was that perceived capability for a behaviour is conceptually independent of motivation, ratings of self-efficacy appear to echo the much wider notion of motivation, which is why high self-efficacy can predict the likelihood of behaviours. In addition, satisfying the basic need for competence, which is similar to the concept of self-efficacy, is associated with more autonomous motivation (Ryan & Deci, 2017). This argument about self-efficacy reflecting motivation would then suggest that self-efficacy is only able to show that people are motivated to engage in behaviours, rather than explain *why* they are motivated.

Despite some of the critique, self-efficacy has had wide reaching implications across the physical activity domain and is worth considering when designing interventions for beginner runners to maintain their running. Self-efficacy has also been used in many other behaviour theories outside of SCT, such as protection motivation theory (Maddux & Rogers, 1983), the health belief model (Rosenstock et al., 1988), the transtheoretical model (Prochaska & DiClemente, 1983), and the health action process approach (Schwarzer & Luszczynska, 2008). The latter differentiates between the types of self-efficacy depending on what behaviour change stage people are at and will be discussed next.

The Health Action Process Approach and Its Application to Physical Activity

The health action process approach (HAPA) proposes that health behaviour change, including physical activity behaviour change, includes a variety of social, emotional, and cognitive factors (Schwarzer & Luszczynska, 2008). The researchers suggest that behaviour change includes a motivational phase and a volitional phase that operate sequentially and should both be considered. The motivational phase leads to intention to change but the *intention-behaviour gap* (Sheeran, 2002) suggest that intentions do not always lead to actual behaviours. HAPA tries to resolve this issue by explicitly focusing on the volitional, or post-intentional, phase (Schwarzer, 1992). The volitional phase is when a person has decided to change, and their focus is on initiating and maintaining the desired behaviour (Schwarzer & Luszczynska, 2008). The HAPA approach suggests that different social-cognitive constructs are at play depending on if the person is in the motivational phase where they are developing the intention to change (e.g., to start running) or in the volitional phase where they are initiating and maintaining the new behaviour (e.g., running and trying to maintain running) (Schwarzer & Luszczynska, 2008). The HAPA includes six different psychological constructs that are directly or indirectly linked to behaviour; intention, risk perception, outcome expectancies, self-efficacy, action planning and coping planning, and action control (Schwarzer & Hamilton, 2020). One of the key distinctions that the approach proposes and that is relevant to this PhD is the differentiation between types of self-efficacy. Whilst Bandura (1977) referred to just one type of self-efficacy and

described it as the belief in one's capabilities to perform an action, the HAPA suggests that this type of self-efficacy should be called action self-efficacy. It further proposes that two other types—namely maintenance/coping self-efficacy and recovery self-efficacy—are also needed, depending on which phase the person is in (Schwarzer & Luszczynska, 2008). Maintenance self-efficacy refers to one's ability to maintain the desired behaviour and cope with barriers, whereas recovery self-efficacy refers to one's ability to bounce back from a setback and resume the desired behaviour (Schwarzer & Hamilton, 2020). With running this could mean believing in your ability to keep running despite barriers (maintenance self-efficacy) and believing in your ability to continue running even if you have had to take a break from it (recovery self-efficacy). This distinction is key given that many interventions tend to focus on the behaviour change but not the maintenance phase, leaving people unable to gain the health benefits that come with long-term behaviour change. Research with runners and walkers has offered some support for this distinction, specifically for recovery self-efficacy.

Luszczynska et al. (2007) found that recovery self-efficacy together with intentions to run were significant predictors of running behaviour, while no support was found for maintenance self-efficacy as a predictor. They measured running behaviour, recovery self-efficacy, maintenance self-efficacy, and intentions to maintain regular running two years apart to establish if the efficacy beliefs and intentions could explain continuation. Most of the participants in the study had breaks from running, which could explain why recovery self-efficacy was more important than maintenance self-efficacy, as the runners experienced coming back from a lapse rather than continuously maintaining running. Most of the participants were men (80%), under the age of 35 (81%) and running on average three times a week when the study started, therefore the results may not generalise to older and/or inactive women runners. Another study that offered support for recovery self-efficacy included a different population: the majority were women (77%), retired (54%), and 90% of the participants were between 40 and 79 years (Kassavou et al., 2014). Kassavou et al.'s (2014) study recruited people who had been attending a walking group for at least three months and similarly found that recovery self-efficacy predicted maintenance of attendance whereas maintenance self-efficacy did not. The walkers

attended the sessions infrequently; therefore, they might have been constantly “recovering” from a lapse, rather than trying to maintain attendance. The different roles that recovery self-efficacy and maintenance self-efficacy play could also be explained with group sessions versus individually-based activities. In Kassavou et al.'s (2014) study, the participants’ walks were scheduled, and they had to attend at a specific time, which may have increased the gaps in attendance and resulted in needing to constantly believe they can resume behaviour (recovery self-efficacy). In contrast, people who walk on their own possibly need to focus more on maintaining their walking behaviour (maintenance self-efficacy). Taken together, these two studies suggest that supporting beginner runners with returning from time off could be helpful when delivering interventions. To my knowledge, no study has experimentally manipulated recovery or maintenance self-efficacy in physical activity interventions.

Research looking at the predictors for physical activity has generally only found support for some of the constructs of HAPA, as opposed to supporting the whole theory (Hattar et al., 2016; Zhang et al., 2019). Consequently, Schwarzer and Hamilton (2020) proposed that the key elements of HAPA are the distinction between the self-efficacy types and between action and coping planning. Action and coping planning are also relevant for this PhD. Action planning refers to specifying when, where, and how someone will act on their intentions to exercise, and coping planning refers to identifying potential barriers and ways to overcome them when it comes to their exercise plans (Schwarzer & Hamilton, 2020). Action planning and coping planning, which are also called implementation intentions outside of HAPA (e.g., Gollwitzer & Oettingen, 2017; Michie et al., 2013), can both be implemented using an if-then format (Bieleke et al., 2021). For example, linking a critical situation, such as being tired after work (i.e., the if-part) to the planned action, such as going for a shorter run instead (i.e., the then part). These plans can protect goals from being disrupted by internal or external states, such as the temptations not to run, or going on holiday. Forming a plan can reduce the need to think about whether we should run or not and help us just act, making our responses more automatic (Bieleke et al., 2021). Action and coping planning are hypothesised to support turning intentions into actions (Schwarzer & Hamilton, 2020), and physical activity interventions have used

these principles successfully, demonstrating their partial mediation effects between intentions and physical activity (Carraro & Gaudreau, 2013).

Research has suggested that implementation intentions (i.e., action and coping planning) can be an effective strategy for increasing physical activity, at least in the short-term. Robinson et al. (2019) used implementation intentions with the aim of increasing inactive participants' daily step count. The intervention group received daily reminders to set specific plans for the following day regarding when, where and how they would increase their steps. Participants in the intervention group were also supported with customised maps of their local area with distance and steps information, and they were offered a list of strategies they could use to increase their step count. At the end of the intervention at week 5, the participants in the intervention group had increased their steps by 27% from baseline, compared to hardly any change for the control group, suggesting the implementation intentions were effective for increasing activity (Robinson et al., 2019). Some of the participants were followed up one month later and when their step counts were compared, there was no significant difference between their baseline and the follow-up point, nor was there a significant difference compared to the control group. This finding is similar with other physical activity interventions (e.g., McEwan et al., 2022), suggesting that a lot of these strategies only work in the short-term. The researchers suspect the 4-week intervention may have been too short to produce long-lasting changes, or perhaps a booster session that reminded the participants to continue with specifying their plans the day before would have been required to produce longer lasting effects (Robinson et al., 2019).

Research has suggested that action planning and implementation intentions work better when the plans are more specific (Warner et al., 2022), when people already possess good planning skills (Allan et al., 2013), and when people have strong self-efficacy (Kompf, 2020). Additionally, coping planning might be more effective for behaviour change when used together with action planning (Rhodes et al., 2020). These findings are worth considering (e.g., focus on increasing self-efficacy first,

encourage specific plans) when designing potential interventions for beginner runners that target planning.

HAPA, and the other theories outlined above, focus on the cognitive changes (e.g., planning actions, reflecting on values) to support people's physical activity behaviour change. These theories do not consider the feelings people have in relation to physical activity, which is what the final behaviour change theory will address.

Affective-Reflective Theory and Its Application to Physical Activity

The affective-reflective theory (ART) of physical inactivity and exercise (Brand & Ekkekakis, 2018) is based on dual-process theories, which suggest our behaviours are the result of two different mental processes: automatic or unconscious (i.e., related to affective states) and reflective or conscious processes (Hagger, 2017). The theory was developed to explain exercise behaviours and proposes that people's exercise behaviours are guided by their more automatic emotional reactions (i.e., System 1) which then impact their subsequent cognitive appraisals (i.e., System 2) (Brand & Ekkekakis, 2018). ART proposes that over time we create positive or negative associations to different stimuli (e.g., running, relaxing), and these more automatic affective responses determine our behaviours in the first instance, before more complex cognitive operations are used to decide on the action (or inaction) we take (Ekkekakis, 2017).

The preceding behaviour change theories above represent people as rational decision-makers who can reflect on their thoughts and feelings when pursuing physical activity goals, while Ekkekakis (2017) argued that the role of affect in the decision-making process is being neglected. Core affect can be defined as "a neurophysiological state, accessible to consciousness as a simple non-reflective feeling: feeling good or bad, feeling lethargic or energised" (Russell, 2009, p. 1264). Ekkekakis (2013) defined core affective valence as encompassing pleasant and unpleasant emotions and good and bad moods, and as something that is constantly experienced at different intensities. The changes in

people's core affective valence during exercising, and its link to future exercising (i.e., behaviour change), has received research attention and resulted in theories focused on affect.

People tend to seek pleasurable experiences and avoid unpleasant experiences (Rozin, 1999), therefore for people to want to run, running should evoke pleasant feelings and memories. Other cognitive theories have explained the challenge of physical activity behaviour change through the types of motivation (e.g., self-determination theory) or lack of confidence (e.g., self-efficacy), whereas ART explains that the reason is in the affective response linked with inactivity and exercise. When the affective response to remaining inactive (e.g., relaxing on the sofa) is more positive than the affective response to going for a run, people will remain inactive. ART still supports the need for cognitive theories and sees their value for long-term behaviour change but the theory's focus is on how people's momentary emotional responses to exercise can influence their decisions in the short-term, adding a hedonistic perspective to exercise behaviour change (Brand & Ekkekakis, 2018).

There is evidence to suggest that how we feel during exercise can predict our future intentions to exercise. Rhodes and Kates (2015) systematically reviewed research that looked at whether affective responses can predict future physical activity and found support for the effect of affective responses. The four studies that measured affect *during* exercise, found a significant positive association between affect and future physical activity. Notably, the studies included both sedentary and already active participants. Seven out of nine studies that measured affect *post* exercise found no significant association with future physical activity, and this was mainly the case for studies that included participants who were new to exercise. The review supports the view that our affective responses matter, but also suggests that how we feel about exercising while we are doing it matters more for future exercising than how we feel afterwards, especially for those new to exercising. Williams et al. (2016) similarly found that affect during exercise had a greater impact on future exercise behaviour than affect after exercising.

The importance of positive affective responses has been shown in beginner runners as well. Another study specifically looking at running found that participants' affective responses to a run-walking session predicted future physical activity, but regardless of if the positive affect was measured during or after the session (Kennedy, 2020). The researcher joined in with beginner running programmes (i.e., C25K or similar), and asked for the runners' scores on the Feeling Scale (Hardy & Rejeski, 1989) at the beginning of the sessions, approximately every five minutes throughout the session, and five minutes after the end of the session, to measure the changes in their affective responses. The runners were also asked why they gave that score and discuss how they felt throughout. This procedure was repeated on week 2 of the beginner running programmes and at the final sessions (i.e., 8-10 weeks later). Another follow-up questionnaire was sent to the runners after 6 months asking about their physical activity at the time to measure their future physical activity. The affective responses seemed to be more positive at the start and towards the end of the sessions, with the lowest scores in the middle of the sessions. Physical activity levels were significantly higher at the six-months follow-up compared with their baseline, and when compared to the Feeling Scale scores, it appeared that mid-, end-, and post-session scores all predicted physical activity levels at six months. Mainly women took part in the beginner running programmes and therefore in the research, and not everyone responded to the follow-up questionnaire, however, therefore it is possible the respondents were the more active ones. Nonetheless, the study supports the view that affect likely matters for future running behaviour (Kennedy, 2020).

Taken together, these findings would suggest that people are more likely to continue running in the future if they feel positive affect either during or after running. The implication for physical activity and running interventions is to try increase participants' enjoyment and pleasurable experiences (i.e., positive affect) during physical activity. Creighton et al. (2022) systematically reviewed physical activity interventions that targeted enjoyment or affect in older adults, as enjoyment has previously been linked with physical activity behaviour change maintenance for older adults as well (e.g., van Stralen et al., 2009). The review found that physical activity studies that aimed

to increase enjoyment focused on environmental, social, interpersonal, and individual aspects of affect. They also found that these studies used social restructuring, social support, and instructions to provide a welcoming environment that offered supportive instructors, opportunities to interact, company to share experiences with, and increased competence and confidence (Creighton et al., 2022). The theories mentioned in the reviewed studies were self-determination theory and self-categorization theory, which suggests that using those theory principles can potentially support enjoyment (e.g., through increasing competence and group identity). Overall, the findings demonstrated that environmental, social, interpersonal, and individual aspects might all be needed to create enjoyable experiences in physical activity interventions, but more research is needed to target these aspects specifically and to understand if these findings generalise to other age groups and to men (Creighton et al., 2022).

Identifying what can produce positive emotions or enjoyable experiences for people when they are running is evidently important and can support intervention development for beginner runners. Wienke and Jekauc (2016) qualitatively researched what facilitates positive emotions during recreational sport and exercise to identify potential concepts that could be targeted in interventions. The 24 participants in their study ranged from 18 to over 60 years old, included women and men, and included group and individual exercisers. The results from the interviews suggested that these participants' positive emotions were influenced by perceived competence (i.e., feeling capable and proud, being successful), perceived social interaction (i.e., being part of a group, creating close relationships with others), novelty experiences (i.e., enjoying the change of scenery, gaining new experiences, ability to switch off), and perceived physical exertion (i.e., the desire to exercise, the pleasure derived after pushing oneself or feeling exhausted from exercise). Enjoying the physical exhaustion afterwards was mentioned less by the older participants, however. It is also worth noting that the participants in the study were training on average three times a week for around 90 minutes at a time, which means that what supported positive exercise emotions to them could be different for those newer to exercising. For example, not everyone will enjoy pushing themselves during exercise;

some might enjoy and prefer lower intensity exercise (Ekkekakis, 2003). Nevertheless, their results suggested some concepts that could be targeted when the aim is to increase exercise enjoyment (Wienke & Jekauc, 2016).

Those delivering exercise programmes could be trained on how to support exercisers' enjoyment levels, like some of the interventions discussed in the SDT-section where the exercise trainers were trained on how to be more autonomy-supportive. For example, Weyland et al. (2022) used the four concepts proposed by Wienke and Jekauc (2016) (i.e., perceived competence, perceived social interaction, novelty experiences, and perceived physical exertion) and developed an affect-based intervention to educate exercise trainers on how to generate more positive affective responses in their exercisers. The four concepts were explained and techniques on how to use the concepts were discussed with the trainers. The exercisers who took part in the trainers' sessions were asked to fill in questionnaires related to affective attitude and habit strength/automaticity throughout a 10-week period, as the researchers' aims were to study affective attitudes, habit strength, affective responses, and automaticity. Amongst other predictions, they hypothesised that the intervention would have a positive effect on the affective constructs compared to the control group who exercised with trainers who had not had the affect-based intervention. However, they did not find support for this hypothesis. The potential reasons for this are suggested to be issues with the timing of measuring affective responses (i.e., only measuring affect weekly, not in real-time), due to the participants self-selecting the exercises they took part in, meaning they may have chosen exercise classes they found the most enjoyment in, or due to the intervention content not changing affect (Weyland et al., 2022). The non-significant results could also be due to the trainers not actually implementing the affect-based intervention since the researchers did not observe whether the trainers changed their exercise courses off the back of the intervention. While this intervention did not appear to increase positive affective responses in the participants, and the content that was used may need refining, the study demonstrates how affect-based interventions could be delivered in educational workshops: exercise trainers or other professionals who work within exercise could be trained on these principles, which

could lead to supporting the enjoyment of larger groups of people at once, potentially leading to increased exercise levels.

Another way of increasing enjoyment for large group of exercisers at once could be with technology. Kennedy (2020) developed a podcast based on her findings about affect, focusing on increasing enjoyment of beginner runners. The WalkJogSmile programme was a beginner run-walking intervention in a podcast format using similar principles to the C25K app but with the aim of increasing the participants' positive affective responses. The podcast differed from the standard C25K app; it simplified the structure, included countdowns to the end of the session, asked participants to regulate affect using Feeling Scale scoring, asked them to interpret bodily sensations positively, and reminded them of the progress they had made, to name a few aspects. Kennedy (2020) compared those who followed the generic NHS C25K app, and those who followed her WalkJogSmile programme. Despite the low number of participants in both groups ($n = 9$ in total), the WalkJogSmile seemed to be more enjoyable than the C25K app. The podcast would benefit from being evaluated in a larger-scale intervention, but the current results demonstrate another way of creating enjoyable experiences for runners which can potentially result in them maintaining running for longer. Kennedy's (2020) study, amongst the other reviewed research on affective responses, shows how focusing on facilitating positive emotions and increasing enjoyment levels, whether done individually, via coach-education, or using technology, could provide promising results for behaviour change maintenance of beginner runners.

Summary of Behaviour Change Theories and Interventions

Many of the physical activity interventions detailed above have shown promising results but also seem to face similar issues, regardless of the theories used. The interventions might work in the short term, but do not always show long-term effects, or might lack long-term follow-ups (McEwan et al., 2022), and they may be using participants who are the most motivated. Some researchers have even argued that behaviour change theory interventions are not effective in the real-world at the

population level, as they just work for individuals who are ready to change (Hagger & Weed, 2019). Other researchers have argued that physical activity, such as running is impacted by our social class, and therefore engaging with running is not necessarily down to the individual's behaviour change (e.g., Baxter, 2021; Wiltshire & Stevinson, 2018). The other issue mentioned earlier is that most behaviour change theories focus on the initial change, as opposed to behaviour change *maintenance* (Kwasnicka et al., 2016). Kwasnicka et al. (2016) proposed a model of behaviour change maintenance that was synthesised from various behaviour change theories (e.g., self-determination theory, self-regulation theory, self-control theory, habit theory, social cognitive theory). Their model consisted of five interrelated themes: maintenance motives, self-regulation, resources, habits, and environmental and social influences, which they suggest all need to be considered when supporting someone to maintain behaviour. Interventions are, however, often based on behaviour change theories that focus on the individual or immediate social factors within their circle, and it is less common that theories consider or discuss the wider social and environmental factors. The ecological models further suggest that our behaviours are influenced by three levels: individual, social, and environmental (Salmon et al., 2020). Broader aspects like safety, location, access to facilities, the appearance of facilities, and policies are environmental factors that can also impact physical activity behaviours beyond individuals' intentions or attitudes (Salmon et al., 2020). Yet, interventions tend to focus on the individual.

In addition, interventions generally have a one-size-fits-all approach, which might make them less effective and potentially result in further inequalities (e.g., White et al., 2009). White et al. (2009) argued that standard interventions might only work for or reach certain populations due to inaccessibility, whereas tailoring an intervention to the needs of the people can help solve this. Individually tailored interventions have showed promising results for physical activity when compared with standard interventions (Marcus et al., 1998). Koorts et al. (2018) amongst others highlight how context is a key ingredient in health promotion programmes and should be considered in intervention development too. Tailoring interventions to the context or to individuals can be done by involving the

people the intervention is aimed at, or people delivering the intervention, in the intervention development process (Ma et al., 2021). Involving these knowledge users (i.e., people the intervention is aimed at or people delivering the intervention) is a form of co-production approach (Smith et al., 2023; for more information see Chapter 5) and can facilitate the impact of the interventions. Researchers have previously predominantly focused on doing research *on* people, often excluding useful input from non-academic partners (Smith et al., 2023). The value of more collaborative work is now recognised; researchers have started to value working *with* people and involving non-academic partners in the research process (e.g., Ma et al., 2021; Popp et al., 2021). Using a co-production approach allows researchers to listen to what people want from the research. It can enhance the research process by enabling better understanding of the contextual factors, by empowering participants, by addressing the needs of those the research is aimed at, and ultimately by making co-produced interventions more effective and suitable for the real-world (e.g., Buckley et al., 2019; Mackenzie et al., 2021; Smith et al., 2023). In the context of this PhD, that would mean involving runners or people working with runners (e.g., running club coaches) in the intervention development.

When reviewing the different constructs across the behaviour change theories that were outlined, it is also evident that there is some overlap between the theories. For example, self-efficacy is explicitly discussed in two theories (i.e., self-efficacy theory and HAPA), and self-determination theory's competence-construct and self-efficacy are also similar. Both competence and self-efficacy highlight the importance of one's belief in their ability to become physically active, consequently recommending a similar approach to increasing these constructs (e.g., reinforcing positive feedback). Furthermore, relatedness from SDT highlights the need for people to feel connected to others as one way to affect physical activity levels, and the social identity approach similarly suggests how being part of a group can support our physical activity. In addition, while self-efficacy can be increased through vicarious experiences (Bandura, 1977), the social identity approach suggests that people's self-efficacy can be increased when they witness someone who they share a social identity with performing an action (Tarrant et al., 2020). The affective-reflective theory of physical inactivity offers an alternative

perspective to behaviour change away from the more cognitive theories. Studies that have looked at how to increase enjoyment or positive affective responses, however, often discuss constructs like self-efficacy and social connections as a way to generate those enjoyable experiences for physical activity (e.g., Creighton et al., 2022), demonstrating a link between the theories and the way they can be used in interventions. As mentioned earlier, the above theories have been highlighted given that they particularly resonated with the analysis of the Study 1 data (Chapter 4), and the relevant constructs from the theories were used when developing the intervention content (see Chapter 5).

All of the behaviour change theories consist of multiple constructs, but behaviour change interventions might not necessarily use every construct the theory consists of or use them in the way intended when designing interventions (Willmott & Rundle-Thiele, 2021). Intervention reporting often lacks specificity about which techniques were employed, making it difficult to evaluate whether the specific theory has been effective for behavior change (e.g., Michie & Abraham, 2004). Comparing theories and evaluating which theories or behaviour change interventions are the most effective is a challenge. Behaviour change techniques can offer a solution and enable combining different theories and their related constructs in an intervention; behaviour change techniques were also used in the intervention development phase of this PhD (see Chapter 5).

Behaviour Change Techniques (BCTs)

Behaviour change techniques (BCTs) are the active ingredients in an intervention, the “observable and replicable components of behaviour change interventions” (Michie & Johnston, 2012, p. 3). Michie et al. (2013) put forward a behaviour change technique taxonomy, that was developed through a rigorous process of consultation with behaviour change experts and a “lay” person to ensure the taxonomy would be understood outside of behavioural science. It was created with the purpose of making behaviour change interventions easier to design, report on, and replicate. In interventions, people might use different labels for the same thing (e.g., self-monitoring and daily diaries) which could cause confusion. In addition, some behaviour change interventions might be based on a theory,

but it is not always clearly specified which constructs or how the constructs of the theory were used in the intervention. The BCT taxonomy should increase the clarity and efficiency of interventions, and help researchers to report on the content in a more detailed and defined way. McEwan et al. (2022) argued that BCTs themselves might be more impactful at driving physical activity behaviour change than the theory behind them, therefore, a mutually agreed and adopted taxonomy could help improve behaviour change interventions. Michie et al.'s (2013) final BCT taxonomy consists of 93 distinct BCTs, grouped into 16 clusters. Each BCT has been given a label, a definition, and examples of how to use it. The taxonomy does not explicitly link the techniques to theory, but many of them can be attributed to different theories. For example, the cluster “self-belief” includes a technique “verbal persuasion about capability”, which could be linked to self-efficacy theory (Bandura, 1977), HAPA (Schwarzer & Luszczynska, 2008), and basic needs theory (Ryan & Deci, 2017). Although Michie et al.'s (2013) taxonomy includes techniques from across the different behaviour change theories (including self-determination theory), Teixeira et al. (2020) created their own behaviour change techniques-classification based on the principles of self-determination theory, namely based on the basic needs theory.

Motivational Behaviour Change Techniques (MBCTs)

Through an iterative expert-consensus method, Teixeira et al. (2020) developed a 21-item classification of motivation and behaviour change techniques (MBCTs), that could help researchers and practitioners when designing and describing SDT-based interventions. SDT-based interventions do not always offer specific guidance on how the intervention content links with the different constructs (e.g., autonomy), or do not necessarily identify the SDT-constructs they are targeting with the content. Previous research (e.g., Reeve et al., 2014; Sparks et al., 2017) specified some techniques for fostering the three basic psychological needs of autonomy, competence, and relatedness, but no formal system existed. The classification includes the name of the technique, the definition, and the function description. For example, MBCT5 is about providing a meaningful rationale where the

definition is prompting the client to identify a personally meaningful reason for behaviour change maintenance and the function is that it highlights reasons that could become the basis of autonomous motivation (Teixeira et al., 2020). The MBCT classification could help with choosing the content for interventions, but it would also enable evaluating which techniques are most effective in supporting motivation and the relevant behavioural outcomes (e.g., physical activity). The classification is still in its early stages and has not been empirically or extensively tested. It might transpire that a smaller number of the techniques are the most effective at supporting motivation and behaviour change. To my knowledge, no study has evaluated the techniques. Although the MBCT has similarities with Michie et al.'s (2013) BCT taxonomy, it also offers additional value to interventions as some techniques in the MBCT are unique. Future research is needed to establish whether and which techniques might be most supportive for behaviour change. Techniques from both the MBCT and BCT taxonomy were used in the intervention, which will be discussed in Chapters 5 and 6.

A Move Towards More Pragmatic Interventions

The different behaviour change theories and behaviour change techniques have positively contributed to our understanding of physical activity behaviour change, and helped in the development of physical activity interventions, but they come with their challenges. The PhD takes the view that behaviour change theories and behaviour change techniques have a key role in intervention design and they can inform the development of interventions, but ultimately the feedback from the individuals who the intervention is aimed at should be sought and prioritised. This feedback should subsequently influence which theories or techniques seem most suitable, instead of consulting the theory and taxonomy first. Engaging runners or running coaches in the intervention process can ensure that what is developed is relevant for them. With that in mind, a more pragmatic approach to intervention development was taken in this PhD, meaning that the focus was on producing knowledge and research that is useful in practice (Juhl, 2014, as cited in Ormerod, 2021). Pragmatism is more concerned with real-life issues and practical understanding of those (Patton,

2005), which suited this PhD where the aim was to develop an intervention that can be useful for beginner runners in supporting them with maintaining their running after starting. While the behaviour change theories, and behaviour change techniques influenced the eventual content of the intervention, this PhD had a strong applied focus; the aim was to produce something practical that can be useful for runners and/or can be used in running clubs. As outlined above, many behaviour change interventions tend to focus on getting inactive people to become more active, or support people in starting running. Interventions that are designed to support people in *maintaining* their running after they have already initiated running are less common, and subsequently, the focus of the practical intervention in this PhD.

Brief Summary

In summary, people tend to struggle to maintain their activity levels in the long-term making them unable to reap the wider health benefits that being physically active can offer. Many behaviour change theories and related interventions have aimed to tackle this problem (with some outlined above), but they are generally unsuccessful at demonstrating long-term change or do not work beyond the intervention setting, making them unsuitable for the real-world. Interventions that could be easily delivered by sport and exercise psychologists seem to also be lacking. Practical interventions that consider the individual and the social environment are needed to support the translatability of the intervention, and to enable maximum impact on people's physical activity levels in the long-term. Interventions that are created with the target population of the intervention are one solution to this and can help make interventions more practical and effective to those who they are aimed at.

This PhD

This PhD is focused on running, a popular form of physical activity that is often used to attract those new to exercise (e.g., through C25K). The wider physical activity and exercise literature suggest that behaviour change theories and behaviour change techniques offer promising ways to support

people's physical activity (and running) maintenance, but these interventions do not always translate to long-term results or to the real-world. While there are studies that have investigated what supports running specifically (see Chapter 4, for further discussion), the studies are often cross-sectional and quantitative leaving a gap for qualitative longitudinal studies that would analyse beginner runners' experiences over a longer period. There is also a lack of interventions and research that has looked at how to encourage beginner runners to maintain running after they have started. To the best of my knowledge, there is a pilot study discussed earlier (Pereira et al., 2021), and one other recently published intervention that aimed to support beginner runners with maintaining their running (Blacket et al., 2024). Blacket et al. (2024) designed a Just Run online intervention that was designed based on existing literature and consultations with experts in the behaviour change and physical activity field. The content of the intervention was centred around motivation, basic psychological needs, and self-efficacy, with various strategies from the BCT taxonomy being adopted. So far, only pre-testing has been done with three running coaches, two runners, and two experts, but the initial feedback for their intervention has been positive, suggesting this type of intervention has potential. More interventions aimed at beginner runners are therefore needed, and more input from the receivers of the intervention is also needed. To the best of my knowledge, there are no interventions that have been developed with beginner runners or those involved with beginner runners (e.g., coaches) in the context where beginner runners may find themselves in (e.g., a running club). Furthermore, given the lack of co-produced interventions to support runners with behaviour change maintenance, there is also a gap in qualitative evaluations of these types of interventions.

Aims of This PhD

As stated in the introduction, the overall aim of this PhD was to develop a practical, evidence-based intervention that can support beginner runners with maintaining running after starting. The individual aims for each study of the PhD were:

1. To interpret how beginner runners' experiences of their motivation, barriers, and support change through time, in order to understand how some maintain running and why others stop (Study 1).
2. To understand what kind of intervention that supports beginner runners with maintenance of running could be suitable for a running club (Study 2).
3. To deliver and evaluate the developed intervention (Study 3).

The aims of this PhD will be addressed through a longitudinal collaboration with runners, coaches, and applied practitioners. The first aim will be addressed through an extensive qualitative data analysis of 20 beginner runners' interviews (Study 1); the second aim will be addressed through a co-production with a running club where an intervention informed by Study 1 results is created for running club coaches (Study 2); and the third aim will be addressed through delivery and evaluation of the co-produced intervention to coaches from two running clubs (Study 3). While running is used as the example activity, the PhD aimed to create an intervention that uses psychological principles for physical activity behaviour change maintenance, which could have the potential for application to other activities beyond running as well.

Chapter Summary

This chapter included a background into running, behaviour change theories, behaviour change interventions, behaviour change techniques, and issues related to these. Some recommendations to make interventions more individualised and context specific were also discussed. The chapter ended with outlining the aims of this PhD. To summarise, running is a popular and beneficial activity that is difficult to maintain, and therefore well-suited for an intervention that focuses on behaviour change maintenance. Behaviour change theories and behaviour change techniques are well-researched and used in various physical activity interventions that can help inform future intervention development. There is a lack of interventions that focus on maintaining behaviour

change, however, and a gap in applied running interventions that are practical and tailored to a given context. This PhD aims to address these gaps by involving runners and running clubs in the development, delivery, and evaluation of an intervention. The next chapter will outline the methodological approach taken to reach the three aims, before discussing the three empirical studies that addressed these aims.

Chapter 3: METHODOLOGY

Chapter Introduction

This chapter reiterates the aims of the PhD studies, summarises the studies, outlines the research paradigm and the key underpinning philosophical assumptions that informed the paradigm, explains the methodological approach, detailing various methods that were used across the studies, presents the research quality criteria used, and describes the ethical considerations for the PhD. I will first outline the aims of this PhD and summarise the three studies that make up the PhD. I will then discuss the research paradigm, the rationale for taking a qualitative approach, and the methods I used. The specific way the data collections methods were used in each study will be detailed in the respective study chapters (Chapter 4, 5, and 6), but I will provide a justification for the chosen methods. For clarity, the data collection for the first study was completed prior to the start of this PhD, therefore, while the analysis of that data forms a significant part of the first study (Chapter 4), the focus in this chapter will be on the methods of Studies 2 and 3. I will also discuss the quality criteria that this PhD can be mapped against, and how I considered reflexivity in my research. Finally, I will describe the ethical considerations for the PhD. Passive and active voice will be used throughout this chapter and PhD; third person passive voice will generally be used but first person is used when appropriate and natural to demonstrate the active role of the researcher (e.g., when describing the intervention development workshops, when offering personal reflections).

Aims of This PhD

This PhD aimed to find a way to support beginner runners with maintaining their running after they have started running through the development, delivery and evaluation of an intervention that would work in the real world. The research aims were:

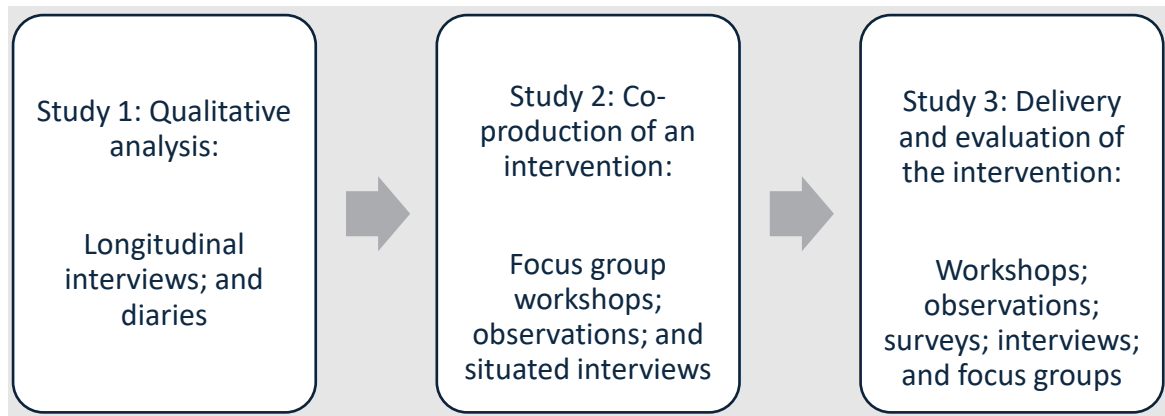
1. To interpret how beginner runners' experiences of their motivation, barriers, and support change through time, in order to understand how some maintain running and why others stop (Study 1).
2. To understand what kind of intervention that supports beginner runners with maintenance of running could be suitable for a running club (Study 2).
3. To deliver and evaluate the developed intervention (Study 3).

Summary of the Studies

This PhD consisted of three longitudinal studies. The first study (Chapter 4) involved an analysis of a pre-existing dataset from multiple interviews with 20 beginner runners about their experiences after they had started running. The focus of the analysis was to understand how the reasons why some maintained running and others stopped could inform an intervention that supports runners with behaviour change maintenance. The second study (Chapter 5) involved collaborating with a running club to co-produce an intervention with them, which was informed by the results from the Study 1 data analysis. In this study, coaches and runners from one running club were involved in the planning of the intervention, and applied practitioners (i.e., critical friends) were also consulted. The data collection consisted of focus group workshops, observations, and situated interviews arranged over six months. In the third and final study (Chapter 6), the co-produced intervention was delivered and qualitatively evaluated. The delivery consisted of 5-6 workshops, arranged over two months. The evaluation involved observations, anonymous surveys, semi-structured interviews, and a focus group 3 months after the intervention had finished to evaluate the impact beyond the workshops. The intervention was delivered and evaluated at the same running club who were involved in the co-production process (Study 2), and at another running club. Figure 1 shows a visual overview of the studies.

Figure 1

Visual Overview of the PhD Studies



Research Paradigm

A paradigm, which consists of ontology, epistemology, and methodology, can be defined as a basic set of beliefs and a worldview that informs research (Guba & Lincoln, 1994). A clear paradigm is key as it describes the researcher's philosophical position and consequently impacts all the decisions made in the research from the research questions to the methods (Creswell & Poth, 2018). Ontology refers to our beliefs about the nature of reality, epistemology refers to our belief about the nature of knowledge and the relationship between the knower and the known, and methodology refers to our beliefs about how we can gain knowledge of the world (Guba & Lincoln, 1994). I adopted a social constructivist paradigm, which came with assumptions that guided this PhD: I believe that each runner's reality is unique and subjective to them, meaning they experience running in different ways (i.e., relativist ontology), I believe that knowledge is socially constructed; I (as the researcher) co-create knowledge with runners and coaches (i.e., transactional epistemology), and I believe that where possible, research should be conducted in the real-world (e.g., running clubs) through interactions between myself and the runners and coaches, and through interpreting the runners' and coaches' interpretations of their own experiences (i.e., hermeneutic & dialectical methodology;

Lincoln et al., 2018). Similarly, the applied practitioners (i.e., critical friends; Sparkes & Smith, 2014) who were consulted in Study 2 offered their unique views that were dependent on their prior experiences of applying physical activity interventions; my role was to interpret their feedback, and co-create knowledge through dialogue, integrating that feedback into improving the intervention design for my next study.

Study 1, which will be discussed in Chapter 4, was designed by my PhD supervisor AM, aligning with his worldviews and beliefs about knowledge, and the data analysis of that pre-collected data were guided by my beliefs. AM similarly adopted a relativist ontology, a transactional and constructivist epistemology and hermeneutical and dialectical methodology to the data collection, meaning our views aligned. For the subsequent studies that I designed (i.e., Study 2 & Study 3), the research aims and methods were established based on my view about the world, my belief about knowledge and how I wanted to address the study's aims. Our research questions and aims can direct our methods, but as Sparkes and Smith (2014) suggested, our assumptions, as opposed to the research question, can also direct the study methods. I am not looking for an objective reality that exists out there (in the running club) separately from me as the researcher (Sparkes & Smith, 2014), because I view people's realities as context-specific, generated through a dialogue. I also believe that I, as the researcher, am part of that reality (Krane & Baird, 2005). I believe we all construct our own reality (e.g., runners see running in different ways), we co-create knowledge with others through interactions, and everyone should have an opportunity to have their voice considered. In practice, this meant that a qualitative participatory research process was best suited; I took a "passionate participant" role (Guba & Lincoln, 2005) in the research process, and immersed myself in the natural setting (i.e., running club) of the participants for an extended period of time (Lincoln & Guba, 2000, as cited in Krane & Baird, 2005).

Qualitative Research Design

The aim was to develop an intervention that addresses a practical challenge of people not maintaining their running after they have started, by adopting a fully qualitative participatory methodology. Qualitative research uses words as data and aims to understand and interpret meaning within a given context and in people's lived experiences; it focuses on generating rich data and values the researcher's input and involvement in the research process (Braun & Clarke, 2013). I wanted to understand people's experiences with running, the meanings they gave to their experiences, and how these changed through time (Study 1). I then wanted to use these results as a starting point before seeking input from running club coaches and runners (i.e., the recipients of the intervention) for the development of the intervention (Study 2). Finally, I wanted to evaluate the intervention by gaining extensive feedback on how the coaches experienced the intervention, and how it may have influenced their practices (Study 3). A qualitative approach to the research was therefore necessary to gain an in-depth understanding of people's views; it aligned with the applied focus of the PhD, and with the paradigm. Qualitative research can be used to understand interventions that are aimed at individual change (e.g., changes in individual coaches), to identify barriers and facilitators that might influence change, and to reveal why some components are successfully or unsuccessfully implemented (Pons-Vigués et al., 2019; Ross, 2022). In addition, qualitative evaluation allows us to understand how (if in any way) the intervention had an impact on the participants' (i.e., coaches) lives, rather than just measure the extent of change (e.g., did the coaches change their behaviour post-intervention) (Molloy et al., 2002). Qualitative evaluation has been used to evaluate what participants might think of an intervention (acceptability), how well the content is understood (receipt), and how well the skills are used outside of the intervention (enactment) (Palsola et al., 2020). All of this was important to establish in the evaluation of my intervention, where the aim was to design something that would be applicable for the two running clubs and beyond.

Co-Production

Co-production is a participatory approach (Banks et al., 2018, as cited in Smith & McGannon, 2024), that is well-suited to use with qualitative methods, and therefore, chosen to support the aims of this PhD. It was important to me that this PhD had an applied focus and made a practical contribution by developing an intervention that was relevant and viable in real-life. Involving those at the receiving end of the intervention (i.e., runners and coaches) to make the intervention more practical, and not solely relying on theoretical knowledge, was crucial (Moore & Evans, 2017). Both qualitative methods and co-production approaches highlight the importance of prolonged engagement in various contexts to produce rich data and facilitate the forming of trusting relationships with participants (e.g., Smith & McGannon, 2024; Williamson et al., 2019), which is what I did across the PhD studies.

Co-production has been defined in various ways in different disciplines, but looking for one specific definition of co-production seems unnecessary (Smith et al., 2023; Williams et al., 2020). The key is to report on exactly what level of involvement the participants had in the research, and that is what is explained in detail in Study 2 (Chapter 5). For clarity, in this PhD, the co-production approach that was used closely aligns with what Smith et al. (2023) call integrated knowledge translation (IKT) co-production. In IKT, researchers work with “knowledge users” (i.e., running club coaches and applied practitioners) who are considered important because they know what knowledge is relevant in practice, and they also influence what gets implemented (Graham et al., 2019). Participants with lived experiences (i.e., runners) are not necessary to include in IKT as the focus is on knowledge users (i.e., running club coaches), but I also involved runners in Study 2 to receive wider perspectives and feedback for the intervention content. Co-production can help shift power dynamics between the researcher and the participants involved, it can empower and benefit non-academic partners, it can lead to the appreciation of “subjective” knowledge, it can improve the quality of research, and it can increase the impact of the research (Smith & McGannon, 2024). These latter points were especially

important in this PhD where the focus was on producing research and an intervention that would work in practice. Using co-production in intervention design specifically can help make interventions more practical and effective in the real-world (Mackenzie et al., 2021). In practice, using co-production in Study 2 meant that I involved one running club in the design process by inviting the club's coaches to attend three focus group workshops, by observing the coaches during a C25K programme, by informally interviewing beginner runners during the C25K programme, and by consulting practitioners with experience applying similar interventions. The same coaches were then invited to take part in the intervention they had helped to create (Study 3), to ensure they benefitted and received the intervention they had given their time and input for.

The qualitative research across the PhD studies, including the co-production, was situated in a "Big Q" qualitative framework (Kidder & Fine, 1987), meaning that all the qualitative techniques for data collection and analysis were used within a qualitative paradigm. Leggat et al. (2023) highlighted how IKT (although they define it slightly differently from co-production) is well suited for qualitative research due to both focusing on extensive engagement with participants, getting to know the context from the inside, and having flexibility in the planning and research processes that happen in the real-world. Similarly, co-production, which shares similarities with what Leggat et al. (2023) defined as IKT, is also well suited for "Big Q"-qualitative research projects like the co-production study in this PhD, which also included extensive engagement and familiarisation with the running club setting and flexibility to change and adapt the research throughout.

Data Collection Methods

Data collection involved focus groups (Studies 2 & 3), observations (Studies 2 & 3), interviews (Studies 2 & 3), and anonymous surveys (Study 3). Using multiple qualitative methods in one study can offer deeper insights than using just one method alone (e.g., Chamberlain et al., 2011). For example, in Study 2, immersing myself in the running club context, and using interviews, focus groups,

and observations helped me to understand the context the running club operated in, and to co-construct knowledge with the participants.

Focus Groups

Focus groups are guided discussions where multiple participants discuss a certain topic together, often in a semi-structured way (Sparkes & Smith, 2014). The researcher acts as a moderator trying to facilitate interactions between the participants (Sparkes & Smith, 2014). Focus groups were used for two different purposes in this PhD: In Study 2, to understand what type of intervention could work in a running club, and in Study 3, to evaluate the delivered intervention. In Study 2, I arranged focus group workshops with running club coaches, and with practitioners who had experience applying psychology in physical activity contexts (i.e., critical friends) to co-produce a theoretically informed and practical intervention. Focus group workshops enabled me to gather a group of coaches from the same club and give them a say in what they wanted the intervention to look like for their club. The interactive nature of the workshops allowed us to get differing views on what might work for some but not for others (e.g., the duration of the intervention) (Sparkes & Smith, 2014). Aligning with the principles of co-production, the coaches were reminded that they were the experts in knowing their club and their runners, and I emphasised the importance of their practical knowledge when designing the intervention. The focus group workshop with the applied practitioners was used to further inform and strengthen the intervention; the applied practitioners acted as critical friends offering their feedback and suggestions on what to consider in the intervention design (e.g., what has worked well in similar interventions). Study 2 in Chapter 5 will elaborate on *how* their suggestions featured in the intervention design.

Focus group discussions can also be used for qualitative evaluation of interventions (e.g., Pons-Vigués et al., 2019). In Study 3, I arranged a focus group with the coaches 3 months post-intervention. The broad aim was to understand what the coaches' experiences with the intervention were. I had already conducted individual interviews with the coaches post-intervention (see below),

but the strength of using the focus group evaluation was to gain longer-term input beyond the immediate post-intervention data, to understand the coaches' individual and collective experiences through their interactions with others, and to potentially gain stronger opinions about the intervention on the back of those interactions (Smithson, 2000; Sparkes & Smith, 2014). The benefit of group discussions is that people tend to explain themselves to each other, giving better insights into agreements and disagreements amongst the group, potentially revealing more than if individually interviewed (Morgan, 1996). In this context, the coaches already knew each other and were comfortable enough to ask each other questions and comment on each other's views, which further helped the group dynamics and enhanced the data collection.

Observations

Observations, which are commonly used to assess and understand people's behaviours in their respective settings, offer a valuable way to collect data (Holder et al., 2018). Observations were used for two different purposes in this PhD. In Study 2, I took a "participant as observer" – role (Sparkes & Smith, 2014) immersing myself in the running club. In practice, this meant joining all the C25K running sessions, taking part as a runner, and having conversations with the other runners and coaches while there. The aim was to understand the context and interactions at the beginner running sessions. The immersion in the club environment supported the subsequent intervention development by helping to refine and contextualise the content (see Chapter 5 for further detail). The benefit of becoming part of the running club and running with other runners allowed me to observe the interactions and gain an "insider's" view on how the club operated, but it also gave me easy access to interview the runners (see the next section below) (Sparkes & Smith, 2014). I could be said to be a "cultural insider" when it comes to running, given my 13-years' experience with it (Thorpe & Olive, 2016). Nonetheless, having never participated in an organised beginners running programme, I was still an outsider when observing the coaches and runners in this context. Being an outsider meant that I could observe the environment without strong assumptions about how running clubs may operate,

but it also meant that I had to take extra care into ensuring that I was accepted into this environment and fully understood the context.

In sport and exercise psychology research, observations can also be used as a way of monitoring and evaluating the effects of an intervention (e.g., Dohme et al., 2020). In Study 3, I again participated in the beginner running sessions taking a “participant as observer” role, but with the aim of supporting the coaches with using the psychological principles from the intervention, and with the aim of evaluating whether and how they were using the principles with runners (i.e., how well the intervention had transferred into real-life context) (see Chapter 6 for further detail). Using observations in addition to the surveys, interviews, and focus groups allowed me to see and evaluate what the coaches were implementing (or not implementing) in the running sessions, together with what the coaches said they implemented when directly asked (Sparkes & Smith, 2014).

My observations were aligned with the study aims and the paradigm, meaning that they were flexible and focused on my interpretations of what I was observing. My research aims and research questions were guiding me when I entered the running club, which meant that I had some questions guiding my observations (see the study chapters for examples), but I kept an open mind throughout the observations and recorded flexible reflective notes based on what I considered useful for the research. I did not systematically structure my observations according to a pre-determined coding framework (Morgan et al., 2014), or conduct quantitative pre-and post-intervention comparisons common in positivist or post-positivist paradigms (Thorpe & Olive, 2016). I kept field notes, which were recorded as soon as possible after the observations (Emerson et al., 2007, as cited in Thorpe & Olive, 2016). The challenge with being a participant as observer and running with the club was the inability to take immediate notes of my observations and conversations as I did not want to be running with a notepad or type on my phone while running. Instead, I audio recorded my reflections in the car as soon as possible after each session. My recordings consisted of descriptions of the actual observations I made, the conversations I had or the conversations I heard others having, my

interpretations of what I think may have been happening at the club, and my personal reflections (Babbie, 1995, as cited in Thorpe & Olive, 2016).

Interviews

Interviews can be defined as “conversations with a purpose” in which the interviewer aims to obtain the perspectives, feelings, and perceptions from the participant(s) in the research (Holloway 1997, as cited in Sparkes & Smith, 2014). Interviews were used for two different purposes in this PhD. In Study 2, brief situated interviews were used to gain beginner runners’ input for the intervention, and, in Study 3, semi-structured interviews were used to evaluate how the intervention was perceived by the coaches who took part in it. Situated interviews, or “go-along” interviews, are interviews that take place within the setting of interest (Cluley et al., 2021). In Study 2, I conducted situated interviews with the runners in the club whenever a suitable opportunity presented itself, either when I ran, walked, or stood next to them. Situated interviews offer a flexible way of interviewing participants on the move and give an opportunity to consider the context and the participant’s environment in the interview process (Housley & Smith, 2011). I used semi-structured situated interviews. I had a guide with some pre-determined questions based on the study aims (see more in Chapter 5) (Smith & Sparkes, 2016), but I kept the conversations flexible depending on what the runners wanted to share and talk about. The broad aim was to understand what helped the runners to keep going and what the coaches could do to support them. The benefit of the situated interview was the ability to talk to runners in “real-time”, as they were doing the beginners’ course, as opposed to retrospectively asking about their experiences at the club. The situated interviews were combined with the observations I was doing at the club (detailed above), with both contributing to the co-production of the intervention.

Interviews are also a commonly used method in qualitative research evaluation for collecting information about an intervention and enable the collection of in-depth data by asking participants to elaborate on their answers (e.g., Pons-Vigués et al., 2019). Interviews were therefore also used in

Study 3 with the aim of understanding the experiences of the individual coaches who took part in the intervention, and to evaluate whether the intervention aims were met. The interviews also enabled me to gain social validity data (i.e., the social importance and appropriateness of the goal, of the procedures, and of the outcomes; Wolf, 1978) from the intervention and understand how relevant the intervention was, and how satisfied the coaches were with the intervention (Page & Thelwell, 2013). The interviews were semi-structured, with a set of focused and open-ended questions relating to the intervention and its aims (Smith & Sparkes, 2016). The full interview guide can be found in Appendix A. The interviews were arranged at a time and place convenient for the participants to ensure they felt comfortable (i.e., online, at their home, at the university, at a café). Interviews have the potential to induce social desirability bias (Vealey et al., 2019), especially when I was the one delivering the intervention and the one asking about the intervention. To reduce this, I encouraged the coaches to be as honest as possible and to offer both positive and negative comments, highlighting how their individual experiences matter and how their feedback is valuable for improving the intervention in future.

Surveys

Surveys were used in Study 3 for gathering additional anonymous evaluation data from the participants in addition to the interviews and focus groups. The coaches were asked to fill in short surveys with open-ended questions either in a paper format or online (via Google Forms) depending on their preferences. The online form did not require signing in or ask for participants' emails ensuring the responses remained anonymous. The paper surveys were placed face down on one table to ensure I was unable to identify who they belonged to. All except for one post-workshop survey included three questions (see Appendix B). The last survey after all intervention workshops had finished included seven questions to evaluate the coaches' overall experiences and gather additional feedback related to the intervention's aims (see Appendix C). Surveys were a useful addition as they enabled collecting anonymous evaluation data from the participants, potentially reducing social desirability bias (Vealey

et al., 2019). Using anonymous surveys also allowed coaches the opportunity to offer any feedback they may have felt uncomfortable sharing with the group, and they helped us get feedback from those who were perhaps less engaged with the research or less likely to attend individual interviews.

Using Multiple Methods

Collecting data in different ways and at different times can enhance our understanding of participants' perspectives and practices while offering complementary insights (e.g., Chamberlain et al., 2011; Darbyshire et al., 2005). For example, in evaluating the intervention in Study 3, the interviews enabled participants to openly share their personal views of the intervention; however, interviews alone may lack depth (Chamberlain et al., 2011). Adding the surveys offered anonymous feedback that participants might not have shared in interviews (Vealey et al., 2019). Conducting a focus group at the end then facilitated social interactions that revealed participants' collective views, and allowed me to gather richer data about the intervention (Morgan, 1996). For example, participants shared examples of what they had implemented from the intervention and asked each other questions about these examples. Finally, adding observations enabled me to witness participants' behaviours directly, providing data on what participants actually did rather than just what they reported doing (e.g., in interviews and focus groups) (Patton, 2002; Sparkes & Smith, 2014).

Data Analysis

The data were analysed using reflexive Thematic Analysis (rTA) (Braun & Clarke, 2019), following the guidelines from Braun et al. (2016). Thematic analysis is a method that allows the identification and interpretation of relevant patterns of meaning in a qualitative dataset (Braun et al., 2016). It involves coding data (e.g., interview transcripts) with research questions in mind, followed by identifying patterns in the codes and developing themes from them (Braun & Clarke, 2022). Thematic Analysis includes a cluster of approaches, but the approach used across the studies of this PhD is what Braun and Clarke (2019) named *reflexive* Thematic Analysis (rTA). Braun and Clarke (2019)

differentiated their approach from other versions of TA by emphasising the key feature of their version: the importance of the researcher in creating knowledge. Seeing the researcher as being actively involved in the analysis and knowledge creation process is also a key feature in constructivism, making rTA an appropriate choice for this research. Reflexive TA highlights the researcher's role and subjectivity as "*analytic resource*" (Braun & Clarke, 2021, p. 330); themes are actively generated by the researchers, as opposed to something that are passively found in the data. Researchers need to reflexively engage with data and question their own assumptions when making sense of the data (Braun & Clarke, 2019). I considered my role and reflected on the potential assumptions I was making as a runner reading the data, to ensure I was not being too judgmental or portraying my own experiences into the participants' stories. I also consulted my supervisors as critical friends (Sparkes & Smith, 2014) throughout the analysis process, and their questions and views on the data helped me reflect on my analysis and ways of interpreting it. I have reflected on reflexivity more later in this chapter.

Being actively involved in the data analysis process also meant that I needed to make some choices about how I analysed the data (Braun et al., 2016). I particularly engaged with the data at the semantic level, which meant focusing on the things that the participants explicitly stated, while still interpreting and considering some of the potential underlying meanings (Braun et al., 2016). Given the applied focus of the PhD and the co-production process with participants, I took an inductive "data-driven" approach, letting the data, rather than theory, guide me in each study. My approach to the analysis was grounded in constructivist orientation, which meant that I saw each participant's experiences as unique, while acknowledging my role in the interpretation and co-construction of knowledge with the participants.

I chose TA as my data analysis method for a few reasons. I was less experienced with qualitative research, and since TA is a flexible, and relatively accessible technique, it is a suitable method for someone new to qualitative research (Braun et al., 2016). The research aims in each study were about

understanding participants' (i.e., runners' and coaches') experiences either in relation to running (Study 1), or in relation to the intervention (Studies 2 & 3), which meant that TA worked well for this type of analysis (Braun et al., 2016). Finally, Braun and Clarke (2014) argued that TA works well for applied research as it can be presented in an accessible way without affecting the strength of the analysis. This PhD had an applied focus, and I wanted the results to be easily shared and understood by people (e.g., coaches) outside of academia as well.

In practice, Braun et al. (2016) offer a six-step process to doing TA, which I largely followed in the studies of the PhD. In Study 1, TA allowed me to create themes and a sophisticated analysis that provided a detailed answer to the research questions about how beginner runners experience running. I used reflexive TA in Studies 2 and 3 as well but given the focus of the studies was significantly different, the themes and analysis generated had a more practical focus with informing the subsequent intervention (Study 2) or offering feedback and future improvements for the intervention (Study 3). TA can be written up in a more straightforward or sophisticated way, where sophisticated is more nuanced, interpretative, and tells a story whereas straightforward is more descriptive and summarises the results (Clarke, 2018). Both types of writing were used in this PhD; Study 1 included a more sophisticated analysis of beginner runners' experiences, whereas Studies 2 and 3 included more straightforward and descriptive analysis. The detail of how TA was used is explained in the methods of each study chapter (Chapters 4, 5, and 6).

Overall research quality will be discussed in the next section, but Braun and Clarke (2006) also offer 15-point checklist criteria to ensure good quality for those doing and reporting on Thematic Analysis. The criteria are categorised into different processes of transcription, coding, analysis, overall, and a written report (Braun & Clarke, 2006), and these criteria were followed in this PhD to ensure that the quality criteria were met for the analysis process. The table below will briefly summarise how this was ensured, but Study 1 in Chapter 4 includes an in-depth analysis, and will demonstrate more explicitly how transcription, coding, and analysis was thoroughly conducted.

Table 1*Quality Criteria for Thematic Analysis*

Data analysis process	How I ensured good quality
Transcription	The transcription process was thorough and detailed including familiarisation and re-reading the data multiple times.
Coding	Coding was thorough, and I ensured all data items were given sufficient attention. All relevant data extracts were considered to generate the themes, and the theme generation process went back and forth between the data and themes to ensure consistency and distinctiveness between the themes.
Analysis	Data were thoroughly analysed and interpreted beyond simple descriptions. The themes together told a coherent story, with detailed quotes supporting the interpretation.
Overall	Sufficient time was given to the data analysis process in every study, but it was especially lengthy, detailed, and comprehensive in Study 1 where beginner runners' experiences were interpreted through time.
Written report	The specific type of TA used has been clearly articulated in this chapter, with considerations given to my active role and reflexivity in the analysis. Consistency is shown between the method and analysis used and these also align and link to the wider research paradigm.

Research Quality

Research needs to be of good quality, but evaluating the quality of qualitative research has its challenges (e.g., Burke, 2016; Smith & McGannon, 2018). The terminology that is often used in evaluating the quality of quantitative research (e.g., validity, reliability, objectivity) is problematic for qualitative researchers since the aims and underlying beliefs are different (e.g., qualitative researchers do not seek to find objective truth that is out there) (Sparkes & Smith, 2014). Researchers have therefore suggested different ways to evaluate the quality of qualitative research (e.g., Burke, 2016).

Tracy's (2010) and Smith and Caddick's (2012) criteria will be used in this PhD. Tracy (2010) proposed a universal list of eight criteria for evaluating qualitative research. Tracy saw the criteria as necessary to showcase the quality of qualitative research, while acknowledging the need for the criteria to suit different paradigms and be flexible to the complexity and uniqueness of qualitative research. Tracy's (2010) criteria were synthesised from various previous research with the list including worthy topic, rich rigor, sincerity, credibility, resonance, significant contribution, ethics, and meaningful coherence. Tracy (2010) also offered a list of ways that researchers can fulfil the different criteria. For example, a worthy topic is considered relevant, timely, significant, and interesting; rich rigor constitutes of sufficient theoretical constructs, sufficient time spent with participants, and appropriate data collection and analysis processes; and significant contribution can be offered conceptually, practically, or methodologically, to name a few.

Smith and Caddick's (2012) list of criteria for judging the quality of qualitative research was similarly combined from other researchers' ideas. Their criteria, which include some of the same that Tracy (2010) put forward, include substantive contribution, impact, width, coherence, catalytic and tactical authenticity, personal narrative and storytelling as obligation to critique, resonance, credibility, and transparency. Although developing criteria in qualitative research has been critiqued (e.g., Guba & Lincoln, 2005), Tracy's (2010) view is that having criteria and structure for best practice is valuable and can enhance how qualitative research is discussed with quantitative researchers. Smith and Caddick (2012), however, adopted a relativist approach, which meant that their criteria was meant as a starting point and offer suggestions for how to evaluate the quality of a particular study as opposed to having to be strictly followed or ticked off in each research project (Sparkes & Smith, 2014). In a relativist approach, the quality judgment is both the researcher's and the reader's responsibility (Rolfe, 2006). Burke (2016), who also critiqued the use of pre-set or universal criteria for qualitative research argued that each study's quality should be evaluated independently based on what fits with the aims of that study and that study's methods.

In this PhD, I am taking a relativist approach to judging the quality of the studies, which means that the criteria should be study specific. I suggest that the overall appropriate markers of quality for my PhD studies are substantive contribution, impact, and transparency from Smith and Caddick (2012), but also worthy topic, rich rigor, sincerity, resonance, significant contribution, and meaningful coherence from Tracy (2010). Table 2 below shows how I viewed the quality markers and tried to demonstrate the chosen markers in the studies. Some of the markers from Smith and Caddick (2012) and Tracy (2010) considerably overlap (e.g., significant, and substantive contribution), and are therefore combined in the table. However, aligning with Rolfe (2006), I believe the quality should be judged by the reader as well as the researcher, therefore, I encourage the reader to make their judgments of each study's quality when reading the respective study chapters.

Table 2*Quality Markers for This PhD*

Quality marker	This PhD
Substantive/significant contribution	Conceptually, heuristically, and practically significant research across the studies. Study 1 offered suggestions on how beginner runners can be supported with behaviour change maintenance, Study 2 demonstrated how co-production can be used in a running club to create an intervention, and in Study 3 an educational coach intervention (“Keep on Running – The 5 Pillars of Support”) was delivered and evaluated.
Research that contributes to our understanding of social life, research that provides a conceptual/theoretical, practical, moral, methodological, or heuristic contribution	
Impact/resonance	Study 1 and Study 3 specifically demonstrated naturalistic generalisation and transferable results. Study 1 data analysis used illustrative quotes from beginner runners to resonate with readers, while also offering rich contextual detail. The discussion was written with a range of readers in mind (i.e., researchers, runners, coaches, practitioners), aiming to apply to those new to running/exercise, and those working with people new to exercise. Study 3’s intervention had an impact on coach behaviours and showed transferability to other clubs beyond the one the intervention was co-produced with.
Research influences different audiences through evocative representation, naturalistic generalisations, and transferable results	
Transparency/sincerity	Detailed descriptions and in-depth reflections of the research processes in each study. Self-reflexivity was used when analysing the data (Study 1), when addressing the challenges with

Quality marker	This PhD
Researcher shows self-reflexivity about their potential biases, methods and challenges are made transparent	observations (Study 2), and when discussing the challenges with attendance and potential biases in participant feedback (Study 3). I made the intervention design process transparent and clearly detailed each step, explaining how the participants' input and theory was combined into the intervention.
Worthy topic	Understanding the psychological processes that support the maintenance of physical activity behaviour change is important for tackling inactivity (Study 1). Co-production facilitated the relevance of the intervention outside of academia (Study 2). Delivering a practical intervention for running club coaches is timely given the popularity of running and running clubs (Study 3).
Research is relevant, timely, significant, and interesting	
Rich rigor	Each study was longitudinal, involving extensive time with participants, multiple data collection methods across the studies, and a thorough data analysis process (see how the quality criteria for thematic analysis were met above).
Research that uses appropriate theory, spends enough time in the field, uses sufficient sample(s), context(s), and data collection and analysis processes	
Meaningful coherence	The PhD achieved its three aims; these were to interpret how beginner runners' experiences of their motivation, barriers, and support change through time, in order to understand how some maintain running and why others stop, to understand what kind of intervention that supports beginner runners with maintaining running could be suitable for a running club,
Research that shows coherence internally (e.g., how the studies fit together), and externally (e.g., how the	

Quality marker	This PhD
wider literature fits in), research that achieves what it is supposed to using methods that suit the goals, meaningfully linking the literature, research questions, results, and interpretations together	and to deliver and evaluate the developed intervention. Each study built on the previous one and aligned with the paradigm, demonstrating coherence. The wider literature was linked in with the results throughout.

Research Quality in Co-Production

It is important not to assume that co-produced research is of good quality or valuable just because knowledge users are involved in the research (Voorberg et al., 2015). While the co-production study (Chapter 5) was part of the qualitative research process, co-production comes with some unique quality criteria that needs considering to ensure genuine co-production and to avoid tokenism (Smith et al., 2023). Different frameworks for evaluating quality of co-production have been proposed (e.g., Howard & Thomas-Hughes, 2021). Smith et al. (2023) offered six principles that were used as a guideline in this co-production:

1. Co-production is adequately resourced;
2. Power is shared through equitable partnerships that include those with relevant experiential knowledge, expertise, and assets;
3. Different knowledge bases and contributions are respected, valued, and blended;
4. Relationships are built and maintained based on mutual respect, dignity, trust, transparency, humility, and relational ethics;
5. Diversity is important and supported when agonistic pluralism is practiced;
6. Practice reciprocity and mutuality.

Smith et al. (2023) also offer some considerations on how to meet these principles and questions that can be asked when judging the quality of co-produced research. Some principles were more relevant to this co-production than others, and some principles were addressed better than others, but like stated above, a relativist approach meant that I took these principles as guidelines and sought to address these principles where possible and appropriate given the remit and context of my study. Table 3 demonstrates how these principles were met in the co-production study.

Table 3

Quality Principles for Co-Production in This PhD

Principle	Co-production in this PhD
Co-production is adequately resourced	Sufficient time was given to the project as part of a PhD, but no remuneration was available for participants.
Power is shared through equitable partnerships which include those with relevant experiential knowledge, expertise, and assets	Coaches, runners, applied practitioners and academics were involved and given an equal voice in the study. Coaches and runners offered relevant experiential knowledge whilst applied practitioners and academics offered theoretical and experiential knowledge from previous projects. While the idea for the research came before involving the coaches, the intervention aims shifted based on the co-production focus groups, demonstrating how power was being shared through co-developing the research.
Different knowledge bases and contributions are respected, valued, and blended	Contributions from academic knowledge were mixed in with the practical contributions from knowledge users helping to make the intervention applicable. Participants were reminded that they are the experts and that their experiences are valued and important. Participants' voices were heard and incorporated into the intervention design.
Relationships are built and maintained based on mutual respect, dignity, trust, transparency, humility, and relational ethics	I tried to build rapport through showing interest and actively listening to each participant. I was being respectful of different opinions and followed through with actions from the focus groups.

Principle	Co-production in this PhD
Diversity is important and supported when agonistic pluralism is practiced	Diversity regarding socio-demographics was not achieved in this study as just one running club from a relatively affluent town was used for the co-production. Within the club, every coach regardless of experience was invited and meetings were arranged with inclusivity in mind (e.g., at a time the coaches met anyway). I joined the runners in their natural setting at the beginners' programme and sought out feedback from every runner in the club to ensure diversity in who I spoke with.
Practice reciprocity and mutuality	The coaches taking part in the co-production were invited to take part in the co-produced intervention giving them the chance to learn and enhance their knowledge of coaching. The published results will be shared with the coaches.

In addition to the quality criteria, I also see each of the studies as having generalisability, when generalisation is considered through a qualitative lens (Smith, 2018). Smith (2018) divides generalisability in qualitative research into four types, three of which the studies in this PhD aim to achieve: naturalistic generalisability, transferability, and analytical generalisation. Naturalistic generalisability is when the research resonates with the reader's own experiences or things they have observed or heard about (Study 1 specifically), transferability is about whether the results of the research are transferable to other settings or contexts (Studies 2 & 3), and analytical generalisation happens through concept generalisation and theoretical generalisation when the research creates a new concept or theory that later fits other research, even if in different contexts or populations (Study 3 specifically). I have demonstrated the different types of generalisabilities through the detailed methods sections, through rich descriptions of the results in each of the study chapters, and through transferring the intervention to another running club setting. Like with the quality criteria, additional evaluation for generalisability can be achieved through the readers engaging with the research (e.g., whether the results resonate with the readers' own experiences; Smith, 2018).

Reflexivity in the Research

Researcher reflexivity is an important part of my research, but there are different meanings attached to reflexivity. Finlay (2002) separated reflexivity into five types: reflexivity as introspection, reflexivity as intersubjective reflection, reflexivity as mutual collaboration, reflexivity as social critique, and reflexivity as discursive deconstruction; the first two are the most relevant to this PhD. Reflexivity as introspection involves internal self-reflection into your own thought processes and feelings when doing the research and analysing the data, and reflexivity as intersubjective reflection considers the relationship between the researcher and participant and how that dynamic can impact the research (Finlay, 2002). I am inseparable from the research (Lincoln et al., 2018), therefore, I need to consider how I might influence the research. For example, during the Study 1 data analysis process, reflexivity as introspection meant that I considered how my role as an experienced runner with no children might

influence my interpretations of data from older participants or mothers about their physical, emotional, or practical challenges fitting running into their life. I acknowledged that they will likely view these challenges in a different way to me, through their subjective reality (this is discussed further below, when linked with positionality). I also considered the intersubjective reflection in Studies 2 and 3. In Study 2, I needed to consider the dynamic of me as an avid runner participating in running sessions with beginner runners while asking them questions (discussed more in Chapter 5). In Study 3, I again considered how my involvement with the club and the coaches may have influenced their practice, and how me interviewing the coaches about their experiences of the intervention may have influenced their answers.

Reflexivity resembles researcher positionality, where the researcher states their identity and background to indicate how they might have influenced the interpretation (e.g., Berger, 2015). Jacobson and Mustafa (2019) recommended drawing a social identity map of one's multiple layers of identities that can affect the research topic, interviews, analysis and so forth. In this PhD, the aim was to develop an intervention to support beginner runners, who can often be older and have additional challenges with health, weight, caring responsibilities, and other life demands. As already mentioned, it was important to consider that I am a fit, healthy, 34-year-old woman with 13 years of running experience, and no children or other notable barriers or demands on my time. I am relatively young compared to the participants, and did not have personal experience of mother identity, ethic of care (women's lack of a sense of entitlement to leisure due to being the primary caregiver; Miller & Brown, 2005) or body image concerns while running (all of which came up in the studies). Similar to Braun and Clarke (2019) who see the researcher as a resource, and "at the heart" of reflexive thematic analysis (p. 594), I also do not believe I should "bracket" my existing knowledge or try to ignore this identity and my position (Lincoln & Guba, 2000, as cited in Krane & Baird, 2005). Instead, I see these factors as something that inevitably influenced this research process and appreciate them as a natural part of the co-creation of knowledge, that can shape the research together with my own perceptions. For example, before undertaking this research, I saw running as an easy and accessible activity without

considering the barriers others might face with running (e.g., not wanting to run alone). This means that I may have initially viewed people's reported barriers to running as excuses not to run, but this changed throughout the process as I was questioning my own assumptions (Braun & Clarke, 2019). Reading extensively about running, about other people's experiences, and reflecting on my position and relative privilege, I started to view running differently and appreciate individual differences and alternative experiences. For example, I can now see how running might be viewed as a privileged middle-class activity (Baxter, 2021).

I was practising reflexivity to different degrees throughout the PhD. In practice, this meant recording reflections when analysing the data, reflecting after my observations at the running club (including reflections about the social interactions I had with the runners and coaches), reflecting on myself as a runner, and engaging in critical discussions with my supervisors throughout the data collection, data analysis, and decision-making processes.

Reflections of the Researcher as a Runner

I did not enjoy running when I first started it. I wanted to try something new, run a race just to prove I could do it and hopefully lose weight in the process. I felt a sense of achievement after each run, but it took a while to start enjoying running itself. After a while I started entering races as I became quite goal-driven and motivated by challenging myself and getting faster. It was fun to see progress but after experiencing a lot of injuries, my progress stalled. I continued to run as that was something I was used to doing by that point. Running had become a strong part of my identity; I was known to all my friends as Pille the runner and I think part of me wanted to keep that image up.

Moving to Devon for this PhD significantly changed how I view running. The coastal path and easy access to the moors lends itself well for trail running and I ended up trying that. I learnt that for trail runners it was normal to walk the hills and stop for photos and snack breaks, something I would not have imagined doing when trying to chase a time in a race. I learnt to appreciate the freedom

that running brings when you are not watch-checking but rather focusing on not twisting your ankle while admiring the scenery around you.

In my PhD I have analysed other people's reasons for running which prompted me to reflect why I run. I realised I still enjoy pushing myself, but running has also become about enjoying the movement, exploring, socialising and a way to de-stress. I think that the goal-driven runner in me lives on, but I am also happy that I now know there are many ways to run and enjoy running. Through my research I also discovered what a privilege running is, and how grateful I am to have been able to run without restrictions so far. Finishing my PhD eight months pregnant and entering motherhood for the first time will inevitably bring a whole new meaning to running. Despite not being able to run through this pregnancy like I wanted to, I still feel like a runner. I know running will be there for me when I am ready to return, whatever shape or form that may be in.

Ethical Considerations

Study 1 data collection was completed before the start of this PhD, therefore the ethical considerations are focusing on Studies 2 and 3. Every coach at the running club and every applied practitioner was emailed an information sheet and a consent form before data collection began (see Appendices D, E, F). The information sheet outlined what the study was about, why it was being conducted, what would be required from the participants, how the data would be stored, how the results would be used, how confidentiality and anonymity would be maintained and what would happen if they withdrew from the study. For example, every participant in each study was given a pseudonym for any write ups (e.g., PhD, presentations). The information sheets and consent forms were printed and brought into each in-person focus group and workshop to ensure everyone had a chance to read over them prior to starting the data collection. The participants were made aware that the conversations were recorded, and verbal consent was recorded from each participant at the start of every focus group, workshop, and interview. Audio recordings and transcripts (with pseudonyms)

were password protected and stored on the university's secure drive. Participants in the focus groups were also made aware that while I could keep their contributions anonymous and remove any identifying information (i.e., the running club's name) when using their quotes in the research, I could not guarantee that others in the group would not discuss their contributions outside of the research setting. I asked them to bear that in mind when choosing what to share.

Each participant was informed that their participation was voluntary with no reimbursements. This was stated in the information sheet and reiterated verbally. This was especially important in Study 3 where the study consisted of attending up to six workshops, an individual interview, a focus group, and filling in evaluation surveys. It was repeatedly clarified that the coaches could choose to attend the intervention workshops without taking part in the evaluation part (i.e., interviews, focus groups, surveys). The coaches could also choose to attend any number of the intervention workshops with no obligation to attend all.

It was unpractical to include an information sheet for the observations and situated interviews at the running club. I introduced myself at the start of the first session of C25K and explained I was there to find ways to help coaches support beginner runners. I explained to the runners that I might ask them questions to help the research, and that their contributions would remain anonymous. I also made it clear that they were welcome to opt out from talking to me if they wished to do so. New runners and coaches appeared throughout the course. Whenever I started talking to a new runner, I would first tell/remind them that I was there as part of the research to ensure they were happy to talk to me and gave their consent before I asked them any questions related to the research.

Beyond the more basic ethical considerations (e.g., institutional approval, anonymity, voluntary participation), that Tracy (2010) defined as procedural ethics, I also considered Tracy's other ethical criteria for good qualitative research; situational, relational, and exiting ethics. Situational ethics refer to the ethical considerations related to specific contexts; unpredictable events that the researcher may encounter in the field, highlighting the importance of ongoing ethics beyond the

ethical approval. For example, during Study 3 I had to question whether it would be ethical to approve a social media friend request from one of the coaches (which on reflection was sent so that I could advertise the intervention on their club's private coaching page). Relational ethics refers to the researcher's self-consciousness and their ability to reflect on how they and their actions may be perceived by others (Tracy, 2010). Relational ethics was key for me during Study 2 when I joined the beginner runners for the C25K programme. I had to balance my roles of a runner and a researcher, and balance being honest and transparent about my running and my research with simultaneously trying not to make any of the runners feel uncomfortable about my presence or my extensive running background (see further reflections on this in Chapter 5). Given the nature of Study 2 (i.e., co-production), it was also important to emphasise to the coaches that even though I was the researcher with previous theoretical knowledge, I was interested in their expertise and their lived experiences, giving them a voice and minimising power differentials where possible (Buckley et al., 2023). Furthermore, in Study 3, it was important to acknowledge my role as both the deliverer and evaluator of the intervention (i.e., practitioner-researcher), and the challenges this may have caused between me and the participants. I have discussed this further in the study chapter. I engaged in reflexivity throughout, considering my role and my relationships with the runners and coaches, and how this may have influenced them and their responses. Finally, exiting ethics relate to the end of the research process; how does the researcher exit the setting and share their results with the participants (Tracy, 2010). I built good rapport with some of the runners during Study 2, and with the coaches through Studies 2 and 3 as I was immersed into the club over a long period of time. I made sure to inform them about the last time I joined them on a run and thank them for welcoming me to the club. I made it clear they can stay in touch and ask any questions they may have afterwards and promised to share the research results with them once published. I considered their comments when writing up the results trying to ensure my interpretations would not result in any unintended negative consequences to the participants.

Chapter Summary

In this chapter, I described the methodological approach to this PhD. I re-iterated the aims and summarised the studies that make up the PhD. I then explained the chosen research paradigm and research design, before detailing the data collection and data analysis methods. Finally, I explained the quality markers that the PhD studies can be mapped against, and how I considered reflexivity in the research, before finishing with ethical considerations. As discussed throughout, more detail on how the social constructivist paradigm, qualitative research design, and the data collection methods were adopted is demonstrated in the individual study chapters. While this chapter has focused on the *why* behind the methods and approach chosen, each study chapter offers more detail on the *how*. In the next chapter I discuss the first study of this PhD: the longitudinal analysis of 20 beginner runners' data about their experiences after starting to run.

Chapter 4: STUDY 1

Chapter Introduction

In this chapter, a qualitative analysis of longitudinal data from beginner runners will be discussed, demonstrating how it informed the intervention development and subsequent studies of this PhD. As discussed in the literature review in Chapter 2, supporting people's continued involvement with exercise such as running is important, yet shown to be challenging. This study looked at how and why beginner runners' experiences of their motivation, barriers and support change through time. This chapter describes my involvement in the study: the analysis and reporting phases. It will detail how the large volume of longitudinal data from 20 beginner runners (65 interviews, 1267 pages of data) was analysed, present the results, and discuss the results in the context of the subsequent intervention development. The whole study has been published (see McCormick et al., 2024). This chapter will give a brief context to the background of the study and explain how it was conducted; however, the chapter's focus will be on the data analysis process, the results, and the practical implications.

Background

As discussed in the literature review, running is one of the most popular forms of exercise globally (Hulteen et al., 2017), with parkrun being an excellent example of this popularity (Reece et al., 2019; Stevenson & Hickson, 2014). Running, like other physical activity, is linked with many mental and physical health benefits (e.g., Nezlek et al., 2018; Wang et al., 2019). Unsurprisingly, running has been used as a public health initiative in the UK; the NHS (National Health Service) offers a free C25K app to help initiate running, and GP practices in the UK are encouraged to prescribe running as an alternative to medication (Public Health England, 2020).

Despite the popularity of running, the drop-out rates are high with people struggling to maintain running after they have started. Fokkema et al. (2019) found that almost 30% of beginner

runners had stopped running six months after starting. Elsewhere, 88% of participants from a 10-week beginner running programme were still running at the six months follow-up, but a very large drop-out rate (i.e., 80%) within the programme itself suggests that many more had stopped running and were therefore unavailable to be surveyed (Johnson et al., 2022). It is crucial to understand both why people drop out of running, and what helps others to keep going, to enable us to effectively support beginner runners. Previous research has looked at motivators and barriers to running but the studies are often quantitative or cross-sectional, therefore lacking in-depth understanding of the changes that beginner runners experience when they take up running. For example, the participants in Fokkema et al.'s (2019) study reported reasons such as injury, lack of time, and health issues as their reasons for stopping through a questionnaire. Based on the initial questionnaire, they additionally found that being an inexperienced woman with low perceived physical functioning was another contributing factor for stopping. No clear explanation was proposed for why those who continued running did so (Fokkema et al., 2019). Similarly, no obvious explanation for continuing running was given in Johnson et al.'s (2022) study; the runners who maintained their involvement in the study tended to be less obese and those with higher attendance rates to the programme had higher levels of competence, relatedness, and self-determined motivation than those with lower attendance rates, which offers some potential suggestions on what might support continuation.

In another quantitative study using questionnaires, Plateau et al. (2024) investigated the characteristics and predictors of people who joined a 10-week beginner running group. Participants tended to be female, living with overweight, and have low activity levels. Only 45% of participants completed their questionnaires at both time points (at the start of the programme and at the end), limiting their findings somewhat, however, the ones who dropped out of the study had significantly higher BMI levels suggesting again that living with overweight negatively impacted adherence to the programme, whereas factors like self-efficacy, younger age, and higher adherence to the runs during the programme seemed to predict completion and success with the programme (Plateau et al., 2024). Participants of this study were invited to take part in another mixed methods study where they were

asked to fill in diaries with the aim of understanding what influenced their adherence to running (Stevinson et al., 2022). Through the quantitative measures, they found that enjoyment, motivation, confidence, satisfaction with progress, and social support were positively linked with adherence to the group runs. The supplementary qualitative data provided in the diaries suggested that while the participants found running physically unpleasant and doubted their ability to run in the early stages, their fitness improved and they experienced a sense of achievement from realising what they could do in the latter stages of the programme (Stevinson et al., 2022). Only two-thirds of the participants returned the diaries, and the study only lasted for the duration of the running programme (i.e., 10 weeks) which limits the results somewhat and does not help with understanding what supports beginner runners to maintain running after finishing a structured running programme.

As discussed before, the psychological factors that help maintain running may be different from those that support the initial change (e.g., Strobach et al., 2020). Therefore, finishing a running programme or completing a race does not necessarily mean that people will maintain running. Titze et al. (2005) surveyed women who had entered a women's fun run about their motives, and their individual, social, and environmental characteristics. They sent out a questionnaire to those who had entered the race and followed up with them two years later. They found enjoyment and the use of behavioural techniques (which were unspecified) to be significant factors for regular running. Social support and appealing neighbourhood also appeared potential factors for supporting maintenance. The women who had experienced a reduction in their social support were more likely in the "regressors" group (i.e., dropped from regular running at baseline to irregular running at follow-up), highlighting the importance of social support for runners (Titze et al., 2005). A strength of the study was the longitudinal element that enabled comparison of two different time points, but the quantitative nature limited the participants expanding on potential other factors that supported or hindered their running during that time. Rocha and Gratao (2018) investigated how runners become committed to running and found enjoyment (i.e., intrinsic motivation) was a key factor in supporting commitment. Their quantitative study was conducted by sending a questionnaire to participants of a

5 km/10 km event. Given these runners were already running on average over 3 days a week, they were arguably already relatively committed to running, and perhaps also enjoying running more because of that. Menheere et al. (2020) also surveyed runners after a particular running event (i.e., 5 km and 10 km races), seeking to understand people's perceived reasons for stopping running specifically (as opposed to reasons for continuing). Like Fokkema et al. (2019), they found injury and lack of time to be the key reasons for stopping. Interestingly, the participants perceived more individual reasons (e.g., lack of time) to stop running than social reasons (e.g., running partner had stopped running), except for women and inexperienced runners (i.e., those who had ran less than a year), who were more likely to stop for social reasons. The quantitative nature again limits the exploration of other reasons that participants may have had for stopping. Nonetheless, together these findings from Titze et al. (2005) and Menheere et al. (2020) would suggest that women might benefit from or need more social support than men, and that enjoying running seems to support maintenance (Rocha & Gratao, 2018).

Qualitative longitudinal research into beginner runners' experiences could help us to understand how and why change happens and to highlight how runners' experiences may be affected by environmental and social factors through time (Murray et al., 2009; Tuthill et al., 2020). There are studies that have looked at runners' experiences in qualitative longitudinal studies but not with the aim of understanding their reasons for maintenance or stopping. For example, Griffin and Phoenix (2016) studied older women who took up running later in life to understand how people learn to become runners or physically active through the narratives they tell. Their study demonstrated the complexities of identity development, and how people can change their identity after they start running creating stories about transitioning from non-runner to runner. Their study was not looking at reasons for continuing running and did not offer explanations to whether this identity development was important for maintenance, however. While the authors offered some guidance on how to support older adults who take up running (e.g., create process focused environments, get to know the individual's and their goals), their focus was not on differentiating those who continued from those

who did not. In the authors' own words, they produced "narratives of identity transformation and not narratives of stability or continuity", therefore they did not capture the stories of women who were unable to become runners or did not see themselves as runners (Griffin & Phoenix, 2016, p. 25). More qualitative longitudinal research looking at the reasons for drop-out and the reasons for continuing are still needed to enable developing effective interventions to support beginner runners.

Aims of the Study

The first aim of this study was to interpret how beginner runners' experiences of their motivation, barriers, and support change through time, in order to understand what helps some runners maintain running and explain why others stop. The second aim was to use these results to inform the development of an intervention that supports beginner runners with behaviour change maintenance. Longitudinal qualitative research is helpful for understanding why and how change happens, but also for informing intervention development (e.g., Tuthill et al., 2020). Therefore, this study involved analysing data from multiple interviews with beginner runners, collected over a 12-month period. These interviews explored changes in the runners' motives, barriers, and support through time. The research questions that were used to analyse the data were: "What experiences explain how beginner runners maintain their running or explain why they stop?" and "How do the experiences of people who maintain running differ from the experiences of those who do not?".

Methods

The methods section will predominantly focus on the qualitative data analysis process. To give some context to the following data analysis, a summary of the overall methods will be included as well, but more detailed methods for the study are outlined in the published article (see McCormick et al., 2024).

Participants and Data Collection

This study had 20 participants (14 women, 6 men), who were recruited through social media and through local running clubs. Fourteen of the participants were recruited from the same running club (pseudonym: South West Athletics). All participants were either new to running or returning to running. The participant characteristics are presented in Table 4, using pseudonyms. AM (my supervisor) interviewed the participants 1-5 times depending on each participant's running journey, totalling 65 interviews. The interview guide can be found in Appendix G. Six participants completed diaries about their running journey as well. Exact number of interviews for each participant can be seen in Table 4.

Table 4

Participant Characteristics (Reprinted With Permission From McCormick et al., 2024)

Person	Gender	Age group	Running context	Socio-cultural, health, or contextual factors	No. of interviews	Research involvement (days)	Running outcome
Laila	Woman	50-54	Solo	Employed; health; menopause	2	56	Stopped after one month.
Mona	Woman	55-59	Club	Employed; health; weight	1	-	Stopped after two months.
Devon	Woman	60-64	Club	Caring; employed; health	2	40	Stopped after two months.
Asa	Man	20-24	Solo	Initially student, later employed	3	203	Infrequent running. Completely stopped after six months.
Ken	Man	55-59	Club	Employed; pandemic	3	119	Stopped after three months.
Kiera	Woman	60-64	Club	Employed	3	192	Consistent runner until injured after three months. Could not return from injury.
Lina	Woman	65-69	Club	Health	2	69	Consistent for three months, stopped after four.
Rita	Woman	55-59	Club	Caring; health; parent; weight	5	293	Stopped after three months, re-started briefly, and stopped.
Aaron	Man	30-34	Solo	Employed; parent; physical disability	3	157	Became inconsistent after two months. Completely stopped after eight months.
Zara	Woman	55-59	Solo	Employed; weight	4	208	Stopped after five months.
Kim	Woman	50-54	Club	Caring; parent	3	209	Consistent runner until injured after five months. Re-started after injury.

Person	Gender	Age group	Running context	Socio-cultural, health, or contextual factors	No. of interviews	Research involvement (days)	Running outcome
Isla	Woman	40-44	Club	Employed; parent	4	191	Maintained running but was inconsistent and running frequency reduced.
Anita	Woman	45-49	Club	Employed; mental health; single parent	5	376	Maintained running but was inconsistent.
Zoë	Woman	45-49	Club	Employed; health; parent of child who had additional support needs; weight	3	197	Generally maintained, but less frequently than wanted. Little running during school holiday.
Kai	Man	35-39	Club	Became employed; parent	3	168	Maintained running.
Leo	Man	40-44	Club	Parent; pandemic; self-employed	3	205	Maintained running.
Jas	Woman	40-44	Solo	Employed; health; parent; weight	3	216	Maintained running.
Arya	Woman	25-29	Solo	Employed	4	217	Maintained running.
Mia	Woman	50-54	Club	Weight	4	234	Maintained running.
Zack	Man	40-44	Club	Health; parent; self-employed; weight	5	389	Maintained running.

Note: ‘Parent’ reflects parent of one or more child up to (and including) age 18. “Caring”/“health”/“weight” mean that participants referred to how their caring responsibilities/health/weight made participation difficult. “Pandemic” means that the participant’s research involvement was ongoing in March 2020. “Maintenance” (or lack thereof) was judged by comparing how often they were running against before they initiated the behaviour change.

Data Analysis

My involvement in the study began at the data analysis process. The overall dataset consisted of 65 interviews from 20 participants. I coded eight participants' data (Aaron, Zack, Isla, Anita, Mia, Arya, Kai, Leo) totalling 31 interviews, 782 single-space pages and about 34 hours of audio recording. The whole data set consisted of 65 interviews, and 1267 single-space pages. I analysed the data using reflexive Thematic Analysis (rTA) (Braun & Clarke, 2019), largely following the six-step process from Braun et al. (2016), which will be detailed next.

Familiarisation

The interviews were automatically transcribed with Otter.ai, but most of them needed checking for errors. I went through each participant's transcript one at a time. I listened to their interviews in chronological order, paused to edit the transcriptions, and made notes of anything interesting that caught my attention about their running journey relating to the research question. I continued to familiarise with the data across each step of the analysis and listened to the recordings two more times throughout the process. The familiarisation phase was key as I had not interviewed the participants myself.

Coding

I downloaded the edited transcripts from Otter.ai to a Word document and started the coding process through using the comments feature in Word. I looked for relevant data extracts guided by the broad research question of: "Why is this person still running (or not running)?" I listened to the audio recordings again while coding, paying close attention to the way the participants described their experiences. The participants' physical diaries were also coded (for four participants out of the eight I coded), and relevant data extracts were added in the appropriate location between the participants' interviews. The coding process was predominantly semantic, noting down explicit meanings. I focused

on creating longer codes, rather than one-word labels to better capture the meaning behind the codes, and to ensure the code survived the “remove the data” test (i.e., it would make sense without having to go back to the data; Braun et al., 2016). An example of coding can be seen in Appendix H. The eight participants’ interview transcripts with the diary entries ranged from 64 to 136 pages, with five participants’ interviews resulting in over 100 pages of coded data.

Following the coding, I added an extra step into the TA process to make the subsequent theme development process more manageable. I summarised each of the participant’s interviews, and based on those interview summaries, I wrote an overall summary of that participant’s running journey. These summaries focused on showing changes for each participant through time. Creating summaries like this reflect a practical way to manage large amounts of data and to capture change through time, and strategies like this have been used in other longitudinal qualitative research projects (e.g., Solomon et al., 2020; Tuthill et al., 2020). The summaries were guided by questions such as “What is explaining why this person is running/why they are not running?”. At this stage, I listened to the recordings again, to ensure I really knew the data and could summarise and interpret the key points for each participant. I wrote summaries for 11 participants; the eight I had coded and additional three (Lina, Rita, Ken), whose combined interviews were 231 pages in total. I read through the whole coded transcript of each interview for the three participants to thoroughly familiarise myself with their data, creating a few additional codes as I went through them, before writing a summary of that participant’s journey. For the summaries, I was guided by the research questions and aimed to capture the *changes* that the participants experienced over the course of the interviews (e.g., whether their reasons for running changed or how their perceived barriers changed). I included my interpretations of the participants’ accounts, and illustrative quotes to back up those interpretations, to avoid the summary being solely descriptive (Thomson, 2007). These summaries that I wrote ranged from 4-12 pages depending on the number of interviews and the richness of the participant’s data. See an example summary in Appendix I. All 20 participants’ data were used to develop themes, therefore I also familiarised myself with the other nine participants’ coded data and summaries by reading and re-reading over them. The

summaries were the starting point for the next step of comparing participants with each other and categorising the data into tables to see what kept people running and what stopped them.

Theme Development

To help interpret the data, I started by creating tables with two columns: main facilitators for running, and main barriers to running. I read through the summaries for all 20 participants, and then compared and contrasted participants with each other to understand the commonalities between their facilitators and barriers. The tables supported me in visualising the similarities that helped some people continue running and the differences between the people who kept going versus the people who stopped. As a result of this process, I had generated the initial potential themes. Looking at the data (i.e., the summaries, the tables), I also generated some potential topic summaries (or “bucket themes”) (Braun & Clarke, 2019); these were topics that were common but were not necessarily meaningful themes for the purpose of this study.

I then used Excel spreadsheets for clustering all the codes together. I created various tabs in Excel corresponding to the potential theme names, and a separate Excel spreadsheet for potential “bucket themes” in case these became relevant later. Each Excel theme tab had six columns: participant number, interview number, data extract, code, context, and additional notes. See an example in Appendix J. The key aim in this theme development process was to capture the time course of the participant’s experiences. The interview number and additional notes helped to capture this. AM and I collaborated when adding the coded data to the “theme tabs” on Excel. I went through each code and data extract for the eight participants I had coded, and the three participants that I had written summaries for, whereas AM added the codes from the nine participants he had coded and written summaries for. I went through each participant’s data systematically, first reading through the summaries to remind me of the key factors in that participant’s journey, and then through each interview and coded data item to check if that code fit into one of the tabs (i.e., potential themes) on Excel. Braun and Clarke (2021) noted that “coding is not – in general – a process for finding evidence

for pre-conceptualised themes” (p. 332), however, our pre-conceptualised themes came from the coded data (i.e., the summaries) originally. A new potential “theme tab” was created for any coded data that seemed meaningful for a participant’s running journey but was not captured by the existing tabs, and some codes were disregarded at this stage. The outcome was 15 “theme tabs”. I started to see the relationships between some of themes and understand more of the overall story the themes were telling towards the end of this process (Braun et al., 2016). I also started to notice how some themes might work better combined, and others might not be as relevant as I initially thought.

Theme Refinement

In the reviewing phase, I was guided by questions such as “Is this a theme? Is there a central organising concept? What is the quality of this theme? Are there enough (meaningful) data to support this theme? What are the relationships between the themes?” (Braun et al., 2016). The purpose was to help me evaluate whether the analysis fits well with the data and whether the resulting story clearly answers the research question. I refined the themes by going through each “theme tab” systematically. I copied the data from each tab into a separate Word table as this made it easier to visualise and analyse one potential theme at a time. I went through each data extract and code and started to formulate the central organising concept of any given theme, simultaneously checking that the existing codes fit into that central concept I was constructing. I wrote down my ongoing analysis of each theme as I went along as it helped clarify the process and helped me to make sense of the data. During this writing process I started to see the links between the themes more clearly and noticed the themes that lacked enough meaningful data to be a theme on their own right. Writing my interpretations from the data extracts and codes and considering the central organising concept for each one, I saw how some themes had the same underlying central concept or were two sides of the same concept (e.g., life gets in the way of running/prioritising running). At the end of the theme refinement process, the initial 15 “theme tabs” I started out with had become four themes. I continued

to refine and sharpen the analysis through writing a theme definition for each of the four themes that captured the essence of that theme (Braun et al., 2016).

Theme Naming

The themes were initially named during the latter stages of the previous step as I was refining each one, although I kept an open mind to the names changing through the write-up.

Writing Up

The final step was the writing up. Although, as also noted in Braun et al. (2016), I had completed a significant volume of writing prior to this step. I started one theme at a time again, looking over the theme definitions, followed by writing down a list of the key points that should be captured within that theme. I noted down participants that exemplified that theme particularly well and wrote down any quotes that represented the key points I had listed. These key points helped me create a story for each theme and eventually write the results.

Results

The Results section will present four themes that were constructed from the data through the reflexive TA process outlined above. The themes are interrelated, but they will be presented one at a time. The themes are: Identifying a Meaningful “Why”, Life Gets in the Way of Running, Learning That I *Can* Run, and Opportunities are Unequal and Experiences Contrast. Having a meaningful why was closely linked with the other themes: People were more likely to prioritise running, not let life get in the way and learn that they could run when they had a meaningful why or a meaningful reason for running. A meaningful reason, however, was not always enough to continue running: Life was more likely to get in the way for runners who experienced unequal life circumstances. To aid with understanding the participants and their context, their characteristics were displayed earlier in Table 4.

Identifying a Meaningful “Why”

Having or identifying a personally meaningful “why” or a reason for running was integral for explaining maintenance and helped illustrate differences between participants who maintained running and those who stopped. At interview 3, Kai explained: “You have to have your reason for starting and you have to remember that the whole way through and then everything else will just spur from that ... having that one anchor point blossomed into everything else that went on.” Meaningful reasons were characterised as reasons that had personal meaning to the participant, whether that was through being related to their identity, values, memories, relationships, or enjoyment, or them having a meaningful goal they were trying to achieve. Having a meaningful reason for *running* specifically, as opposed to having a reason to exercise in general, was a key difference between some of the runners and helped to explain maintenance. Involvement in running could be perceived as something active that just “happened to be running” (Rita) or running could be something that the person had “always felt I would like to do” (Mia). For example, Kiera had a running-related why and she wanted to become a runner specifically. Like others in the study, Kiera was aware of protecting her health as she ages but she also had a goal to be able to “pop my shoes on and just go for a run and be able to run for half an hour or fifteen minutes or whatever time I have”, which she had previously been able to do. In the first interview, she described fond memories of when she “loved” running, with one memory standing out:

And I think that one, one memorable afternoon sticks in my head where the friend I used to run with we went up onto the moors and we ran seven, seven miles I think it was and I could have just kept running. I didn’t feel exhausted, I didn’t feel “oh God I’ve got to stop”. I just could have gone on and on and on. And If I could reach that again, I would be more than happy [laughs].

The combination of her meaningful running-related why and enjoying the experience contributed towards Kiera prioritising running. Others, however, started running at the “spur of the moment”

because they just “fancied it” (Lina). Lina was encouraged by her friends, but she did not have a personally meaningful reason for starting. Once that initial excitement wore off, and her friends stopped going, her previous hobbies and commitments took over and she stopped. It seemed that for some participants, running was used purely as means to an end (e.g., to gain fitness, delay the consequences of aging). Like Kiera, Zara used running for health benefits but the difference was that she did not particularly *want* to run or enjoy running - “If there was an easier way to get to the, to the end result, I’d probably be taking that” (Zara).

Another example of someone who had meaningful memories with running was Zack. Running and leading an active life seemed to be tied to a lot of happy memories for him that he reminisced about in the interviews. In interview 1 he described how running used to be “like a thread that ran through my life”, and how he wanted to “get something back that I’ve known before”. He had to put a lot of effort into running at the beginning as running was both mentally and physically hard, but the effort decreased as he got fitter. Seeing progress with running and experiencing wider health improvements spurred him on, he felt like running was showing “a return on your investment” and he started to feel like he could be “part of the gang” again with his active friends. Running seemed to align with his identity and work as a gateway to other things in life that he valued.

Some people’s reasons for running were more meaningful than others. Kim started running with a very clear and meaningful reason. She wanted to run the London marathon; it was her dream goal and a big life achievement. Her opening sentence in Interview 1 was, “Well, why I started to run, because I want to run the London Marathon. That is the crux of it.” She explained that completing the “the Crème de la Crème of marathons” would be a “glorious” life achievement, one of the best moments of her life, and a “bucket list” item. She also wanted to make herself and her family proud, show what was possible at her age, and raise money for a personally meaningful charity tied to her husband’s health. Her reasons became even more meaningful after her mother died and running in her mother’s memory became her additional why. Kim demonstrated how a meaningful why could

support prioritisation of running despite some significant life events that could have got in the way of her running. Zara on the other hand, was an example of someone who lacked a meaningful reason for running at the start and never developed one. In interview 1 she reflected:

It was, it was actually probably only about the third or fourth run. And it really was the, I don't really know why, why I've chosen to do this. I just, I couldn't find enough reasons to kind of go, "well why have you chosen to do this? It's not fun. You don't like running, you've never liked running, what, what is it? Why? Why?" So there was a lot of that kind of internal dialogue (Zara).

By interview four, barriers related to weather and her children coming home for the summer had resulted in her stopping running, and in her own words: "I ran out of enough reasons to go, and I had more powerful reasons to not, that's fairly simple". She knew why she should run (i.e., for her health benefits), but the combination of no meaningful reason and never enjoying running made running difficult to continue:

And I haven't completely ruled out returning to running. But yeah, at the moment, I'd say, I lost the battle with it, "it's good for you". "I hate it". "I hate it" won. So yeah, that's about where I am at the moment (Zara, interview 4).

Enjoying running itself could become a meaningful reason to run and help with continuing running. For example, Leo initially started running because his partner asked him to join her. He did not think running was for him, or that he could run, but he "fell in love with it straight away", reporting he had "caught the running bug". Zack, who found running unpleasant and hard initially, started to find it more enjoyable after getting fitter: "I mean I'm not saying that I enjoy every single second of it, but it's definitely moving in the right direction along the, along the scale" (Zack, interview 2). Other people reported enjoying running but it seemed that they were referring to the different aspects running was providing them as opposed to finding running itself pleasant. Runners mentioned enjoying socialising, a sense of achievement after running, or a sense of pride and "feeling awesome"

after being up early for a run (Aaron). For most people, running itself was and continued to be unpleasant, albeit becoming little more enjoyable along the way. Isla (who kept running throughout the study although less frequently), reported she did not “hate it as much as I used to” in her second interview and in her final interview she reflected:

I’ve loved seeing all these new places, that’s been amazing. And you see things when you’re running you wouldn’t ever notice in a car because you can go on tracks and things that you wouldn’t even know exist half the time, so that has been really lovely. I still don’t physically enjoy it necessarily when I’m running. But I love the feeling when I finish, that it made me feel this huge sense of satisfaction and, you know, especially once you’ve got home and had a rest, you know, lots of endorphins and feel great, so I do like that a lot. But I haven’t yet reached the point where [she enjoys the running itself], maybe I never will, actually it still hurts when you’re running [laughing] not like painful but like, you know, makes your legs ache, after about five miles I’m like, “Yeah, I’ve kind of had enough now”.

It appears that having a meaningful why contributed to running becoming more important in the participants’ lives (and subsequently prioritised), even if they did not physically enjoy running as such.

The meaningful why was dynamic and could change over time. Some people started with a meaningful running-related reason, whereas others developed a more meaningful reason along the way. For Isla and Jas the interview process itself and the questions asked made them reflect on their reasons:

I think that’s possibly why you’ve seen that there’s not many people dropping off, because you ask us lots of questions about why are we doing it, you really start to think about why am I doing it? Whereas if previously I’ve just gone probably “I’ll just do that”. Yeah, yeah. “I’ll just go do that, it’ll be fine”. But you know, it’s not as if somebody persuaded me or something like that. It needs to kind of be, “Why are you doing this? What are you getting out of it?” I think that definitely helps (Isla, interview 3).

The interview process also helped Jas clarify her why:

I think when you say a lot of stuff out loud, and then you make your comments ... when I finished the meeting, I actually went to [partner] and said “my god that was really good”. Because that, it makes you reflect on stuff because you say it out loud, don’t you, and then someone will question you about it, and you’re like, “well, actually”, so I think that’s made me motivated.

Jas started to run to lose weight and perceived it as a chore initially but over time her perception went from “having to” run to lose weight to “wanting to” run for herself: “Yeah, yeah, I think and that’s kind of a mindset change isn’t it, before, so before I was like ‘oh I really have to do this because I want to get down to pre pregnancy weight and I really have to’, and now I just, now I want to do it, I suppose, so” (Jas, interview 3).

People often had a list of reasons why they were running, but the reasons were not necessarily meaningful. The meaning that people attached to the reason mattered, and it was sometimes possible to differentially describe the same reason as having or lacking meaning for different participants. Many participants mentioned aging healthily as their reason but there was a difference in why that was important. For example, Rita knew she should do something for her health because of aging, and after seeing many programmes and reports about health, but it did not appear to be a meaningful reason for her, whereas Isla had watched her mother go through a heart surgery which made the health reason more personal and meaningful for her:

Obviously, what’s happened with my mum, I think has been very personal, like it’s personally motivated me to kind of go, do you know what? I’m 40, 41 now, you know, if I don’t do it now, before I know it, I’ll be 45 and even more unfit and put on more weight. And it’s just a slippery slope isn’t it, I think, as we get older so, I think that’s been from a personal point of view, that’s really motivated me.

Likewise, seemingly similar reasons for running could also have a very different meaning to the participant. Kim and Zoë were striving to get a medal from running because the medal for them symbolised personal pride and achievements. Kim's marathon goal was her dream and meant showing her children and grandchildren what can be achieved. This personal meaning helped her continue to prioritise running despite the barriers she faced. Contrasted with that, both Asa and Ken mentioned wanting to run similar running events, but their reasons were centred around self-presentation: "And I think like just having that title, or having that on your what's your word, just having that, that experience of saying that you've done half marathon or you've done a full marathon is quite, it's achievement" (Asa). Having a goal that was not personally meaningful did not seem enough for people to maintain running when faced with barriers. For one participant, the underlying meaning of their goals was not clear until the end of their research involvement. Kai started running mainly for weight loss, and to improve his body image. Whilst he accumulated many more reasons for running along the way (e.g., enjoying the improvements, socialising, being a role model for children), his underlying why was only articulated at the final interview when he reflected that he had started running to save his marriage:

Just I guess it's loss its fear of loss isn't it? Because it drives all back to my marriage and I don't [pause] think I'm all right now. But I didn't want it to end and that was something that I could actively work on which would impact the biggest area of my life. Sounds a bit too thought out without but it really did, it was health, confidence, like just emotional wellbeing, it was it was everything tied up in one easy action (Kai, interview 3).

The South West Athletics that the 14 participants were part of became a meaningful and only why for some runners. The meaningful social connections at the club were keeping them going. For example, Ken felt that the running club was just something people "radiated around at the time", but it was not "necessarily just about running". Ken initially started for health, fitness, and wellbeing reasons. Nevertheless, he seemed to deeply appreciate and value being with the other beginner

runners and “the camaraderie with the group”. He would look forward to the runs and *want* to go. For example, at interview 2, he reiterated that he “really enjoyed the group environment” and found that to be a “significant motivator for me to carry on”. His goals for the future were more centred around being active, as opposed to running. As his most meaningful reason for running was taken away when the first Covid-19 lockdown happened, Ken soon stopped after struggling with the “fag” of running alone. Leo similarly found the social element important for his running, but he also enjoyed running for its own sake and therefore managed to continue running even after Covid-19 cancellations. The club could be a strong facilitator for running, especially for the ones who found meaning in the connections they made, but it could also be the only reason people ran for and therefore be a barrier to running when the runs were cancelled.

Life Gets in the Way of Running

Most people started running when their lives were quieter, when they had less barriers to running, and when they felt they had the time for running. There was, however, a tendency for demands, and therefore barriers, to increase. Many participants’ lives got busier, which meant that they had fewer opportunities to run or lacked motivation to run, which tended to be linked back to their why or lack of a meaningful why. For some participants, the number of “daily hassles” (e.g., work deadlines, holidays, children’s hobbies) increased. In interview 4, Isla said “It’s never that I just think, oh, I don’t want to go, it’s more just life gets in the way”.

Participants tended to pause running when life got busier and planned to re-engage with running once the busy period had passed. Those who knew their why were more likely to get back into running after a break. On the other hand, when people lacked a meaningful why and when running was not enjoyable, they relied on self-regulation skills much more, and what seemed like small demands could become a barrier for running. It seemed that some without a strong why allowed life to get in the way, as they did not have a powerful enough reason to prioritise running. For example, Devon was aware that she put others first and “allows life to get in the way”. Although she seemed to

have the time and support around her when she started running, a combination of barriers related to her work, relationships, and family life crept up and prevented her from prioritising running, ultimately leading to her stopping:

I possibly was a bit ambitious to start it as soon as I did, I should have perhaps waited until everything had settled before I started it, because I tend to be pulled in different directions ... and that's my fault for allowing it, but that's who I am really and I'll always want to be dealing with what needs to be dealt with first, before I do something I want to do (Devon, interview 2).

Rita also said she did not want to “start something if I can't carry it on”, which demonstrated wanting to wait for that perfect opportunity with a lot of free time. She also verbalised how she had the time for running when she first started but when unexpected demands appeared, she perceived the same hour for running to take too long: “when you're really busy, it's not as easy” (interview 3). The runners did not expect the increase in demands, and they were therefore unprepared for fitting running in with the changing circumstances. They often wanted to wait until additional demands of daily life, such as social events (Aaron), holidays (Anita), or busy work schedule (Kai) had subsided, rather than trying to fit running amongst that day-to-day life. This tendency to take a break from running resulted in many struggling to continue as they often fell off the routine they had established before life got busier and/or the quieter time they were hoping for did not manifest. Some participants, however, started running during a busy time and therefore struggled to maintain it. Laila started running when she had lots of events going on making it hard to find the time and create a consistent schedule. Similarly, she wanted to wait until her weekends got less busy, and life got quieter so that she could establish a “normal pattern” where running could fit into:

I think, to focus on something like that that's relatively challenging, you do need to be able to, plan it in, and make time for it, it didn't work, with the trying to fit it in around everything else, didn't work, so, I know that now [laughs] so, as I say, Plan B) wait until there's a block

of time when I can well put, you know, apply myself to it, I suppose is, is one way of saying it (Laila, interview 2).

Establishing a routine with running was a double-edged sword for many participants. Routine helped those who ran with South West Athletics to go regularly; knowing the running club session was every Saturday at the same time helped the runners protect that time and plan it into their family schedule. However, that over-reliance on the Saturday morning session could also become problematic as other plans competed for the same time slot and prevented them from going. Relying on the one day of the week lacked flexibility and resulted in missed sessions due to other commitments (e.g., holidays, visitors, illness) on that day:

But also the fact that my Saturdays, I, how it's working out, I haven't had one free Saturday for about seven weeks. So that has not helped with the, with going to running anyway ... so that has interrupted (Lina, interview 2).

Running then became context specific, and the club run was treated like an exercise class instead of running being used for its flexibility. Routine could also be a hindrance for those running alone. Aaron had a strict routine with running but only when he was working away from home. Running became harder when his work pattern changed: "I'm getting too much home time which is interfering with the training" (interview 3).

Prioritising running was key to being able to maintain running, especially when competing demands arose. Kiera felt that you need to prioritise the things you want to do and running had to be given "that level of importance". Talking about her son, who lives locally, she said:

Quite often he would ring on Friday night or maybe a Saturday morning and say "Mum, could you have the children for later on today?", but I've said to them now that you know, I'm going to do this on a Saturday morning. So nothing. That's, I'll have the children but that'd be later, I can't have them on Saturday mornings because that's, that's when I'm

going to do this ... whereas before, whoever asked me to do whatever, I always said yes.

Always (Kiera, interview 1).

Mia was another example of someone who prioritised running early on by modifying existing commitments: “I’ve arranged my Saturdays around it, because I’ve had opportunities to do other things. And I said, no, I can’t do it until after running” (interview 1). Other runners only ran if they happened to be free and the run fit with their other plans. The ones who prioritised running tended to have a meaningful why for running, whereas Zara who lacked a meaningful why was “fitting running around other things rather than fitting other things around the running”. There was also a link between lack of enjoyment and lack of prioritisation which is illustrated by Lina in her final interview: “I suppose it’s not enjoyable enough to really become my number one priority I suppose” (interview 2). When life got busy people tended to prioritise aspects of their life that were more important and more established in their lives (e.g., children, work, previous hobbies) and some chose to de-prioritise running as it conflicted with other demands that were closer to their personal values (Zoë, Devon). For example, Zoë, who had a meaningful why for running, was also, in her own words, a “workaholic” who had a child with additional support needs and both took priority over running when her time was limited.

The runners who kept running could build momentum with it, but life getting in the way could cause them to lose that momentum. Momentum meant runners getting into a consistent pattern with running which made it easier and more enjoyable to go the following time and build on that consistency. Zack described this as “the more I do go, the more I like to go the next time”. Runners tended to build momentum when running was prioritised from early on, but they could lose momentum when life constantly got in the way and disrupted the routine. It seemed that infrequent running made it harder to gain fitness and running would continue to be hard, resulting in people fearing the return after missed sessions and wanting to wait for another cycle of C25K to start again.

Some thought that if you cannot go regularly then there is no point just doing it one-off. For example, Ken talked about how this spiral happened:

You don't go out, so you don't get fitter, but when you do go out because you've persuaded yourself to do it, you haven't achieved what you did before, so that's demoralising [laughs], just it's a spiral to eventually stopping (Ken, interview 2).

The ones who only relied on the weekly club runs were the most likely to lose momentum if they missed a session or two, as that led to a 2-3 week break from running and would have required a meaningful why or self-regulation skills to get back into it. It appeared that some people were afraid to lose the momentum, and consciously ensured they kept it up, because they knew that after missing a week it was easy to miss another one. Not going got you "out of the habit" (Anita), and then it was a "slippery slope" (Zack). Talking about hypothetical future injuries, Mia said:

I suppose [you] could go back to Couch to 5K, and start again wouldn't you? If you can't train for a bit. But that would be difficult for me I think, if I were to get injured I think. I'd be worried that I'd lose the momentum and lose the enthusiasm if I wasn't able to do it. And that's another thing I think that drives me to keep going. Because I worry if I do miss it, then I'll lose what I've gained, and it will then be hard work to get that back again. So that's another thing that drives me to keep going (interview 3).

Keeping the momentum with running could become another reason to continue to prioritise running as people did not want to lose the ability to run that they had gained.

Learning That I *Can* Run

The runners (especially those who maintained running for longer) experienced a process whereby they learned that they *could* run. This was often linked to them having a meaningful why that enabled them to prioritise running and notice and value the improvements. It was important for some participants to learn or re-learn that running could be for them, rather than just being for the elite

athletes. Some participants believed that running required a lot of fitness, a particular body type or a particular image (e.g., wearing technology): “You had to be a certain type of person to run” (Anita, interview 1). This belief narrowed their view of what a runner is and made it harder to believe they could run. It was common for runners to doubt their ability to run initially and question “if you’ve never run before, can I actually do it?” (Lina, interview 1). Mia, amongst others, had developed these beliefs and feelings of failure from negative PE experiences in school. The school environment promoted “sporting excellence” rather than encouraging “fitness for life” (Mia). Over time, Mia learned she could run and improve, which consequently supported her motivation. When asked about her main reasons for running in her final interview, Mia responded with “because I can”. Defining a runner through a narrow lens and seeing running as something that was not meant for everybody made people reluctant to call themselves runners. For example, Kim did not call herself a runner right away but described it as: “maybe I have a big ‘L plate’ on me, as in ‘learner’” (Interview 1). Others used language like “plodder” to distinguish themselves from runners:

At the moment probably still somebody trying to learn how to run, cos I am very slow. I’m plodder rather than a runner. But I get there. So yeah. So from going from nothing to a plodder and I want to turn the plodder into a runner. And then I’ll call myself a runner (Mia, interview 2).

The South West Athletics that 14 participants were part of taught them how to run through using different tactics (i.e., walk-running), giving instructions, and offering vicarious experiences that increased people’s belief that they, too, can run. Rita said “I mean, I think you surprise yourself, you think you can’t run at all and then you know, you, you do that course and you do gradually build up” (interview 1). Most of the run club leaders had gone through a C25K programme themselves and had often started running later in life, which made them relatable to the newer runners. A lot of the runners in the study used language like “if they can do it, I can do it”: “So hearing other people’s success stories and how they got on with it helps you think, ‘oh well if they can do it, I can do it’ (Lina,

interview 1). It seemed particularly important that the leaders and other running club members were people the runners could relate to as it made people feel it was more realistic to aspire to that:

They're real people, they're all shapes and sizes, they're not all kind of racing snakes, that's kind of helpful, and they're all people that said, "oh, you know, I hated it before and now I actually really enjoy it" and things you can relate to, yeah, in that sense (Zack, interview 2).

Thinking that "if others can then I can" was helpful for motivation, increasing people's self-belief about being able to run, and being able to enjoy it. It was helpful for runners to know that they, too, could learn to enjoy running, since others did not always find running enjoyable to begin with. Talking about her friend during interview 1, Arya said: "So having seen that she now enjoys running, even though I know she had the same opinion as me does give me hope that like, I might enjoy running as well".

Some people relied on the support of the running club so much that they never developed running independence and never wanted to run alone. This was usually the case for those whose only reason was the meaningful connections at the club or who used to run only as a means to an end, but it was also linked to being self-conscious about running in public (without the support of the running club). Zoë had been heckled about her body shape whilst out running previously. Isla did not want to be seen "huffing and puffing" in front of people from her place of work, and Mia felt "ridiculous somebody my age and my size pounding on the pavements" if she was to run alone. Running only with the club meant that if people missed the scheduled session (e.g., when life got in the way), they would often miss a whole week, and they found it harder to gain fitness because they did not replace these runs on their own. Running for some, became a social activity that was linked with the club rather than an activity done on your own. Rita reflected on this in her third interview:

So, for me, it's this I would say it's probably the social side of it as much as the erm you know the physical exercise so, and I'm not at the point where I feel I could just go for a run by myself, because I'm not quite there yet. I don't feel I am anyway.

Others used the running club as “the route to learning how to run” and “being able to run independently” (Kiera). Those who maintained running tended to gain independence from the club and met with others midweek (e.g., Mia), started running with a partner (Leo), or ran alone (e.g., Kim).

Seeing tangible improvements with running and overall fitness were key factors in supporting the maintenance of running. Improvement was key for motivation, to feel sense of accomplishment, but gaining fitness also made running feel less painful and more enjoyable. The improvements were often related to running (e.g., being able to run further), but improvements in their overall health (e.g., sleeping better) and body (e.g., weight) were also appreciated. Kai, who progressed much faster than most, was “spurred on” by seeing results:

I think seeing the results of running has spurred me on. That sounds so terrible doesn't it, but it's true. There's no point doing something and then not feeling like you're getting any benefit out of it and then keep doing it. I kind of like need to see that things are progressing, that's kind of what motivates me really, if I feel like it's going well, and it looks like it's going well then then I just run away with it. Quite literally, in this case. I think that's been that's been the main thing really (Kai, interview 1).

Seeing improvements in running boosted people's running confidence and opened more opportunities to explore on the runs, which consequently seemed to make running more enjoyable. For example, after noticing improvements in her fitness, Arya stopped worrying about getting lost on her runs:

But it's not as when I was at the start, I wouldn't have felt I could have done that [explore new routes]. Because I was literally, I'd have seen a hill and been like “oh my god I can't do this” whereas now you're just like, okay, fine, I have clearly gone the wrong way, but I'll figure it out. So it's definitely that, I'm enjoying that aspect (Arya, interview 2).

In contrast, failing to notice improvements could be demotivating. For example, Laila reflected, “because I think it’s like anything you do, if you don’t see yourself making progress, it sort of, it makes you think ‘urgh, why am I doing it’ or ‘is it worth doing it?’”. The noticeable improvements, together with the realisation that they could do something they did not think they could, transferred to other aspects of people’s lives, and may have supported maintenance. Mia and Arya were both more likely to try new hobbies after gaining confidence in their fitness through running, and Zack described his achievement with being able to stick with running like a “template you can lift off and apply to other things as well” (interview 2).

Opportunities Are Unequal and Experiences Contrast

The ability to prioritise running and therefore improve and enjoy running was supported by a meaningful why, but it was also affected by runners’ wider life circumstances. Opportunities to run, and experiences of running were therefore unequal. For some participants, illnesses, demanding jobs, weight, pain, older age, ability, or parenting demands affected running opportunities, whereas others had flexible working hours and no caregiving responsibilities:

And perhaps, you know, other outside stresses, I don’t know a sort of financial, relationship, those kinds of things. They’re not things that I’ve been affected by during the period that we’ve been meeting [for interviews] and yeah, so I think in that sense I’ve had a pretty easy ride, there haven’t been a lot of outside sort of stressors (Zack, interview 3).

Having a meaningful why could help some people prioritise running despite difficult life circumstances but the why was not always sufficient. For example, Kim had a meaningful why for running but she was also wealthy and did not work. She could afford help with managing her home, which reduced competing time demands relating to childcare and household work, and she could also afford running accessories and equipment, a masseuse, and a physio when injured:

But I do have home help, they're away at the moment. But when they're back, they'll live with us so, they're part of the family so I probably have a little bit more time than most mums I would say, as I don't have to do the general drudgery of ... I don't have to do the ironing, washing, hoovering, cooking, all those sorts of things that I suppose women are meant to do sometimes in the house, not all the time, but yeah, so I have more time to concentrate on what I want to do really (Kim).

In contrast, Zoë also had a similarly meaningful why related to personal achievements and pride derived from medals, but she had significantly more challenging life circumstances. She had chronic illnesses where the symptoms made running more difficult (e.g., weight gain, fatigue, tiredness), and although she wanted to run, there were multiple other things that she prioritised: her child who had additional support needs, juggling her child's education and medical appointments, and full-time work:

I miss a lot of work for appointments, so, erm, both appointments for me and appointments for [son] ... I've got such a high, strong work ethic, there's no way I'd be able to [pause] justify in my own mind taking that time, and to then go to, for a run as well in work time. So, no, can't (Zoë).

As a household they also needed to prioritise extra income: "but they're [work opportunities] the only jobs that he can do as extra money into our household, because they're the days that we're both off. So, if he gets one of those, I can't go running that, that weekend". It was evident that wider life circumstances could have a positive or negative impact on people's ability to maintain running.

Women in general tended to be more disadvantaged when it came to maintaining running due to caring responsibilities, mother identity, exhaustion associated with the menopause, body image concerns, and safety. For example, Mona was one of many women in the research who worried about having to run in the dark:

The thought of going down, it, even going down to the park in the evening, you know, it's that safety bit, isn't it, it's you know, being safe, I suppose, that's what's concerned me, and that might get better as it gets lighter.

Women did not feel as safe running and had to be more selective with the times and locations. Some participants had older parents to look after which often took priority and limited running opportunities, especially if they had to travel to another city to care for them. It seemed some women's partners had more time for their own hobbies leaving them with less time for running or they could even have a say about their running. Devon, who admitted she prioritised other people's needs, did not want to upset her partner by interrupting their mutual weekend plans with her running: "and [husband] did make a comment about how that Saturday morning running encroaches on the weekend quite a lot". Zoë and Jas both had partners whose hobbies seemed to take up a lot of the free time available amongst their employment demands, and caring for a child:

It's [partner]'s schedule [that's my main barrier]. I'm not going to lie. It's [partner]'s schedule. Like last week, he played [partner's sport] Wednesday, Thursday, Friday, Saturday, Sunday. And you think, well, where am I going to fit my, my stuff in? You know, and yeah so that that's, I would say, that's probably one of the major barriers (Jas, interview 2).

Interview 1 was a reflective experience for Jas that helped her clarify her why but also prompted her to start prioritising running and demanding time for it:

So I think I have to demand that time. Yeah, because, you know, for example, [partner] is gonna go play [partner's sport], so he'll be gone for four and a half hours, which means I can't do any activity tonight. But yeah, I need to put in his diary, actually I'm going for a run at this time, or I'm going for a run at this time. And you have to be here and look after [son] (Jas).

Being a mother was a key factor that could limit the participants' opportunities to run. Most women in the study mentioned their role as a mother when discussing their running experience. Mother identity seemed to be strong for many participants but also change over time. Being a mother was given as an explanation for not prioritising running, even if this had previously not been perceived as a barrier. In Interview 1, Anita said: "Teenagers don't need your attention as much as when they're toddlers, when they're younger, you know ... I think that would have been harder, now I'm in a place where I've got that that time where I can." By interview 3 her running had become more inconsistent, and her perception and priorities had changed:

So I've also got the kids at home ... because literally that'd be like three nights a week [running], you know? Whereas I need to remember actually I'm a mum, I need to be at home with them as well. They are teenagers but they need me as well, as well as running, do you know what I mean? (Anita, interview 3).

Mother identity and prioritising children seemed to be engrained in women even if the children were not small anymore: "So as I say, even though they're all big now, erm, I'm the mommy, I'm always at home, I'm there, that, so, that, that bit about changing the balance is quite hard" (Zara).

Being a mother could, however, also be seen as a facilitator for running. Isla was an example of someone whose children had an active life so she started running at the same place and same evenings as her sons because "if you can't beat them, join them". Kim saw running as a way to "role model commitment", and Mia acknowledged that her prioritising running might seem "a bit selfish" to her children but she viewed running as something that will make her "happier and healthier for longer" which would be for "everyone's benefit". Similarly, Jas started off "feeling guilty about having that time" for herself (to run) but as the interviews progressed, she shifted her mindset to seeing it as "me time" and something she "deserved" to do outside of her mother role. It appears that being a mother could be seen as both a facilitator and a barrier perhaps depending on how much running was enjoyed or what the individual's why was.

Seeing one's circumstances as supporting running or debilitating of running was also subjective and depended upon their why. Some people had seemingly similar opportunities for running, yet only some saw it as facilitative. For example, Rita had retired early and had one child in university yet found it hard to find the time to run and let many other daily hassles get in the way. On the other hand, Mia also had children in university and was still working full-time but saw running as something that was easy to fit into her schedule:

Yeah, I'm in that period of my life where, you know, my children are adults. I mean every now and then things happen that you need to be there for them but on the day to day running of things, you know they're obviously very independent I don't have any other family commitments, elderly parents or anything to look after I don't have any animals you know, basically you know, I've just got a look after the house and what have you in the yeah and I got no great ties or commitments or anything so just obviously work but luckily running fits around work (Mia, interview 4).

Besides the mother identity being differently displayed between them, with Rita seeing running as something she did not want to do when her son was back from university, it also seemed that the meaningful why could explain the difference here. Rita prioritised other things over running and did not appear to have a meaningful why, whereas Mia made sure to keep the running times free in her diary as she had a running-specific why and it was important to her.

Summary of the Results

The results consisted of four themes: Identifying a Meaningful "Why", Life Gets in the Way of Running, Learning That I *Can* Run, and Opportunities are Unequal and Experiences Contrast. As has been illustrated throughout, the themes are inter-related and together tell a story of why some people maintained running while others did not. Identifying a meaningful why could help people prioritise running, help them learn that they could run, help them enjoy running, and support with overcoming

some barriers, therefore supporting maintenance. Some individuals, however, were faced with barriers that were too big to overcome, resulting in life getting in the way. Being disadvantaged by societal privileges made it difficult to prioritise running, which limited the opportunity to progress and enjoy it, ultimately leading to stopping.

Discussion

The first aim of this study was to interpret how beginner runners' experiences of their motivation, barriers, and support changed through time. We aimed to interpret how the experiences of people who maintained running differed from the experiences of those who stopped, to identify what helps some runners maintain running and explain why others stop. The second aim was to use these interpretations to inform the development of an intervention that supports beginner runners with behaviour change maintenance.

The key results from the study were that a meaningful why for running - a why related to the person's identity, values, memories, relationships, enjoyment, or a personally meaningful goal - helped people maintain their running. This why helped people prioritise running, learn that they could run, and could, to an extent, prevent life from getting in the way. Nevertheless, some people's life circumstances created significant barriers that were too big to overcome; a meaningful why was not always sufficient, resulting in life getting in the way of running. The Results section presented each theme with the participants' data. The Discussion section will first present the novel results from the study, and the theoretical links to existing behaviour change theories will then be briefly touched upon. Nevertheless, the focus of the below discussion will be on the practical implications from these results, i.e., how can these results be applied in a practical intervention to support beginner runners.

The themes highlighted similar results from previous research that looked at adherence in running. For example, the current study also found that motivation, enjoyment, confidence, satisfaction with progress and social support helped maintenance of running (Rocha & Gratao, 2018;

Stevinson et al., 2022; Titze et al., 2005). The novel results from the study were that a meaningful why was the key for running continuation, that running was not equally accessible, that being able to maintain running was not solely down to the individual's motives, and that motives, barriers, and support were dynamic, interactive, and changed over time. The analysis revealed that a running-specific purpose was important and potentially one of the most influential factors for supporting the maintenance of running. Self-determination theory's distinction between autonomous and controlled motivation can broadly be linked to the meaningful why theme (Ryan & Deci, 2000, 2017), as the results suggested that a reason related to one's values, or identity, and intrinsic enjoyment was more supportive of running than more controlled reasons. This theory alone was not sufficient in explaining why people maintain running, however. The "Opportunities are Unequal and Experiences Contrast" theme highlighted aspects related to gender differences, such as mother identity and ethic of care, and suggested running to be more of an exclusive activity, one that is often more accessible for people from certain socio-cultural backgrounds. The longitudinal nature of the study illustrated how motives, barriers and support are dynamic and change over time and can be perceived differently by individuals or by the same individual depending on what else is going on in their life at any given time. The analysis further showed that the four themes interacted with each other and influenced how running was experienced; a meaningful why, confidence, prioritisation, and life circumstances all had a role to play. Having a meaningful why combined with having supportive life circumstances (e.g., good health, less demands on time), could help people to prioritise running and in turn increase the likelihood of experiencing progress and enjoyment with running. On the other hand, disadvantaged life circumstances (e.g., caring responsibilities) could mean it was harder to prioritise running, leading to lack of progress and lack of enjoyment with running. All themes therefore need considering when planning for an intervention.

Three themes (Identifying a Meaningful "Why", Learning That I *Can* Run, and Life Gets in the Way of Running) can be broadly linked to the theories discussed in the literature review chapter. For example, self-efficacy theory (Bandura, 1977) can broadly be linked to Learning that I *Can* Run theme,

and some of the constructs from the health action process approach (Schwarzer & Luszczynska, 2008) can be linked to the Life Gets in the Way theme (e.g., action planning and coping planning). There were also examples of enjoyment supporting running maintenance, which can be linked to affective-reflective theory of physical inactivity (Brand & Ekkekakis, 2018). Furthermore, for some, the running club was the only reason to keep running which can be interpreted through the social identity approach (Tajfel & Turner, 1979; Turner et al., 1987). The final theme around unequal opportunities does not directly correspond to the popular behaviour change theories that often do not consider the wider context (e.g., Salmon et al., 2020). Therefore, while some of the results could be linked to different theories and concepts, how people maintain their running is a complex process that involves an interaction between the individual and their wider social environment and cannot be explained by one theory alone.

The main strength of the study was the longitudinal element that allowed us to capture the changes in beginner runners' experiences through time. The data analysis followed a systematic, thorough approach where each runners' data was analysed in-depth, including many critical friend conversations with the supervisory team throughout. The main limitation to highlight is the potential self-selection bias of the participants. Everyone who started running as part of a C25K was invited to take part, but not everyone did. This may mean that those who volunteered for the study were also those initially more committed to running. Given that many of the participants stopped running despite them being potentially the "committed" ones, further reinforces the need to support beginner runners with maintaining their running.

The focus for this study was to identify how these results can inform an intervention for beginner runners. Some previous research has offered suggestions, such as learning cognitive strategies, that could support those new to running. For example, Brick et al. (2020) found that recreational runners tend to use some active self-regulatory strategies during their runs but could potentially benefit from learning these strategies (e.g., monitoring internal sensory cues such as

breathing) and could learn to plan when to use these strategies, to increase their enjoyment and therefore adherence (Brand & Ekkekakis, 2018). Johnson et al. (2023) also found that experienced runners used more cognitive strategies during a 5 km run than recreational runners and suggested that those working with beginner runners could support runners with cognitive strategies like self-talk, which may help them find running less effortful (Basset et al., 2022). Further, Jackman et al. (2021) found that setting more open and flexible goals and using distraction facilitated experiencing flow for recreational runners, suggesting that using these strategies could also be fruitful with beginner runners. However, to my knowledge, these strategies have not been used in interventions to support beginner runners with behaviour change maintenance. Practical implications for each of the themes from this study will be outlined next, drawing suggestions from the behaviour change theories and behaviour change techniques that the themes broadly link to. Based on the results, an intervention for beginner runners should help runners to identify their meaningful why, build their confidence, plan for preventing life from getting in the way, and be sensitive to the personal and sociocultural barriers that some people face. Examples on what practitioners such as sport and exercise psychologists or coaches, can do to support beginner runners based on each theme, will be provided next.

Practical Implications from the “Identifying a Meaningful ‘Why’” Theme

The key finding from the study was that having a meaningful why for running helped participants maintain their running behaviour. Ryan and Deci (2017) suggested that practitioners can facilitate a conversation around values by asking the client to reflect on how their values align or misalign with the desired behaviour, and this seems to prompt the client to think about their intrinsic goals and generate a more meaningful reason for behaving in the desired way. In education context, Vansteenkiste et al. (2018) recommended teachers promote identified regulation (i.e., type of autonomous motivation) through explaining why the activity is important and personally relevant to

the students to support sustained behaviour change. Transferring this to running in the context of our results, those working with beginner runners could adapt this recommendation by highlighting running's importance and value and help the runners find personal relevance in the activity. Even though this study was not an intervention, it was shown that for some participants, solely being part of the interviews offered that reflective space to articulate why they were running and reinforced the importance of it. It seems that having more structured and intentional conversations, in an autonomy supportive way, about people's existing values and identities and how running could fit into these could facilitate sustained behaviour change for running.

In practice, autonomy support can be offered in three ways; acknowledging the perspective of the runner, offering choice whenever possible, and providing a meaningful rationale if choice cannot be offered (Sheldon et al., 2003). For internalisation, the rationale must be meaningful for the runner themselves, not just meaningful from the practitioner's perspective (Vansteenkiste et al., 2018). In addition, the rationale should not include information that was previously known to the participant (e.g., "running is good for your health"), but rather demonstrate the less known value of the activity to help the person develop a new motivational source (Vansteenkiste et al., 2018). Facilitating the person's own self-reflection and prompting them to think about the purpose of running by guiding and using structured questions can be better than telling the person what the purpose is (Vansteenkiste et al., 2018; Yeager et al., 2014).

Intrinsically enjoying running was also helpful for supporting the maintenance of running. Consequently, interventions should look to increase enjoyment and make running more pleasurable. Encouraging runners to reduce the intensity of their runs (i.e., slow down) could be one way to increase pleasure, especially when people are first starting out and might find running unpleasant (Ekkekakis et al., 2011). This could support them in creating a more positive experience and a positive memory of running. Another way could be to use open or non-specific goals with runners (Schweickle et al., 2017). Open goals are more flexible, and exploratory in nature (e.g., "let's see how far you can

run today”; Schweickle et al., 2017). Recent research found that setting open goals increased enjoyment for inactive participants, whereas the commonly used SMART goals increased enjoyment for participants who were already active (Hawkins et al., 2020). Additionally, Jackman et al. (2021) found that non-specific goals could potentially promote feelings of “flow” (i.e., sense of effortlessness) in recreational runners. Therefore, encouraging beginner runners to use open and non-specific goals might help increase their enjoyment for running, and subsequently support their maintenance of running. Finally, blue and green exercise, which refer to exercising in parks, forests, fields, or near water has been linked with improved mood and wellbeing (e.g., Loureiro et al., 2021). Jackman et al. (2022) also found that runners experienced pleasure when connected to nature and running in and alongside green and blue spaces or on scenic routes. Thus, encouraging beginner runners to choose routes that are in or near green and blue spaces or that offer pleasant views could also promote enjoyment, and consequently the maintenance of running.

Practical Implications from the “Life Gets in the Way of Running” Theme

For some participants, life got in the way of their running; they experienced an increase in barriers that ranged from daily hassles to big life changes, often disrupting the routine. On the other hand, prioritising running supported running maintenance for others. For those who did not spontaneously plan their runs, it could be valuable to learn self-regulation skills; prioritising running and planning the runs into their schedule was key to ensuring participants did run when they planned to and for preventing life from getting in the way. While wanting to prioritise running could be strongly dependent on the underlying why, there were also self-regulation skills that could be taught to support running continuation when life got busier. For example, Stadler et al. (2009) showed how teaching self-regulation skills in the form of mental contrasting and implementation intentions (i.e., if-then plans) helped the women in their intervention to stay active, and in a systematic review, Kompf (2020) found that implementation intentions were more likely to be needed by inconsistent and less

experienced exercisers. Similar self-regulation interventions could support runners based on this study's results. Beginner runners could be asked to use mental contrasting (Oettingen et al., 2001); asking them to imagine a desired future state they want to get to (e.g., running regularly three times a week), and contrast it with their current reality (e.g., running once a week). Imagining the goal they want to achieve and identifying obstacles that stand in the way of achieving that goal (e.g., not wanting to run alone) can support them in forming plans to achieving their goals. Encouraging runners to use behaviour change techniques (BCTs) such as action planning (i.e., when and where they will run) and coping planning (i.e., identifying barriers and how to overcome them) (Michie et al., 2013) could also be valuable as these have been helpful for physical activity previously (Carraro & Gaudreau, 2013).

Practical Implications from the “Learning that I *Can* Run” Theme

To maintain running, people also needed to learn or relearn that they *could* run. They needed to gain confidence in their running ability, in their ability to continue running and return to running after breaks. Increasing beginner runners' self-efficacy would therefore appear helpful in an intervention. Bandura (1977) suggests that mastery experiences, vicarious experiences, verbal persuasion, and affective states can all help to increase self-efficacy and can therefore be used in interventions. For example, practitioners could use BCTs such as goal-setting and self-monitoring to help beginner runners see their progress (Michie et al., 2013). Seeing improvements in running was important for motivation to continue, and therefore highlighting the progress to the runners in this way (i.e., ensuring they know the distances covered each week) would be valuable, together with encouraging self-monitoring of outcomes of behaviour (i.e., what else has running offered them?) (Michie et al., 2013). Those working with runners could offer encouragement about the runners' capabilities and share success stories and examples from other similar runners when they started running to reassure that everyone goes through the same process. In a group environment, such as a C25K in a running club, vicarious experiences could be facilitated through observing other runners. Practitioners and coaches could also advise beginner runners about their physical reactions to running

and their perceptions of these. For example, teaching beginner runners to interpret fast heart rate and heavy breathing as their body's natural response to running could help them change their feelings of apprehension about running.

Social support was also important for the runners. Interventions should reflect how they can include or facilitate the different types of social support (e.g., informational, emotional, practical; (Arvinen-Barrow & Pack, 2013). Practitioners and coaches can offer some types of support (e.g., by listening and encouraging), but they can also help runners with identifying who else could support them and in what ways (e.g., identifying if a friend or neighbour could help with lifts or childcare). Coaches in a running club could offer information and guidance on running but they could also facilitate the forming of social connections with other runners through group activities and discussions to help create social networks for running and foster a sense of social identity (e.g., Franken et al., 2022; Steffens et al., 2021).

Practical Implications from the “Opportunities Are Unequal and Experiences Contrast” Theme

Substantial differences were found between some of the participants' life circumstances, which could explain why some found it easier to maintain running, whereas others experienced more difficulties. While identifying a meaningful why for running, planning runs, monitoring progress, and coping with barriers can be helpful for running continuation, opportunities to run are unequal. Interventions for running need to therefore reflect the participants' wider life circumstances, and those working with runners should take time to get to know the individuals and understand their unique situations, tailoring the support accordingly. In practice, giving options for low-cost alternatives for running kit could be helpful for those with financial difficulties, and signposting to group runs to support safer running in the dark could help those worried about running alone. The gendered results might be harder to overcome, as some of the role expectations might be engrained in the mothers and reinforced by the wider environment. There can, however, be some ways to

support people with these constraints. For example, practitioners could help mothers to reframe their beliefs by focusing on how exercising can support their mother role in the long-term (e.g., keeping them healthier, enabling playing with children, being a role-model for healthy behaviours; Ingram et al., 2021), as opposed to competing against their parental priorities. Gaining social support and using planning has helped mother runners who were training for marathons (Bean & Wimbs, 2021), and could also be helpful for beginner runners. New mother runners could be encouraged to find other mothers who also run to share the experience with. Some support around how to fit running in (e.g., run commuting, running when children are doing their activities) could also be offered by practitioners. Palmer and Leberman (2009) found that with elite athlete mothers, highlighting how important sport was for their sense of self and the positive aspects of motherhood on both their sport and life helped alleviate some of the mother guilt for them. While the focus here is not on elite athletes, it could also be valuable to encourage beginner mother runners to reflect on the importance of running for their identity outside of their mother role. In addition, some wider policy recommendations can be drawn from this theme, but as these go beyond the scope of the intervention, these will be briefly considered in the overall PhD Synthesis in Chapter 7.

Conclusion

The current study explored beginner runners' experiences through time, seeking to understand how and why motivations, barriers, and support change, and what explains why some people maintain running while others stop. The aim of the study was to inform a future intervention; to identify how the results from beginner runners could be used in an intervention to support runners who want to maintain running after they start. The results suggested that a meaningful why appears necessary for maintaining running, but the why alone is not always sufficient given multiple competing life priorities, particularly for those disadvantaged by societal privileges. Those with a meaningful why, more social support, good health, and less caring responsibilities, were more likely to prioritise running, learn that they could run and learn to enjoy running. Life was more likely to get in the way

for those with challenging circumstances, such as health- and weight related concerns, caring responsibilities, less support, and demanding jobs, hindering their running opportunities. Many practical implications for future interventions can be drawn from the study. Interventions could use some of the following techniques: include reflective conversations to help runners identify more meaningful, value-aligned reasons for running, and reframe how they see running; encourage runners to slow down runs and set open goals to increase enjoyment; help runners set plans for their runs and plan for barriers; increase runners' self-efficacy through encouragement and sharing other runners' success stories; and provide different types of social support and help runners identify other sources of support. Practitioners that aim to support beginner runners with maintaining running after they have started should consider the different suggestions offered when designing an intervention. They should also consider the context of their intervention, consult the people involved in the intervention, and establish where and how they can have the most wide-reaching influence on runners. For instance, the majority of the participants in the current study started running with an organised C25K programme in a running club, making that a good potential opportunity for an intervention.

Chapter Summary

In this chapter, a qualitative analysis of longitudinal data from beginner runners was described. Multiple interviews from 20 runners were analysed using reflexive TA, aiming to understand how beginner runners' experiences change through time, and why some people who start running maintain it while others stop. Four themes were constructed that suggested people need a meaningful why for running, they need to prioritise running, and they need to learn that they can run to maintain running. In contrast, lacking a meaningful why and experiencing more disadvantaged circumstances tend to lead to life getting in the way of running, preventing people from maintaining it. The results were considered in the context of behaviour change theories and behaviour change techniques, and a range of evidence-based practical suggestions were offered that practitioners could

use to improve beginner runners' experiences and support their continued involvement in running. The results and practical implications form the basis of the next study, where the aim is to co-produce an intervention with a running club that supports beginner runners. The co-production process and the intervention that followed from it will be detailed in the next chapter.

Chapter 5: STUDY 2

Chapter Introduction

This chapter describes Study 2, a co-production of an intervention, which was conducted with a running club in the South West of England. The previous study (Chapter 4) identified factors that can support or hinder beginner runners from maintaining their running after they have started. Having a meaningful why for running, prioritising running, and learning that they *can* run supported running maintenance, whereas more disadvantaged circumstances (e.g., related to health and caring responsibilities), and life getting in the way of running (e.g., through holidays, illnesses, and other commitments) hindered people's running. Interventions can target these results, such as by helping people identify their why, increasing their confidence, and supporting them with barriers.

Many beginner runners start their running journey in a running club, through programmes such as C25K, making that a natural place to intervene and use these results and suggestions. Also, 14 of the 20 participants in Study 1 started running through a C25K programme that was arranged at a local running club. This same running club, South West Athletics, who supported the Study 1 data collection was invited to participate in a co-production study to help identify the best ways to translate these results into their club context. The present study was a co-production study that built upon the previous results of this PhD. The Study 1 results, behaviour change literature, focus group workshops with coaches and applied practitioners, and observations were combined to inform the development of a practical and theoretically informed intervention that could support beginner runners with behaviour change maintenance.

Background

In Study 1, I identified that having a meaningful why for running, prioritising running, gaining confidence with running, and having supportive life circumstances can all facilitate the maintenance of running. As practical implications, I suggested that different behaviour change techniques, drawn

from various behaviour change theories, could target those results. For example, I recommended: using reflective questions from self-determination theory to support finding a meaningful why (Ryan & Deci, 2017); supporting prioritisation by encouraging people to make if-then plans using implementation intentions theory (Bélanger-Gravel et al., 2013); increasing people's confidence through vicarious experiences using self-efficacy theory (Bandura, 1977); and considering how to make running more accessible for people who face more barriers than others. Many behaviour change theories and techniques have been used to develop physical activity interventions (e.g., Rhodes et al., 2017). Various challenges related to these behaviour change theories and their associated interventions were discussed earlier within Chapter 2 (e.g., lack of long-term impact, lack of long-term follow-ups). Another key challenge is that physical activity behaviour change theories and evidence do not always translate into the real-world, which can be called the evidence-practice gap in physical activity intervention research (Powell & Coward, 2022), or the research-practice gap in sport and exercise psychology field (Keegan et al., 2017; Martens, 1987). Various reasons are proposed for this: research is often done in a controlled environment (Keegan et al., 2017), research is often published in academic journals that can be hard for practitioners to digest (Glasgow & Emmons, 2007, as cited in Powell & Coward, 2022), and it can take many years for the original research findings to be translated into more practitioner-friendly guidelines (Green, 2008). It is evident that interventions need to be better tailored for the real-world context, and the research needs to be easily shareable with practitioners. One way to do this is to involve the target population in co-producing the intervention together.

Co-Production

It has been common, especially in healthcare, for researchers to translate or transfer knowledge produced independently by academia to the knowledge users (i.e., deliverers or receivers of health care) (Greenhalgh & Wieringa, 2011). It is now increasingly recognised that there must be collaboration and co-production of knowledge between those producing it (e.g., researchers) and

those using it (e.g., healthcare staff) (Greenhalgh et al., 2016; Knowles et al., 2021). Additionally, even when health professionals have been engaged in the research process as knowledge users, patients have still been overlooked and underutilised as a resource (e.g., Burton & Rycroft-Malone, 2015) despite them arguably having the best experiential knowledge through lived experiences. Therefore, collaboration with the research process should involve all parties who the research could affect.

Collaborating with the target population of the interventions allows for the population to participate in the design process, offering an avenue for improving intervention development by focusing on understanding the context, rather than purely relying on academic theories (Moore & Evans, 2017). Planning an intervention with different stakeholders can also lead to changes in the original plan (Rütten et al., 2019). Collaborating with other stakeholders and community members outside of academia during the research process has been called various terms, and the many definitions with their different meanings and levels of participation have led some researchers to call this “co-biquity” (Williams et al., 2020). There are some clear differences in the terminology and definitions used across the various disciplines (Smith et al., 2023).

In sport and exercise sciences, Smith et al. (2023) used the umbrella term co-production but categorised the term into three different types depending on the level of participant involvement in the research process. The first one, citizens’ contributions to public services, is seen as less relevant for sport and exercise research as it is concerned with members of the public contributing to public services. The two types that are more relevant for sport and exercise research are integrated knowledge translation (IKT) and equitable and experientially-informed research (Smith et al., 2023). The main distinction between the two is the type of participants who need to be involved. In IKT researchers work with “knowledge users” (i.e., industry partners, policy makers) who are considered important because they know what knowledge is relevant in practice, and they also influence what gets implemented (Graham et al., 2019). In equitable and experientially-informed research, those with lived experiences are central to the research process. This type of co-production aims to tackle equity

and diversity in the research process by including the voices of those who have traditionally been left out of academic research and treating them as essential partners who can influence the direction of the research (Smith et al., 2023). Knowledge users, such as practitioners, can also be involved in this type of co-production to enhance the research impact, but they are not as essential as the partners with lived experience (Smith et al., 2023). Similarly, people with lived experiences might sometimes be included in IKT, but it is not necessary.

The different definitions and distinctions between the types of collaborative approaches can be useful, but they can also be more confusing if people follow different definitions. The research process could be misleading if a term that implies a more collaborative or equitable approach was used when that was not the case. At its best, involving all service users in the research and truly collaborating with them through the whole research process can lead to “authentic” co-production (Knowles et al., 2021). Smith et al. (2023) suggest, however, that looking for a clear-cut definition of co-production is unnecessary, as it is context and discipline specific. It is arguably more important to ensure research methods are clear and report on the levels of participant involvement in the research process or intervention, regardless of what definition has been adopted. The key is that co-production approaches where the target population are involved in the design and delivery of an intervention can help increase engagement (Greenhalgh et al., 2016), and make interventions more practical and effective in real-world (Mackenzie et al., 2021). Focusing on better reporting and evaluating co-produced research and related interventions would help improve interventions and showcase the value to the end users (e.g., receivers of the intervention) (Ma et al., 2021).

Evidently, co-produced research has been critically discussed. Oliver et al. (2019) discussed the challenges and costs to co-production in health research, recommending that researchers weigh the pros and cons of co-production before embarking on it. The main costs outlined are practical costs (e.g., administrative burden), personal costs to researchers (e.g., stress), professional costs to researchers (e.g., research seen as lacking in credibility), costs to research (e.g., research may not be

novel or generalisable), costs to stakeholders (e.g., requiring time and resources), and costs to the research profession (e.g., lack of trust in science and scientists) (Oliver et al., 2019). In response to the critique, Williams et al. (2020) argued that Oliver et al.'s (2019) view of co-production is problematic in part due to the incorrect use of the term co-production but mainly because Oliver et al. (2019) focused on the risks to *academia* and the researchers' reputation, as opposed to challenging the current practices. Williams et al. (2020) argued that academia, with Oliver et al.'s (2019) commentary adding to this, does not promote those equal opportunities that co-produced research has the potential to achieve. This PhD follows along the lines of Williams et al. (2020) and sees the collaborative process as crucial for the research and for the intervention development. Involving multiple people in the project can understandably be more time-consuming, and lead to misunderstandings, but it is still worth doing for the wider benefits and the greater impact it can have.

Co-producing interventions with the public might involve inviting the target population to attend workshops (e.g., Mackenzie et al., 2021). An alternative, or an additional, method is for the researchers to immerse themselves into the setting of interest (Popp et al., 2021). As part of a larger piece of research looking into promoting physically active lifestyles, Popp et al. (2021) described how six researchers immersed themselves into a nursing and automotive context to address physical activity and physical activity competence. Two researchers attended nursing schools for three days joining in on the lessons, and four researchers joined an automotive setting taking part in the work at the assembly department for three days. The researchers also observed the students, teachers, and automotive workers and informally engaged with them through conversations. The authors conceptualised this approach as the practice dive approach, which they defined as "the academic co-creators' familiarisation with the research setting and end users through an intended and temporary immersion in the setting to support the subsequent process of collaboration" (Popp et al., 2021, p. 57). Adopting this approach meant that the researcher spent time getting to know the context they were planning to intervene in at a deeper level, by field visits, by observing the setting or even by adopting the role of the end user. The practice dive approach can be categorised into four types depending on

the level of researcher involvement: no practice dive, low practice dive, medium practice dive, and deep practice dive where the deepest level means complete immersion in the setting of interest (i.e., researcher adopting the end user's role) (Popp et al., 2021). While using the practice dive approach can arguably be even more time-consuming and challenging to arrange than other co-production research in some settings, the argument is that understanding the context and becoming familiar with the recipients of the interventions can strengthen the cooperation, the relationships, and the overall research process (Popp et al., 2021). By immersing in the setting, the researchers can get deeper insights about any barriers and facilitators for that setting, and identify a potential "champion" for the research (Greenhalgh et al., 2016), which can, in turn, improve the intervention development.

The current study followed a co-production approach like Popp et al.'s (2021) practice dive approach, where the researcher immersed themselves into the context that the intervention was developed for.

Aims of the Study

The purpose of this study was to contribute to bridging the research-practice gap by involving coaches, runners, and applied practitioners in co-producing an intervention that could support maintenance of running in beginner runners. We intended to involve coaches and runners in the design, delivery, and the evaluation phases (the next study) of the intervention to help create an intervention that would work in real-life. The hope was that this involvement from the running club and the researcher's immersion in the context would create a more relevant, more effective, and a quicker to implement intervention. Given the iterative nature of co-production, the aims and research question changed throughout the course of the study as the intervention was being refined. The broad aim was to find out what kind of intervention, that supports beginner runners with maintenance of running, would be suitable for this club and their runners. We specifically wanted to find out whether the intervention would be best delivered by sport and exercise psychologists or by coaches, and

whether runners would prefer to receive the intervention individually or in a group-format. The research question for this study was: How can we design an intervention that is viable, acceptable, and effective in helping beginner runners maintain running after starting?

Methods

This study employed a co-production approach. As explained above, co-production can be defined in various ways, but rather than focus on the exact definitions, the key is to ensure the research methods are clear and report on the levels of participant involvement in the research, regardless of what definition has been adopted. For transparency, the co-production type in this study is most closely linked to the integrated knowledge translation (Smith et al., 2023), as “knowledge users” (i.e., coaches) were involved, but input from partners with lived experiences (i.e., runners) was also considered. For simplicity, the presented study will be called a co-production and co-produced intervention from now on. The aim is that, through the detailed reporting of methods, it becomes clear what level of collaboration the participants were involved in.

This study used multiple integrated methods to collect data and produce the intervention for coaches (Chamberlain et al., 2011). The data included focus group workshops, observations, and situated interviews. In total, there were three focus group workshops with one running club (two were replicated with individual attendees), one focus group workshop with applied practitioners (i.e., critical friends), and ten coach and runner observations at the C25K sessions that also incorporated situated interviews with runners.

The methods section will outline the research process in stages. Firstly, the participants and the recruitment method will be explained. Secondly, the data collection process will be explained in a chronological order, covering the format, content and aims for all the workshops, observations, and interviews, and the iterative intervention development process that was going on simultaneously. The section will finish with describing the data analysis.

Participants and Recruitment

Coaches

A purposive sampling approach was used to recruit coaches¹. South West Athletics (pseudonym) running club was asked to take part in developing the intervention. The club was already familiar with the PhD supervisor (AM) from Study 1 data collection and interested in being involved again. Using established contacts in collaborative research approaches can help ensure good quality relationships and buy-in from the key figures (e.g., Bowen et al., 2017). Fourteen of the 20 participants in Study 1 were part of this same running club, which meant that the previous results were also relevant to their beginner groups. Additionally, many of those beginner runners in Study 1 struggled to maintain running even with the support of the club, therefore, designing an intervention for supporting runners within this club was judged suitable. The head coach of the club and main coach of the C25K programme were initially emailed to explain the purpose of the study. They expressed interest in taking part, and after informal calls explaining the involvement from their part, they were sent information sheets and consent forms and asked to distribute those to their other coaches. The head coach facilitated the workshops by arranging coaches' meetings where the researchers were invited to. Participant consent was verbally recorded at the beginning of each workshop.

In total, 13 different coaches took part in the three focus group workshops. The first workshop had 12 participants, the second in-person one had five participants, the second online one had two participants (including one coach who had already attended the preceding in-person workshop) and the third one had five participants. Three coaches attended all three workshops. Two separate online

¹ Coach definition: Coaches at the running club could be called “leaders” or “coaches”, depending on which England Athletics qualification they had undertaken. Leaders had done a Leadership in Running Fitness (LiRF) course, and coaches had done an additional Coach in Running Fitness (CiRF) course (England Athletics, 2023a). In this club, the terms were used interchangeably as some leaders had years of experience in leading runners but without the formal coaching qualification. Both leaders and coaches attended the workshops, but for simplicity, they are called coaches in the rest of this PhD.

calls were arranged between the researcher and the head coach of the club and a senior member of the club who could not attend the third workshop. Eight coaches were also observed during the C25K programme at the club, with some informal conversations as and when. Six of those coaches attended at least one of the workshops.

Runners

The main coach of the C25K welcomed the researcher to the club and gave access to the coaches and runners from one C25K group for 10 weeks of Saturdays. The researcher informed everyone why they were there and gave people the option to opt out from talking to them if they did not want to take part in the research (i.e., in the situated interviews). Twenty-three runners from that C25K were briefly interviewed during the 10-week programme.

Applied Practitioners (i.e., Critical Friends)

An organisation called Applied Psychologists in Physical Activity Network (APPAN) was used to recruit critical friends (Sparkes & Smith, 2014). The researcher emailed the secretary of the network asking them to distribute information about the research to their members. Interested members emailed the researcher, who sent them the information sheets and consent forms. Verbal consent was recorded at the beginning of the workshop. Four psychology practitioners (trainees or registered), a master's graduate, and an academic who all had experience in applying psychology within exercise and/or physical activity contexts took part. See Table 5 for their characteristics (using pseudonyms).

Table 5

Applied Practitioner Participant Characteristics

Participant	Gender	Accredited psychologist or in training?	Experience with applying psychology in exercise/physical activity context
Anna	Female	Yes – trainee sport and exercise psychologist (QSEP)	Yes – consulting in exercise psychology

Participant	Gender	Accredited psychologist or in training?	Experience with applying psychology in exercise/physical activity context
William	Male	Yes – BASES accredited sport and exercise scientist (psychology)	Yes – private consultancy for performance and wellbeing
Mary	Female	No – starting SEPAR (current role associate professor in sport and exercise psychology)	Yes – applied experience working within exercise
Julie	Female	Yes – trainee sport and exercise psychologist (QSEP)	Yes – applied experience within weight management, and physical activity
Erik	Male	No – starting SEPAR (MSc in sport psychology)	Yes – within exercise referral programmes
Jane	Female	Yes – training to become a sport and exercise psychologist (ProfDoc)	Yes – experience delivering workshops to athletics clubs

Participatory Research Process and Data Collection

To reiterate, the data collection included focus group workshops with coaches and applied practitioners, observations of coaches and runners, and situated interviews with runners. The order of the data collection process is outlined in Figure 2 below. The process started with two focus group workshops with the coaches. I then joined the C25K beginners' sessions for 10 weeks (when the new C25K programme started), to observe the sessions and to briefly interview the runners. The overall process was iterative, and key decisions about the intervention were made throughout based on the feedback I was receiving. For example, after the two workshops and after couple of observations, I already had a good idea of what the intervention might need to look like. Me and the research team (i.e., supervisors) had a lengthy consulting session to map out the potential content and structure for

the intervention (see more in the iterative intervention development process-section below). I then took this potential intervention plan to the critical friends' workshop and modified it further based on their feedback, before presenting the proposed intervention to the coaches for final feedback in workshop 3.

Figure 2

Timeline of the Co-Production Process

TIMELINE						
Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
Coach workshop 1						
	Coach workshop 2					
		Replication of workshop 2				
			Researcher team consulting			
			Applied practitioner workshop			
			Situated interviews & observations			
					Coach workshop 3	
						Individual coach conversations x2

Format of the Focus Group Workshops

The venues and dates of the running club workshops were selected for the convenience of the participants. Each workshop with the running club included a presentation that outlined the structure and aims of the session. Within each workshop, small group discussions (4-6 participants per subgroup) were used to facilitate collaboration and open discussion. The objectives for the three workshops were roughly planned but they remained flexible based on the outcomes of the previous workshops. See Table 6 for the aims of all the workshops.

Table 6*The Aims and Activities of the Focus Group Workshops*

Workshops	Participants	Aims	Group activities
Coach workshop 1: Introduction (June 2022)	Coaches ($n = 12$)	<ul style="list-style-type: none"> • Build rapport • Share findings from Study 1 • Get their thoughts on the findings • Get initial ideas for intervention (e.g., who should it be aimed at?) 	<p>Small group discussions:</p> <ul style="list-style-type: none"> • Reflecting on the findings, are there any that seem particularly important? • Based on the findings, how do you think we could best support the club? • What could our support look like in your club context? • How would we know if we've been helpful? • Is there anything else that you would like to add?
Coach workshop 2: Intervention development (July 2022)	Coaches ($n = 5$)	<ul style="list-style-type: none"> • Share the key suggestions from previous workshop and get consensus on those • Discuss and agree on the purpose of the intervention 	<p>Group discussion (some were supposed to be small group discussions but with only five attendees we discussed in one group):</p> <ul style="list-style-type: none"> • Is there anything important that you feel I've missed out from the last workshop's discussions?

Workshops	Participants	Aims	Group activities
		<ul style="list-style-type: none"> Decide on the content of the intervention Decide on the delivery format of the intervention Decide how to evaluate the usefulness of the programme 	<ul style="list-style-type: none"> What are your initial thoughts on a coach-based upskilling programme? What do you hope the purpose of us working together will be? What else are we aiming to change with this intervention? What do you want to learn from the mental side? What would we need to include that would help you feel more supported in coaching runners on the psychological side? (e.g., Can you think of times you faced a challenge/something you have struggled with?) How would you know our support has been helpful? How should the intervention be delivered to you? (e.g., online, in-person, in groups...?) How many sessions, with what duration, and over what time period would be preferred? (How frequently should the sessions be?) When do you want it to start ideally? Are there any supporting tools/material that might be useful for us to provide to you which you can share with runners? (e.g., handouts on

Workshops	Participants	Aims	Group activities
			self-talk, motivation, goal-setting, planning for barriers...)
Applied practitioners workshop: Intervention feedback (September 2022)	APPAN members (<i>n</i> = 6)	<ul style="list-style-type: none"> • To get feedback on the proposed intervention plan (i.e., on the conceptual plan, on the content, on the activities, the delivery methods) • To become aware of barriers with the intervention • To get “best practice” suggestions for the intervention workshops 	<p>Group discussion:</p> <ul style="list-style-type: none"> • What do you think of the plan? • Does the plan make conceptual sense to you as an exercise psychologist? Is there anything you would challenge? • Are there any barriers that you see with this plan? And how might we overcome them? • Are there any good practice suggestions that you would be willing to share? • Are there any particular activities or tasks that you know of that might be good for the coaches to apply what they have learnt?
Coach workshop 3: Intervention refinement and feedback (November 2022)	Coaches (<i>n</i> = 5, plus 2x 1:1 conversations)	<ul style="list-style-type: none"> • Present the intervention plan & the current challenges with it • Get consensus on the delivery format • Get consensus on the evaluation method • Confirm intervention topics 	<p>Group discussion</p> <ul style="list-style-type: none"> • What do you think of the 5 key Pillars? • What do you think of the session plan? • What do you think of the resources? • What do you think about delivering content over multiple sessions, and offering options for

Workshops	Participants	Aims	Group activities
			<p>different levels of time commitment? Could we get a smaller group to attend all the training?</p> <ul style="list-style-type: none"> • What is the timeline for the workshops? • What would you want me to do in-between the workshops? • Monitoring & evaluating the programme could involve observations at the club, individual and/or group interviews, and anonymous surveys. What do you think?

First Focus Group Workshop With the Coaches (Hybrid)

The aim of the first workshop was to build rapport with the coaches, share our Study 1 results with them, and get their initial thoughts on our results, and on an intervention (see Table 6 for the aims and questions). I virtually presented the main content at this workshop. See the slides in Appendix K. My supervisor (AM) helped to facilitate the workshop (e.g., doing introductions, splitting people into groups) as he attended in person while I had to attend online (due to Covid-19 related isolation).

The workshop started with introductions, and by sharing the aims of the research. I emphasised the importance of the coaches' views on the intervention development as the experts in the club with the real-life experience of working with runners. This was followed by sharing the Study 1 main results before breaking into three smaller group discussions to facilitate collaboration and open discussion. In the smaller groups, the information sheet and consent were discussed again, and verbal consent was recorded before asking questions. Each sub-group had 4-5 participants, and a facilitator. I (online), AM, and another academic/practitioner, who had no prior involvement in the research, facilitated the smaller group discussions. The facilitators encouraged the quieter participants to contribute to ensure every participant was given a voice. The questions that were asked are on Table 6. Due to limited time, there was no opportunity to share each sub-groups' discussion points with the rest of the groups. Twelve coaches attended and the workshop lasted about 1.5 hours.

Key Learning and Decisions Made. The big shift in the focus of the intervention came when the coaches expressed the desire for the intervention to be aimed at them, instead of us (i.e., the research team) working with runners. They asked for some education on how they can support runners to keep going and stay with their club, which directed the aim to be about creating an intervention to educate coaches.

Second Focus Group Workshop With the Coaches (In-Person)

The aim of the second workshop was to share the key points and suggestions from each subgroup from the first workshop, and get consensus on those, checking that everyone was happy with the researcher's interpretation of the previous discussions. The other aims were to agree on the purpose of the intervention, on the content to be included, on the delivery format, and how to evaluate the impact of the intervention. The main questions for the second workshop discussions are on Table 6. I facilitated the workshop and delivered the presentation and questions. My supervisor (AM) was present, contributing additional comments and expertise in psychological theory and evidence. Five people attended and the workshop lasted about 1.5 hours. Due to some coaches expressing interest in participating but being unable to attend the in-person date, it was agreed to arrange an online version of the workshop for those coaches. Only one new coach came to the online workshop, and they were asked all the same questions. A summary of the first two workshops was sent to the head coach to distribute with those who could not attend (see Appendix L).

Key Learning and Decisions Made. The second workshop consolidated the intervention aim; consensus was received that it would become a coach-education intervention. All coaches present agreed they would like to learn more about how to support beginner runners with behaviour change maintenance. We also discovered that the coaches wanted to learn a lot (e.g., how to motivate runners, how to help runners with barriers, how to support runners' confidence, how to be a better leader), but they did not want to commit a lot of time for the intervention, suggesting a half-day workshop as the maximum they could do. This contradiction presented a challenge when planning the intervention; how to include everything they wanted in such a short space of time.

Observations and Situated Interviews

A new cycle of the C25K programme started in between workshops two and three, providing a valuable opportunity for starting observations and gaining feedback from beginner runners. Given that the intervention focus had shifted to coach education at this point, the goal for me was to understand the club context to identify what was practical for the coaches to implement in the

sessions. For example, to identify how much time or how many chances there were for meaningful conversations between coaches and runners.

The main aims of the observations and interviews with runners were:

- To inform the content for the intervention
- Observe what the coaches already say and do that might be encouraging the runners (i.e., particularly in relation to Study 1 key themes: motivation, confidence, inclusivity, and self-regulation)
- Gain input from runners on what they find helpful/unhelpful for maintaining running
- Gain input from runners on what they would value the club/coaches starting to do that they have not provided so far

I took a “participant as observer” – role (Sparkes & Smith, 2014) with the runners, which meant immersing myself into the club, and taking part in the running and all the activities with the runners each week. This enabled better access to the environment, more chances to build relationships, and offered opportunities to talk to the runners during the sessions. The questions I tried to ask runners (albeit sometimes modifying them) were:

- What kind of things did the coaches say/do today that you found helpful during the session?
- What would the coaches need to say or do to help you keep going with running and want to come back for the following sessions?
- Was there anything that the coaches said/did that was unhelpful or discouraging you to come back?

I talked to the runners whenever it seemed convenient (either during the break times, or while I was running or walking next to them). I had brief conversations with 23 individual runners (repeatedly with some) across the 10 observations. At the end of each running session, I recorded audio reflections (*M* duration = 24 mins, *SD* = 4 mins), with the below questions guiding my recordings:

- What did I observe the coaches saying/doing that encouraged motivation, confidence, inclusivity, or self-regulation?
- What did I observe the coaches not saying/doing to support runners?
- How did the coaches communicate/interact with the runners and how did the runners react?
- Did I observe differences between the runners on how they experienced the session and the coaches?
- What did the runners say to me that could be supportive/unsupportive of them continuing?
- What did the runners say to others/between themselves that could explain them wanting to continue (or not)?

I also observed eight different coaches across the 10 sessions (10 hours of observations in total). Three of those coaches came to all three workshops, two of them came to two of the workshops, and one came to one of the workshops. Two coaches in the sessions did not attend any of the workshops.

Key Learning and Decisions Made. The observations were crucial for developing the intervention. They helped me to understand the context of the C25K and what happens in the sessions. Observing what the coaches said and did (e.g., how they engaged with the runners), and how much time there was for them to interact with runners, enabled me to design an intervention that fit the context. Additionally, being in that setting helped me experience real-life situations that I could use in the intervention as example scenarios to bring the planned content and theory to life. Talking to the runners about what they found helpful for continuation offered some additional tangible suggestions for what to include in the intervention content.

Intervention Development Process

The intervention development process was iterative and was conducted in stages with each workshop and each observation feeding into the plan. Following the first two workshops and first two observations, myself, and my supervisory team spent one day putting together the initial plan for the intervention. I presented all the key points from the two workshops (i.e., what the coaches wanted),

clarified the aims of the intervention (i.e., to equip coaches with the skills, knowledge, and confidence to support runners with maintaining their running after they have started), offered my suggestions for the behaviour change theories to include, and offered suggestions on how to deliver the content to the coaches. Following all the feedback on how to deliver the intervention, and after consulting the literature on other coach interventions, a session plan was devised that included a variety of activities, combining enough education to introduce the key principles, while predominantly focusing on coaches reflecting, discussing, and sharing ideas with each other.

It was unfeasible to include everything the coaches wanted within the time they were willing to commit, therefore some compromises had to be made. For example, coaches wanted training on leadership skills, but we felt that this was outside of the scope of the intervention and did not fit within the timeframe, therefore we prioritised their other requests in the content (e.g., how to motivate runners, how to increase runners' confidence).

Focus Group Workshop with Applied Practitioners (Online)

Following the research team meeting and before the third workshop with the coaches, I consulted people with experience in applying psychology to physical activity or exercise context using them as critical friends for the intervention development. I was the main facilitator for the workshop, but two of my supervisors (AM, PW) also attended and contributed some thoughts to the points raised in the discussion. The aim was to share the intervention aims, the plan, the content, and the theories that I was planning on using, and the way I was planning on delivering the intervention. I wanted the participants' input, specifically their "best practice" recommendations, their suggestions for any other theories or literature on similar interventions, and their insights on any immediate barriers they might foresee with the intervention. See the research questions in Table 6, and the full slides in Appendix M. Six people attended the online workshop, which lasted for one hour.

Key Learning and Decisions Made. The workshop confirmed our concerns that the content we planned on delivering would not be feasible in the time the coaches wanted the intervention to be

delivered in. It transpired that a half-day workshop would be insufficient. The research team considered what the coaches had asked for, what the Study 1 results suggested, and what the critical friends had inputted, and realised the content needed to be broken down to multiple sessions. Delivering the content in a half a day would likely result in information overload, rather than in a sustainable intervention that the coaches had asked for (see more in the Results section below). To achieve sustainability, it seemed that multiple sessions would be needed with each being long enough to achieve depth, while weighing this against the time demands of the intervention.

The applied practitioner workshop also provided further feedback on the intervention which resulted in some refinements. Initially, the intervention we had designed included four key topics around motivation, confidence, inclusivity and social support (combined), and planning. The feedback received from the workshop suggested that the content we designed was underpinned by social-cognitive perspectives and that we could consider affective responses as well (i.e., focus on making running enjoyable). On reflection, this comment supported the results from Study 1 where enjoyment was also a big part of continuing and aligned with the discussions with the runners during the situated interviews (see more in the Results section). Enjoyment was going to be covered within motivation initially, but the decision was made to adjust the intervention content and enjoyment was given a bigger role.

Third Focus Group Workshop With the Coaches (Online)

The aim of the third workshop was to present the proposed plan for the intervention and get the coaches' feedback on that. Additional questions related to the challenges and logistics of the delivery were also asked at this point. Due to a last-minute venue cancellation the workshop moved online. Me and my supervisor (AM) both attended. I facilitated the workshop and AM supported me with clarifying questions and comments. Five coaches attended, and it lasted about 1.5 hours. Two other coaches who were unable to attend the workshop were consulted about the finalised plan afterwards, as they had both been involved in the first two workshops and were influential in the club. The two separate calls lasted for 1 hour and 20 minutes respectively.

Key Learning and Decisions Made. The third workshop with the coaches helped us finalise the delivery for the intervention. After proposing our plan, the challenges with the time commitments, and some solutions, we reached an agreement on the delivery format that would work at least for those who attended (i.e., the most interested and engaged ones). The intervention was to be delivered via a series of 4-6 standalone workshops catering for those who were more interested while also considering those less committed (e.g., through the first workshop introducing and overviewing the key topics as a potential standalone workshop).

Data Analysis

All workshops and additional individual conversations were audio recorded and transcribed verbatim. Reflective comments after each observation and situated interviews at the C25K were also recorded and edited for coherence and concision before transcribing. I familiarised myself with the content before coding the data with the purpose of identifying key information needed to develop the subsequent workshops, and to inform the intervention content and format. Given the focus of the study, coding was done at semantic level. Braun et al.'s (2016) thematic analysis guidelines informed

the analysis, although as discussed in the Methodology chapter, the analysis in this study was more straightforward and descriptive focusing on informing the practicalities of the intervention.

Study Outcomes

The outcomes of the participatory research process have been split into two separate sections. First, the combined results of the data collection process will be presented (i.e., the feedback from the coaches in the workshops, the feedback from runners, the observations, and the feedback from applied practitioners). The results will include the coaches' ideas on what the intervention could look like in that club's context, their suggestions on what they would like to learn, and how they think the intervention should be delivered. The reflective notes from the observations at the club and feedback from what runners found helpful are also included, together with the feedback from critical friends. The second part of the study outcomes presents the co-produced intervention: the content for the intervention, and the session plan for how to deliver it, demonstrating how all the workshops, observations, previous results, and literature were used and fed into the intervention.

The Results of the Data Collection

The results of the data collection have been split into three subheadings: What could our support look like in this club's context? What should the intervention include? And how should the intervention be delivered?

What Could Our Support Look Like in This Club's Context?

Sustainability and longevity of the intervention was key for the club. The coaches wanted the developed intervention to be aimed at them, and to receive support and training for themselves, rather than for the researchers to work with a group of runners in their club.

Researcher: Who do you imagine us working with and supporting, you as the coaches who work with runners, or us supporting the runners directly?

Tom: I think from my gut would say that the leaders and coaches would be best suited and I'm thinking from a longevity point of view cos yourselves aren't gonna be here forever, so it'd be nice to have a tool kit that we've got going forward that we can learn from ... it's really important from my point of view that it, it's sustainable that taking forward it's all very well you know [researcher name] and [researcher name] do this wonderful thing with all our runners and then the research finishes and we're left down to "how did they do that then?" [laughing] (workshop 1).

The coaches often discussed how the compulsory Leadership in Fitness course arranged by England Athletics was limited in its content and "quite basic". There seemed to be an apparent need and want for additional training, especially when it came to supporting "real-life runners":

I do find there's sort of, there's a lot of nonsense really and unhelpful stuff online about coaching you know, perhaps not so much for if you're top, if you're coaching super duper fast runners, there's probably more I suspect but for those, for those of us involved in the real-life runners as it were, people who just want to run, they want to be fit, and ok they'd like to get a bit faster but there's a bit of, yeah, it seems to be a bit of a dearth of information really (Sylvia, individual conversation with a coach).

The coaches could relate to the Study 1 results we presented (i.e., reasons why people kept running) based on their own experiences with beginner runners. These results seemed to be a good starting point for generating the content for the coaches: "I'm just wondering if you could produce something from your findings ... you could help us by giving us guidance" (Jill, workshop 1).

What Should the Intervention Include?

The coaches hoped for “personal improvement, improvement in the C25K course, improvements for the people taking part in it” (Joe). The bigger picture plan from the head coach was for the intervention to supplement the UK Athletics LiRF course (England Athletics, 2023a) and help with producing resources that can be shared and distributed to current and future leaders, and “can last through the generations of the leaders” (Tom). When asking specifically about what the coaches wanted to learn about, they mentioned knowing how to do the “inspirational chat” (Sylvia) and come across with “encouragement in the right way” rather than “sarcastic” or “detrimental” (Jody). They also wanted to learn how to increase self-belief of runners. Coaches’ “confidence in being able to motivate” (Tom) was also perceived important, they wanted to “have a bit of training to know right words, good words to use” (Jill).

My reflections after observations and conversations with runners at the C25K captured various behaviours that coaches were doing well. Some of the things the runners mentioned were:

- Coaches’ enthusiasm and encouragement was helpful
- Coaches taking a gentle and individualised approach was appreciated
- Relatability to the coaches was important
- Coaches providing rationale was valued

Talking to the runners and observing the coaches also identified a few additional opportunities that the intervention could address:

1. Runners’ progress and distances could be highlighted more

Sometimes the coaches informed the runners of the distance they had covered, which resulted in clear excitement and buzz amongst them, however, this was not the case each time. A few runners mentioned how knowing the distance and how much they were progressing would be helpful and motivating. One runner even suggested that an in-between goal before the 5 km could be something smaller to aim for first, as the 5 km could feel quite far away at the start.

2. The transition phase from finishing the C25K to moving onto the regular club runs could be more supported

Coaches had previously described how daunting the experience of joining a regular group after doing the 5 km can be for runners, and one runner described their previous negative experience with it; she felt that people in the group forgot she was still a beginner and after encountering “massive hills” on the route she was put off and re-joined C25K later.

3. More “success” stories could be shared with the runners

Given that most of the C25K coaches had done a C25K themselves a few years prior, it seemed a missed opportunity not to share their stories more with the runners. My reflection post C25K was:

Maybe a bit more of that empathising and that “we have been there, and we understand how you feel, and I still remember how scared I was or how nervous I was whether I’d be able to do it” is needed. I feel like some of the beginner runners came across more nervous than others. Bit of that reassurance of “we’ve been in your shoes” coming from more than one coach could encourage a little bit more of that thinking, “well that person has done it and they understand how I feel, they weren’t all born natural runners”.

4. Specific planning and goal-setting for independent runs could be better supported

The runners were expected to do “homework” runs in between the weekly sessions. The coaches gave runners goals but sometimes these lacked specificity and flexibility. Runners might have benefitted from help with planning those runs in. At times, runners who were going to miss a week were encouraged to run on their own while away, but this was not consistently encouraged.

5. Coaches could encourage bonding and forming social connections more

Reflective notes captured that “friendly atmosphere, where no one is made to feel uncomfortable is key”. Two runners said that team-building activities are needed at the start to build social connections and encourage people to keep going.

6. Runners' enjoyment and motivation for running could be targeted

Runners often mentioned enjoying the running environment, especially the social aspect of it, but not the running itself. Running was often seen as means to an end; one runner did not understand why their partner loved it, another one said it was not their “favourite activity”, and one even saw it as a punishment. Many runners also mentioned that them being there and keeping going is down to their individual motivation, rather than anything the coaches say or do. When the researcher asked runners what had helped them keep going, she received responses like “pure determination”, “competitiveness with myself”, and “because I’m stubborn”. Both runners and critical friends (as discussed in the section earlier), highlighted the importance of running being enjoyable.

How Should the Intervention Be Delivered?

The delivery, frequency, and duration of the intervention proved to be tricky to navigate (as was discussed in the intervention development process above). The number of coaches dropped significantly from the first workshop of 12 people to five people in the second and third workshops, which indicated that there might similarly be lack of commitment to the intervention workshops:

Well on commitment, I mean that’s one of the big issues at the moment isn’t it. Tom has struggled to get more than a few LiRFs and CiRFs involved in the sessions [coaches’ meetings/research workshops] he’s had so far and it’s how you get a higher number of people involved in what you’re planning (Joe, workshop 3).

In the second workshop, coaches suggested the format to be one half-day workshop, with a follow-up workshop a few weeks later to check how they have implemented the intervention. There was agreement amongst the attendees that people committing time to the intervention would be a challenge: “I think half a day is the max that people would be prepared to accept” (Joe).

The intervention development process above discussed the issues with a half-day workshop. Workshop 3 with the coaches addressed some of these challenges with the logistics of the delivery

and offered solutions to tailor the intervention in a way that catered for those who were keen and willing to commit more time, and for those who wanted a minimal-commitment option. The coaches who took part in workshop 3 were happy to agree to multiple workshops, and the evaluation part of the research. Although they were the committed ones, even one of them expressed concern over the time commitment: “it’s difficult isn’t it because ... this isn’t our job, it’s a voluntary thing and we all want to do it, but it’s committing to a lot of it, is a lot you know” (Tara, workshop 3). Additionally, the coaches asked for “stuff that’s useful to us and stuff that’s useful to the runners” (Joe) but concerns over the commitment aspect also meant that the content of the intervention needed to be tailored accordingly:

Tom: I think one of the really important bits is as well that is the people coming along to it [coaches], it’s not their full-time job ... in most cases it won’t be their primary focus in life so that has to probably be taken into account as well in terms of how in depth and how easy accessibility it needs to be

Sylvia: It’s got to be accessible

Tom: Basically quite lazy-driven so it needs to be really easy to pick up and run with
(workshop 2)

There appeared to be contradictions in what coaches wanted; they wanted something “easy to pick up”, they did not want to be “bombarded with science” (Tara), but it was still important for them to know if advice is based on evidence or someone’s opinion (reflective notes from C25K), and the content also needed to be “constructed in a way that you do not dilute the knowledge” (Bobby). The dialogue by Bobby suggested that coaches need to understand the theory behind the practical ideas; they could misinterpret information and pass it on incorrectly if it is delivered at an inappropriate level. In addition, applied practitioners highlighted the importance of delivering a

practical workshop that allows enough time and opportunities for coaches to reflect, discuss, and learn from each other, while minimising the educational aspect and time spent discussing theory:

The only thing I would say is just making sure that the ratio of you talking at them versus them doing stuff in the workshop is a lot more biased towards them doing stuff, like obviously having that background is great but if you can provide some of the background in a written format something that they can look at later, and in the delivery workshops gets them doing stuff for as long as possible I think that will just keep them a lot more engaged ... just having that practical experience of it cos they probably won't want to sit there and listen for as long, people just disconnect, even if it might be something they're super interested in ... so if we can get them doing stuff for as long as possible I think the better personally (Anna, critical friend workshop).

All this feedback was considered when developing the intervention. The process of intervention development with the key decisions made was discussed earlier under the participatory research process, and the subsequent intervention that was developed will be outlined next.

Co-Produced Intervention

The outcome of the co-production process was a “Keep on Running – The 5 Pillars of Support” intervention, which consisted of five interrelated psychological principles that support the maintenance of running. The intervention was aimed at running coaches who support beginner runners with behaviour change maintenance. The aim of the intervention was to equip coaches with skills, knowledge, and confidence to support runners with maintaining running after starting.

The coaches asked for training that was practical and included simple take-away messages. The 5 Pillars were created considering this request with the hope that the approach would be “catchy” and memorable, while still ensuring the Pillars were evidence-based, capturing Study 1 results, the runners' input, and behaviour change literature within them, therefore meeting the need of not

diluting the knowledge. In the final workshop, the coaches gave positive comments on the 5 Pillars approach that we proposed:

I think as a quick thought really it seems to cover all bases doesn't it, I guess it's the ideal framework for building the group on for planning sessions (Sylvia, individual conversation with a coach).

I mean as far as these Pillars go, yeah, really good, every one of them I can see, it would really help me going through these so yes I think they're really good" (Jill, workshop 3).

The next section provides further detail on how the behaviour change theories and wider literature fit into the Pillars.

The 5 Pillars & Their Evidence-Base

I chose to frame the training content around five Pillars and each Pillar's two key principles to ensure that the main take-away messages from the intervention would be simple, memorable, and easy for coaches to apply. Each of the five Pillars integrated the coaches' requests, the runners' feedback, the comments from applied practitioners, principles from behaviour change theories, physical activity research, and Study 1 results. Table 7 describes the five Pillars with their key messages, and illustrates how Study 1 results, co-production workshops, behaviour change literature, and behaviour change techniques fit into the 5 Pillars, but the following section will expand on the contributions from different sources. For example, the section will highlight how the five behaviour change theories that were discussed in the literature review chapter contributed to the content of the intervention (i.e., self-determination theory, Ryan & Deci, 2000; the social identity approach, Tajfel & Turner, 1979; Turner et al., 1987; self-efficacy theory, Bandura, 1977; the health action process approach, Schwarzer & Luszczynska, 2008; and affective-reflective theory, Brand & Ekkekakis, 2018).

The Purpose Pillar was strongly influenced by the “Identifying a Meaningful Why” theme from Study 1. It was important to include the meaningful why because it reflects one of the key results from the previous study and seemed to be the most helpful theme for explaining whether beginner runners maintained running. The coaches in the current study also asked for advice on how to “motivate” runners. Self-determination theory (Ryan & Deci, 2000) offers some practical suggestions on how to support runners with their motivation and their why (i.e., how to be more autonomy supportive and help runners reflect and reframe (Sheldon et al., 2003; Vansteenkiste et al., 2018)). The main contributions from self-determination theory were the principles of autonomous motivation, basic needs theory and internalisation. For example, the key message “it’s helpful to own your why” refers to internalisation. A brief explanation of autonomous and controlled motivation was given in the handout using simpler language (i.e., better quality and poorer quality motivation, see Appendix N). It was explained that choice (i.e., autonomy), competence (i.e., competence), and connection (i.e., relatedness) are needed for autonomous motivation, with the focus in the Purpose pillar specifically on autonomy support. The three practical tips in the Purpose handout aimed to educate coaches about how to be autonomy supportive and support runners in finding more autonomous reasons for running. Similarly, the tips aimed to educate coaches about how to help runners internalise their more controlled reasons by giving examples of reflective questions, reframing, and offering rationale/choice.

The Progress Pillar was influenced by the “Learning That I *Can* Run” theme from Study 1, where it was shown that gaining confidence in running was important for running maintenance. The coaches in the current study also asked how they could increase the self-belief of runners, and runners themselves also voiced how they like to know the distances they cover each week to see improvements and build up their confidence in the lead up to the 5 km. Self-efficacy theory highlights the importance of believing in one’s abilities and offers suggestions on how to increase one’s self-belief (Bandura, 1977). The main contribution from the theory was in highlighting the importance of self-belief and using techniques, such as verbal persuasion, mastery experiences and

vicarious experiences to increase self-belief. The key messages “seeing yourself succeed can build confidence” and “seeing similar others succeed can build confidence” referred to mastery experiences and vicarious experiences. The practical tips in the handout (see Appendix O) were derived from mastery experiences, vicarious experiences, and verbal persuasion, but with the language used being simplified. For example, the practical tips for mastery experiences were “provide opportunities to see progress”, “set goals” and “support runners’ own self-monitoring”, and the practical tip for vicarious experiences was “share stories”, which encouraged coaches to share success stories of relatable runners’ journeys. Table 7 also demonstrates which of Michie et al.’s (2013) behaviour change techniques and Teixeira et al.’s (2020) motivation and behaviour change techniques align with the self-efficacy theory’s principles and consequently informed the content in the Progress Pillar.

The People Pillar was influenced by the “Opportunities Are Unequal and Experiences Contrast” theme and also by the “Learning That I *Can* Run” theme from Study 1, where the importance of considering each individual and the importance of social support were highlighted. The coaches in the current study were also interested in tailoring the sessions for different abilities and creating a supportive environment for the runners. The runners in the current study appreciated the individualised approach that the coaches took, and some of the runners suggested that teambuilding activities would be valuable for getting to know each other and fostering connections with others. The People Pillar therefore included two key principles; one about inclusivity, and another about social support. The social identity approach (Tajfel & Turner, 1979; Turner et al., 1987) contributed to the People Pillar by highlighting the importance of fostering connections between the runners to support a sense of belonging to a group. The practical tip derived from the theory was a suggestion that coaches could give runners opportunities to build connections with others in the sessions (see Appendix P). Table 7 also demonstrates which behaviour change techniques and motivational behaviour change techniques were included in this Pillar. Overall, the People Pillar focused on bringing awareness of individual differences and challenges with running,

highlighting the importance of showing care and interest in runners, and suggested ways how coaches can offer or signpost to different types of social support.

The Planning Pillar was influenced by the “Life Gets in the Way” theme from Study 1. The results indicated that planning for runs and planning for barriers can be helpful. The coaches in the current study also wanted to learn how they could help runners identify and overcome barriers, and some runners discussed how writing runs down in the diary has helped them. I also observed people’s attendance being inconsistent and many runners repeating C25K multiple times. The health action process approach (Schwarzer & Luszczynska, 2008), with the principles of maintenance self-efficacy and recovery self-efficacy, and action planning and coping planning contributed to the content in the Planning Pillar. The key messages “being specific makes it happen” and “plan for life getting in the way” referred to action planning and coping planning respectively. In the practical tips, coaches were encouraged to guide runners on how to plan their runs by writing them down, as well as to guide runners on how to identify barriers and solutions with if-then plans (see Appendix Q), which are also behaviour change techniques in Michie et al.’s (2013) taxonomy. The coaches were also encouraged to support runners in understanding that it is ok to take breaks from running and that they can still return by adjusting their paces and distances (i.e., recovery self-efficacy).

The Play Pillar was influenced by the “Identifying a Meaningful Why” theme. The principle of the Pillar (i.e., enjoyment) was originally going to be covered within the Purpose Pillar, but the decision was made to have it as its own Pillar during the current study. The applied practitioner workshop helped us see that enjoyment should have its own focus; the coaches saw the importance in helping runners enjoy running; and during the situated interviews, many runners discussed not enjoying running itself. The affective-reflective theory (Brand & Ekkekakis, 2018) highlights the importance of enjoying exercise during exercising, and this principle contributed to the content in the Play pillar. The key messages “if people enjoy something, they are more likely to continue”, and “enjoying the experience of running is important” are derived from the theory’s suggestions about

the positive and negative associations we create for different activities. The practical tip derived from this theory was a suggestion to slow down runs (see Appendix R). Other practical tips that were suggested, such as using open goals, were taken from existing literature on how to make running more enjoyable (e.g., Hawkins et al., 2020).

Table 7

The 5 Pillars with Their Key Messages, and the Key Results and Theories that Informed Them

Pillar	Key messages	Study 1 results	Study 2 results (current co-production study)	Behaviour change theory/literature	Behaviour change techniques (BCTs) from Michie et al.'s (2013) BCT taxonomy & motivation and behaviour change techniques (MBCTs) from Teixeira et al. (2020)
Purpose - help runners identify a meaningful and personal reason for running	1. It's helpful to know your why 2. It's helpful to own your why	Identifying a Meaningful "Why" theme	Wanting to learn how to motivate, and inspire runners, and say the right things (coaches)	Self-determination theory (Ryan & Deci, 2017)	BCT: Framing/reframing, valued self-identity MBCT: Use non-controlling language, provide choice, provide meaningful rationale
Progress - help runners believe they can run, progress, and succeed	1. Seeing yourself succeed can build confidence 2. Seeing similar others succeed can build confidence	Learning That I <i>Can</i> Run theme	Wanting to learn how to increase self-belief of runners (coaches) Wanting to see how much they run and improve each week (runners)	Self-determination theory (Ryan & Deci, 2017) Self-efficacy (Bandura, 1977)	BCT: Goal-setting (behaviour), feedback on behaviour, self-monitoring of behaviour, self-monitoring of outcomes of behaviour, verbal persuasion about capability, social comparison, monitoring of emotional consequences MBCT: Offer constructive and clear feedback, promote self-monitoring

Pillar	Key messages	Study 1 results	Study 2 results (current co-production study)	Behaviour change theory/literature	Behaviour change techniques (BCTs) from Michie et al.'s (2013) BCT taxonomy & motivation and behaviour change techniques (MBCTs) from Teixeira et al. (2020)
People - create an inclusive and supportive environment	1. Opportunities to run, progress with running, and enjoy running are unequal. 2. Coaches, runners, friends, and family can provide different forms of support	Opportunities are Unequal and Experiences Contrast theme	Wanting to tailor sessions for different abilities and create a supportive environment (coaches) Teambuilding activities suggested (runners) Social connections important (runners) Individualised approach appreciated (runners)	Social cognitive theory (Bandura, 1986) Social identity theory (Tajfel & Turner, 1979) Self-determination theory (Ryan & Deci, 2017)	BCT: Social support (unspecified, practical, emotional) Shared activities (not in the BCT taxonomy - see Steffens et al., 2021) MBCT: show interest in the person, use empathic listening, prompt identification and seek available support
Planning - help runners plan and turn intentions into actions	1. Being specific makes it happen 2. Plan for life getting in the way	Life Gets in the Way theme	Wanting to learn how to help runners identify and overcome barriers (coaches) Couch to 5k repeated multiple times (runners) Planning runs helpful (runners)	Self-regulation (Gollwitzer & Oettingen, 2017)	BCT: Action planning, problem solving (coping planning)
Play - make running an enjoyable experience	1. If people enjoy something, they are more likely to continue 2. Enjoying the experience of	Identifying a Meaningful "Why" theme	Thinking it was important to help runners enjoy running (coaches) Lack of enjoyment with running itself (runners)	Affective-reflective theory (Brand & Ekkekakis, 2018) Self-determination theory (Ryan & Deci, 2017)	BCT: Increase positive emotions Set open goals (not in the BCT taxonomy - see Hawkins et al., 2020)

Pillar	Key messages	Study 1 results	Study 2 results (current co-production study)	Behaviour change theory/literature	Behaviour change techniques (BCTs) from Michie et al.'s (2013) BCT taxonomy & motivation and behaviour change techniques (MBCTs) from Teixeira et al. (2020)
	running is important				

Intervention Delivery and Plan

The coaches preferred the idea of interactive, in-person workshops with practical take-away messages. The critical friends similarly suggested interactive sessions that focus on coaches talking more than the presenters. Table 8 outlines the rough session plan we initially devised based on this feedback.

Table 8

Session Plan for Each Intervention Workshop

Activity	Explanation
Icebreaker (in pairs)	-Get coaches to discuss the Pillar that is the focus of the session (e.g., their own motivations for running in the Purpose session)
Short educational video	-Highlight key messages about that Pillar with practical tips
Reflections from coaches (in a group)	-Ask where they currently are in relation to that Pillar (i.e., what are they doing well, where can they improve?)
Reminder	-Remind them of the practical tips for that Pillar
Task for coaches (in a group)	-Come up with concrete examples that they can do that fall under the practical tips of that Pillar
Example scenario & skills practice	-Present an example situation from the club (e.g., runner going away on holiday) and ask coaches what they could say/do/ask the runners by using the principles from the given Pillar (Planning in this example) or from the previous Pillars
Action plan	-Ask coaches to write down one thing they will action from the session
Summary and questions	
Feedback from the session	

The session plan also considered the intervention aims and the below table shows how the plan mapped onto the aims.

Table 9

The Session Plan Mapped Onto the Aims of the Intervention

Aims: Equip coaches with skills, knowledge, and confidence to support runners with maintaining running after starting.		
Aims	How?	Session plan
Skills	Through practising skills like communication in the scenario tasks and through applying suggestions at the club	Example scenario tasks, practical examples from coaches, setting action plans
Knowledge	Through educating them on evidence-based findings (e.g., quality of motivation, how to increase confidence)	Short video, additional handouts, and open discussions to share ideas
Confidence	Through increasing the coaches' own skills and knowledge, getting them to reflect on their existing skillset, and allowing them to practice applying what they learn	Reflections from coaches, open discussions, practical examples from coaches

The overall intervention plan is presented below in Table 10, and the plan was to follow the same outline for each of the workshops. The plan was also to be flexible for adjustments along the way depending on the coaches' availabilities and preferences (e.g., poll was going to be sent out to establish the most suitable dates), and further adjustments to the intervention were expected once the intervention started. The content was designed to take approximately 1-1.5 hours, and the plan was to deliver either one or two Pillars at a time, depending on the coaches' preferences. To accommodate those coaches unable to commit to multiple sessions, the decision was made to start

the overall intervention with a shorter 1-hour introductory workshop that would work as a taster session and give everyone a chance to learn the principles from each Pillar without a significant time commitment. Those interested to learn more could then take part in the subsequent sessions for each Pillar. The sessions were designed to be stand-alone and would allow participants to choose which ones they wanted to attend, instead of having to commit to all. Observations at the C25K sessions were planned for the duration of the intervention, and the intervention was going to be evaluated via qualitative methods (more on the delivery, observations, and evaluation in the next Chapter 6).

Table 10

The Intervention Plan

Date	Duration	Workshop
Mid-January when the new C25K starts	1 hour	Introductory workshop
1-2 weeks after the previous workshop	1.5 hours	Purpose workshop
1-2 weeks after the previous workshop	1.5 hours	Progress workshop
1-2 weeks after the previous workshop	1.5 hours	People workshop
1-2 weeks after the previous workshop	1.5 hours	Planning workshop
1-2 weeks after the previous workshop	1.5 hours	Play workshop and overview of the whole intervention

While the overall intervention content aimed to encourage the coaches to use behaviour change techniques with runners, the intervention itself was also about behaviour change for the coaches. Therefore, the session plan was devised with that in mind, and behaviour change theories, behaviour change techniques (BCTs), and wider literature were also considered within the coaches' intervention. For example, the coaches were asked to problem solve (BCT 1.2), practice behaviours

(i.e., what they could say to a runner in a certain situation; BCT 8.1), and to write their own action plans from the session (BCT 1.4, action planning from the health action process approach). The educational content (e.g., video) also offered demonstrations and instructions for the behaviours the coaches could implement (BCT 4.1, BCT 6.1, vicarious experiences from self-efficacy theory). In addition, the coaches were given an opportunity to reflect on their current practices in relation to the topic of the session, which could influence their mastery experiences (i.e., self-efficacy theory). Reflective practice is important for self-awareness and learning and can enable coaches to develop their coaching practices (e.g., Da Silva et al., 2020). According to Moon (2001), reflection is also needed for deep learning to occur. People need to develop awareness of what they are currently doing and consider new information in the context of their previous knowledge and experiences for it to have an impact on their practice. Group discussions and questions can facilitate deep learning and were therefore included in the session plan (Moon, 2001). Each workshop was going to be delivered considering the coaches' autonomy, competence, and relatedness (i.e., basic needs satisfaction) as well (Ryan & Deci, 2017); the coaches would be given choice over whether they wanted to share their discussions, they would be offered encouraging feedback on their suggestions, and they would be given opportunities to connect with the other coaches in the room.

Intervention Resources

Each Pillar was summarised in a one double-sided handout that the coaches could take-away and re-visit later to cement their learning. The content and layout were slightly adjusted for each one based on that Pillar's content, but each handout included a key messages section, literature and theory background on why that Pillar was important for running, and a practical tips section. Handouts that the coaches could give to runners were also produced, as per the request from the coaches. See Appendices N, O, P, Q, and R for the handouts for coaches and runners. Five-minute videos were also recorded to supplement and explain each handout. The link and QR code for the videos is here: <https://www.youtube.com/@pillepedmanson/videos>



The content and level of detail in the handouts and the videos were tailored with the audience in mind; considering the coaches' feedback, and what the literature suggests (i.e., including practical take-away messages, and not "bombarding" them with science). Each handout offered practical tips that were evidence-based but also integrated club-specific examples within them and used terminology the club used. For example, as illustrated in Table 7 above, Study 1 results showed that increasing runners' confidence was important, behaviour change theories (e.g., self-efficacy) gave us ideas for increasing confidence (e.g., using past performances), and the behaviour change technique taxonomy offered techniques that could be used (e.g., "feedback on behaviour"). As a result, I included a practical tip: "Provide opportunities to see progress". To make this more club-specific, I suggested the coaches could share the distance and time with the runners on the Facebook page and/or in the weekly email as I knew that is how the coaches communicated with the runners. Similarly, in the Planning Pillar, I used the behaviour change techniques of action planning and coping planning but included terms such as "homework" runs (i.e., in-between runs that the runners are encouraged to do on their own mid-week) when discussing these in the handouts, as this is the language the coaches at the club used with the runners. In summary, while the handouts were informed by theory, they were also tailored with the specific running club in mind.

Discussion

This study adopted a co-production approach, specifically the integrated knowledge translation type (Smith et al., 2023), with the aim of co-producing an intervention that could support

maintenance of running in beginner runners. It aimed to contribute to bridging the research-practice gap (Keegan et al., 2017), increase the impact of the intervention through involving the target population (i.e., coaches and runners) throughout, and designing the intervention to fit the real-world context (i.e., the running club). The intervention, called “Keep on Running – The 5 Pillars of Support” was the result of Study 1 results, focus group workshops, observations, situated interviews, and behaviour change literature. As outlined in the study outcomes, each Pillar’s content was put together embedding coach and runner feedback, and previous research on behaviour change. The initial key finding of this study was that the focus of the intervention should be aimed at coaches, rather than at runners. The aim then shifted to designing a coach-education intervention, altering the research question.

The initial research question for the study was: How can we design an intervention that is viable, acceptable, and effective in helping beginner runners maintain running after starting? After the first workshop it became clear that the intervention should become about educating coaches. Therefore, the new research question became: What should coach-education intervention that supports beginner runners with maintaining running include, and look like? The results showed that the coaches wanted to have practical, interactive sessions, with simple take-away messages, and resources. This is similar to what previous literature on coach education has found (e.g., Farhat et al., 2022; Martindale & Nash, 2013). Martindale and Nash (2013) found that coaches wanted sport science to be context and sport specific, include applications of the science, and written in layman’s terms. Nelson et al. (2013) asked coaches’ views on what they would like from coach education and their suggestions included a lot of resources, as well as practical and interactive sessions where they can interact and collaborate with other coaches. The coaches also wanted the educators to be well-prepared, enthusiastic, and able to relate the content to the coaches with enough practical examples while avoiding unnecessary scientific jargon. While the coaches in the above studies were from different sports and some from professional sports clubs, similar principles seem to apply to the running club coaches in the current study. The coaches in Nelson et al.’s (2013) study also wanted to

have a say in their continuing professional development (CPD). Freedom to learn was also important to recreational coaches in Cope et al.'s (2021) research. Autonomy and offering choice over what and when people learn supports autonomous motivation and is important in learning (e.g., Vansteenkiste et al., 2018). The current study aimed to support autonomy and give coaches the opportunity to have a say in the content and format of the coach education intervention through the focus group workshops, while still considering the research priorities and the time available to deliver everything (Leggat et al., 2023).

As outlined at the beginning of the chapter, disseminating knowledge or research produced by academia to practitioners has, at times, been unsuccessful. Some of the suggested reasons were academic journals being hard to digest and research taking a long time to be translated into more accessible guidelines (Green, 2008). The same knowledge-translation gap seems to apply to coaches; the knowledge disseminated by researchers is often unused by coaches (Farhat et al., 2022). Farhat et al.'s (2022) recommendation is that sport psychology researchers include coaches in the whole research process giving them the opportunity to have a say in what they want from coach education. This study followed that advice and addressed coaches' needs for the content and the delivery. A related consideration is about the applicability of the knowledge and bridging the knowledge-practice gap (Stodter & Cushion, 2019). It seems that translating the knowledge might not be enough if the knowledge is not used. Stodter and Cushion (2019) found that a coach education course for youth soccer coaches had a greater impact on the coaches' *knowledge* of coaching than it did on their *practice behaviours*. It appears that although coaches' knowledge might increase after receiving education, their practice might not change. Gould et al. (1999) similarly found that junior tennis coaches wanted education on *how* they can teach mental skills training to their players, not just education on mental skills alone. These findings suggest it is important to design interventions that facilitate the application and practice of the knowledge.

Considering the context where coaches will be applying the knowledge they learn is therefore crucial for supporting them in their practice. While asking the coaches about their context can be helpful, the researcher's observations and involvement in the C25K running sessions in the current study supported further familiarisation with their environment. The researcher immersed themselves in the context of the running club, using the deep practice dive approach that Popp et al. (2021) recommended for enhancing the co-production process and subsequent intervention.

One of the main strengths of the study was the immersion in the C25K setting and learning about the context for the intervention (Popp et al., 2021). This strengthened the study in four ways: first, the researcher could learn how the C25K sessions operate (e.g., what happens in the sessions); second, they could identify opportunities where the coaches could apply psychology and use those example scenarios in the intervention; third, they could observe what the coaches were already doing that could be psychologically supportive of maintaining running; and fourth, they could talk with and ask beginner runners questions to find out what helped them with maintaining running. Being in the coaches' environment and coaches seeing the researcher's commitment to the sessions may have also facilitated building trust and increased the coaches' motivation to take part (e.g., Cartwright & Schow, 2016; Popp et al., 2021). While this immersion was more time-consuming and could be seen as a cost of co-production (Oliver et al., 2019), getting to know and observe the context largely informed and strengthened the intervention.

One of the key limitations for the study was the drop in participant numbers following the first workshop. The aim of co-production is to ensure everyone has a voice in the research process. While the researchers did their best to ensure the quieter participants were heard in the discussions, inevitably the voices of those coaches who chose not to take part were lacking. The resulting coach-education intervention was therefore primarily designed based on seven coaches' input.

As discussed earlier, engaging the end users in the whole research process is key in co-production studies (Knowles et al., 2021). While the research involved coaches and runners, the

runners did not input their feedback as explicitly as the coaches did. The end users in this study became the coaches, however. The runners would still be receiving the indirect benefits of the coach-education intervention, but they were not the ones receiving the intervention directly. In addition, runners were asked for their feedback in the C25K sessions, but the runners the researcher talked with were current beginner runners, who often struggled to articulate or pinpoint specific factors that helped them keep going. It could be because they were at the early stages of their running, and still finding their feet. The researcher did not explicitly state at the start of every conversation that they are designing an intervention for the coaches and would like to know what the coaches should do that is helpful, but rather asked runners about what they found helpful, which means the runners were offering their input to the intervention indirectly. Including feedback from runners that are further along in their running journey, about what has helped them maintain running could have been beneficial for designing the intervention content, but this was already done in the data collection for Study 1. While Study 1 research did not specifically ask about what the coaches could do to help people with running, the runners often discussed helpful coach behaviours (e.g., coaches inspiring them with stories, coaches showing how the runners are improving).

In summary, this co-production process was iterative using the feedback from coaches, runners and applied practitioners throughout. The Study 1 results together with behaviour change theories and literature guided the content of the intervention initially, but the coaches' requests for content and runners' input also helped shape the design of the resources. The coaches' input was particularly influential for changing the aims of the intervention to become about coach-education. The coaches shaped the format and delivery of the intervention, ensuring the intervention would be well-suited for their club.

Reflections on the Research Process

At the start of the process, I was optimistic about the collaboration with the running club; my main contact at the club seemed enthusiastic about the research and was happy to invite me into their general coaches' meetings. Using opportunities when coaches are together anyway is recommended (Martindale & Nash, 2013) and I thought this would be ideal for attendance. Challenges arose during the process, however; my main contact became hard to reach, the venue we were using cancelled the booking twice last-minute, and many of the coaches did not see the importance of the general coaches' meetings that the head coach was trying to arrange, resulting in poor attendance. I relied on my main contact and assumed he had made it clear why I was joining the meetings, but it later transpired this was not the case and the other coaches seemed unaware that these general meetings I attended had a different purpose (i.e., co-producing an intervention together). Once I realised this, I made some changes, I asked the coaches during the observations to pass on the information, I put together an email to "sell" the following meeting and asked to have direct contact with the coaches (e.g., through a Facebook group) where I could ensure the message got across.

During observations, I sometimes struggled to place myself amongst the beginner runners while being a runner myself, making my role as participant-observer tricky to navigate. For example, whether I should join in on the group photo, or whether I should run the 5 km "graduation" race with them. Generally, I tried to blend in as much as possible; I wore non-branded running clothes, my oldest pair of running shoes, and left my running watch at home. I still stood out for some of them and in the second session I got called the "fitness student". Two runners said that when I introduced myself as being there for the research, they felt that it made sense as I did not look like I "needed the C25K". When I got paired up with one of the runners who was noticeably struggling, his comment was "oh great, I got paired up with the fittest one". My intention was not to make others uncomfortable, but this comment left me feeling a little discouraged. I am an avid runner myself, and I wanted to be genuine and not "fake" my running, but at the same time ensure I am not running too fast or making anyone feel uncomfortable. Additionally, while I wanted to be encouraging, I also worried that me saying "well done" to others could come across as patronising, especially if they saw me as someone

who can already run. This made me realise how the literature on observations or ethnography does not always equip you with the knowledge of how to act in the real-life scenarios. Some of it must be navigated on the spot (Atkinson, 2013).

Overall, my key reflection related to the flexibility that is needed in co-production. I went into the focus group workshops with an idea about an intervention that would involve me working with runners in some exercise psychology capacity (as I am also a trainee sport and exercise psychologist on the BPS QSEP pathway). The focus and plan for the intervention quickly changed, however, as the coaches asked for an intervention that is tailored for them, rather than at runners. Even though their reasons were solid, and it made sense to adapt the intervention accordingly, I still felt a little disappointed that my PhD became about coach-education, as opposed to supporting runners directly. This was the first time I realised the whole purpose of co-production; it is not about me seeking further support or slight changes to something I wanted to do, but rather being open to adapting and changing your whole idea according to what the participants want. On reflection, focusing on the coaches instead of the runners made more sense for creating a lasting impact and for the longevity of the research. Developing a coach-education intervention would allow my PhD to have the potential for a much greater impact across running clubs and runners, than if I had just designed something for individual runners.

Finally, while I would have previously called this overall complex research process “messy”, after reading Matthews (2021), I see how labelling it messy could imply that the study was incoherent, or confusing. While the study had its complexities, it was still coherent, and followed a thorough plan, needing some well-considered and justified adjustments along the way.

Chapter Summary

In this chapter, a co-production study process and outcomes were presented. A psychological coach-education intervention for a specific running club was produced with the help of running club

coaches, runners, and applied practitioners from the physical activity field. The main outcome from this study was “Keep on Running – The 5 Pillars of Support” intervention. The intervention was created with coaches from one running club, and with input from beginner runners and practitioners working in the field of applied physical activity, while previous studies, behaviour change theories and associated literature strongly informed the content. The intervention consisted of five interrelated psychological Pillars, that were deemed important for maintaining running. The aim of the intervention was to equip coaches with skills, knowledge, and confidence to support runners with maintaining their running after they have started. To aid with the aims, the intervention would be delivered over multiple sessions, and each session would be interactive and include education around the psychological Pillars. Each session would also encourage reflections and discussions from the coaches about how they could apply these Pillars and the associated principles in their coaching. The intervention delivery will be reported and evaluated in the next study (Chapter 6).

Chapter 6: STUDY 3

Chapter Introduction

This chapter describes Study 3, a delivery and evaluation of the “Keep on Running – The 5 Pillars of Support” intervention to coaches from two different running clubs. The development of the intervention, which was co-produced with the input of coaches, runners, applied practitioners, previous research results, and behaviour change literature was detailed in the preceding Chapter 5. The coaches in Study 2 (Chapter 5) asked for interactive sessions that offered practical content, simple take-away messages, and resources for them to use. In the present study the intervention was delivered to coaches in the form of 5-6 workshops. The intervention was delivered to coaches from the running club who took part in the co-production, and to coaches from another running club with no prior involvement in the research. The intervention was evaluated using observations, anonymous surveys, interviews, and focus groups.

Background

A psychological coach-education intervention for running club coaches was developed in Study 2. The educational intervention could be categorised as non-formal learning (Nelson et al., 2006). Coaches can learn formally, non-formally or informally (Mallett et al., 2009). Formal learning is when coaches get an official coaching certification (e.g., from England Athletics for the running coaches), nonformal learning could be attending a conference, and informal learning could happen through personal coaching experiences (Nelson et al., 2006). In addition to the formal learning courses and conferences, running coaches have access to various resources on the internet, ranging from free articles to paid or subscriber-only workshops. England Athletics (<https://www.englandathletics.org>) and UK Coaching (<https://www.ukcoaching.org>) websites both offer a range of resources, where the predominant focus appears to be on the technical side of coaching. There is, however, a sport psychology guide in the UK coaching learning framework (UK Coaching, 2023), and a mental wellbeing

in sport and physical activity module in the England Athletics coach development resources (England Athletics, 2023b), indicating that some attention is given to the psychological side of running as well.

Despite coach education being available, there can be barriers to engaging with it. For example, high-performance coaches reported struggling to have time to find and read scientific journals and not having easy access to sport scientists, preferring to get their knowledge from other coaches and conferences instead (Reade et al., 2008). Pope et al. (2015) further suggested that coaches who coach grassroots level athletes might be less interested in seeking out information about sport psychology for the purposes of performance enhancement, as this may seem irrelevant to their athletes. In the context of this PhD, coaches who are mainly involved with beginner runners might not seek out or come across sport psychology research either. Nash et al. (2017) also found that coaches they interviewed about continuing professional development (CPD) had mixed views about the benefits of it. CPD is reinforced in many professions, often even a mandatory requirement, but not so much in the coaching profession in the United Kingdom (Nash et al., 2017). Coaches often work part-time and in voluntary roles which might make attending additional CPD courses unlikely, especially if they have doubts about its direct relevance for their role (Nash et al., 2017).

Even if coaches' needs were considered and the education tailored for them, the question is whether coaches would engage with sport psychology content specifically. Farhat et al. (2022) recently evaluated coaches' perceptions of a sport psychology website. Creating an online resource that coaches could access freely at any time would counteract the challenges with lack of time to attend coaching conferences or workshops. Coaches commented on the use of the resources and, like previous research, highlighted the importance of user-friendly language and wanted the designers of the resources to keep the end user in mind (Farhat et al., 2022). In Farhat et al.'s (2022) study, the coaches saw sport psychology as being useful but, despite this, most of them did not feel comfortable using that knowledge or teaching sport psychology to their athletes. This is similar to what Stodter and Cushion (2019) found; coach education courses have a greater impact on the coaches' *knowledge*

of coaching, than on their *practice behaviours*. Farhat et al. (2022) suggested that not using the psychological knowledge could indicate a lack of confidence in applying sport psychology due to lack of perceived ability to do so and general lack of knowledge of the field. Stodter and Cushion (2019) further proposed that the coaches' practices did not change due to lack of deep learning (Moon, 2001). Researchers recognise that changing behaviours using short educational courses can be challenging and will depend on the individual and the context (Stodter & Cushion, 2019), therefore involving coaches in the research process when designing coach education could be helpful and support the coaches' application of knowledge (Farhat et al., 2022).

Harwood (2008) designed a coaching intervention specifically targeting coaches' confidence to deliver psychology. His intervention was for youth academy football coaches with the aim of enhancing their coaching efficacy in supporting the players' psychological and interpersonal skills. In their intervention the coaching efficacy referred to "the confidence that the coach possessed in delivering a training session that sought to influence the psychological development of the player" (Harwood, 2008, p. 113). They focused on 5Cs deemed important in football: commitment, communication, concentration, control, and confidence, and used these as the basis of an educational and behavioural coaching intervention that enabled coaches to integrate the 5Cs into their training. Based on a previous study (Gould et al., 1999), they concluded that for psychological coaching efficacy to increase, the content of the intervention would have to be empowering, user-friendly, and include high support from the practitioners. The intervention itself ran over 10 weeks with each "C" (e.g., commitment) being introduced in an interactive workshop followed by asking the coaches to try specific behaviour related to that "C" in their next four coaching sessions. The coaches were asked to report on the behaviours they used and how the players responded psychologically for each session. After four sessions, the next "C" (e.g., communication) was introduced with the same format for each "C". The aim in Harwood's (2008) intervention was to benefit the young players in terms of them getting psychological education and development but also to enhance the coaches' confidence for being able to use the principles of sport psychology in the training sessions. From the quantitative and

qualitative data, it appeared that the coaches' coaching efficacy generally increased across the intervention, and they were applying the psychological principles in their coaching. It seemed some C's (i.e., communication, commitment), resonated more with the suggested strategies being used more often, whereas some strategies from control and concentration were perceived as too advanced and less relevant for the coaches, therefore infrequently applied. The author also noted that the coaches continued to put emphasis on psychosocial development in the following season with increased confidence. The 5Cs approach showed potential and has received further support showing that coaches can be educated to use psychology in their coaching practices (e.g., Harwood et al., 2015). The current study has a similar aim whereby the psychological principles will hopefully benefit beginner runners, but the intervention will also aim to increase the coaches' confidence in delivering sessions that incorporate psychological principles. The aim is to support beginner runners with behaviour change maintenance, even though the intervention is delivered via coaches.

In an exercise context, research has shown that training the trainers themselves could be a viable option for behaviour change maintenance (e.g., Fortier et al., 2007; Ntoumanis et al., 2017). For example, Ntoumanis et al. (2017) trained a group of exercise class instructors to use a motivationally adaptive communication style based on self-determination theory (SDT) principles. The 10-week programme included face-to-face workshops, additional support via phone and email, and extra resources (e.g., descriptions of the motivational strategies). The data from the motivational questionnaires showed that the instructors experienced higher levels of autonomy and relatedness need satisfaction after the intervention, but that the exercisers who took part in the classes also felt more autonomy support, psychological need satisfaction and had higher intentions to participate in future classes following the intervention (Ntoumanis et al., 2017). Despite their study potentially involving instructors and exercisers with already adaptive motivational profiles, limiting the findings to an extent, the study still offers promising support for training instructors. Other studies have also trained exercise instructors and healthcare providers using the SDT principles to encourage more need-supportive communication, and in turn, increase physical activity (e.g., Fortier et al., 2007), but

not always with the desired results (e.g., Buckley et al., 2020; Duda et al., 2014). The challenge with training others is that there can be variation in how much the instructors implement the suggestions. Alternatively, some instructors might already be using some of the principles unknowingly, leading to non-significant results if comparing instructors who received training with those who did not (Duda et al., 2014). Training exercise instructors or other practitioners, such as running club coaches, on the use of psychological principles can be valuable, given the time they spend with runners. It is important to consider how the training is delivered, as the impact of it will likely depend on the individual and the context.

There is extensive literature that offers suggestions for practical considerations for developing and delivering coach-education interventions. The content of the intervention should be individualised and meaningful for the coaches (Nash et al., 2017; Paquette & Trudel, 2018), the context of the coaching environment needs to be considered (Hussain et al., 2012), opportunities for active learning and collaboration with other coaches should be enabled (Nelson et al., 2013), reflective conversations should be included to further understanding (Cope et al., 2021), and coaches should be encouraged to draw links between the content and their own practices (Paquette & Trudel, 2018). All the above, together with the results from the co-production study (Chapter 5), were considered in the current study when delivering the “Keep on Running – The 5 Pillars of Support” intervention.

In summary, existing research shows that exercise instructors can be trained on psychological principles (e.g., Ntoumanis et al., 2017), and that coaches can be educated on how to include psychology into their practice (e.g., Harwood et al., 2015), however, to my knowledge, there are no interventions aimed at running club coaches that focus on the psychological principles that can help support beginner runners with maintaining their running after starting.

Aims of the Study

The overall aim of the created intervention was to equip coaches with the skills, knowledge, and confidence to support runners with maintaining running after starting. The delivery plan, and resources were discussed in the previous study in Chapter 5. In summary, the plan was to deliver the “Keep on Running – The 5 Pillars of Support” intervention through 5-6 interactive in-person workshops, covering each Pillar at a time (i.e., Purpose, Progress, People, Planning, and Play). The evaluation plan consisted of observations, surveys, interviews, and a focus group. At the end of the intervention, the expectation was that the coaches should be able to understand the psychological principles that support maintenance of running and be able to apply these to their coaching. The first aim of this study was to deliver this intervention to coaches from two different running clubs, gaining feedback throughout the delivery process and modifying the intervention if needed. The second aim was to evaluate the impact the intervention had on the coaches through multiple qualitative methods. The study had four research questions: 1. What are the coaches’ overall experiences with the intervention workshops?; 2. What factors influence engagement with and application of the intervention?; 3. How (if at all) does the intervention impact on their coaching?; and 4. What could be improved in the intervention?

Methods

This study was an intervention with a qualitative evaluation. The intervention was delivered at two different running clubs through a series of workshops. The workshops were delivered over 2 months and the evaluation over 6 months. Multiple qualitative methods were used throughout to get a comprehensive overview of the intervention’s influence on the coaches individually and collectively. Qualitative methods were chosen because they allow an in-depth evaluation of the intervention’s acceptability and viability (Ayala & Elder, 2011), they align with the research paradigm (see

Methodology chapter), and they suited the intervention aims (to equip coaches with the skills, knowledge, and confidence to support runners with maintaining running after starting). In the co-production study (Chapter 5), the coaches saw the intervention as potentially having different impacts on everyone depending on what they took away from it. They suggested that asking the coaches about their own perceptions of the intervention and the potential changes it produced would be the best way to evaluate the individual impact the intervention may or may not have had on them.

Design

The initial structure for the intervention delivery is re-posted in Table 11 as a reminder. Table 12 shows the evaluation plan.

Table 11

The Intervention Plan

Date	Duration	Workshop
Mid-January when the new C25K starts	1 hour	Introductory workshop
1-2 weeks after the previous workshop	1.5 hours	Purpose workshop
1-2 weeks after the previous workshop	1.5 hours	Progress workshop
1-2 weeks after the previous workshop	1.5 hours	People workshop
1-2 weeks after the previous workshop	1.5 hours	Planning workshop
1-2 weeks after the previous workshop	1.5 hours	Play workshop and overview of the whole intervention

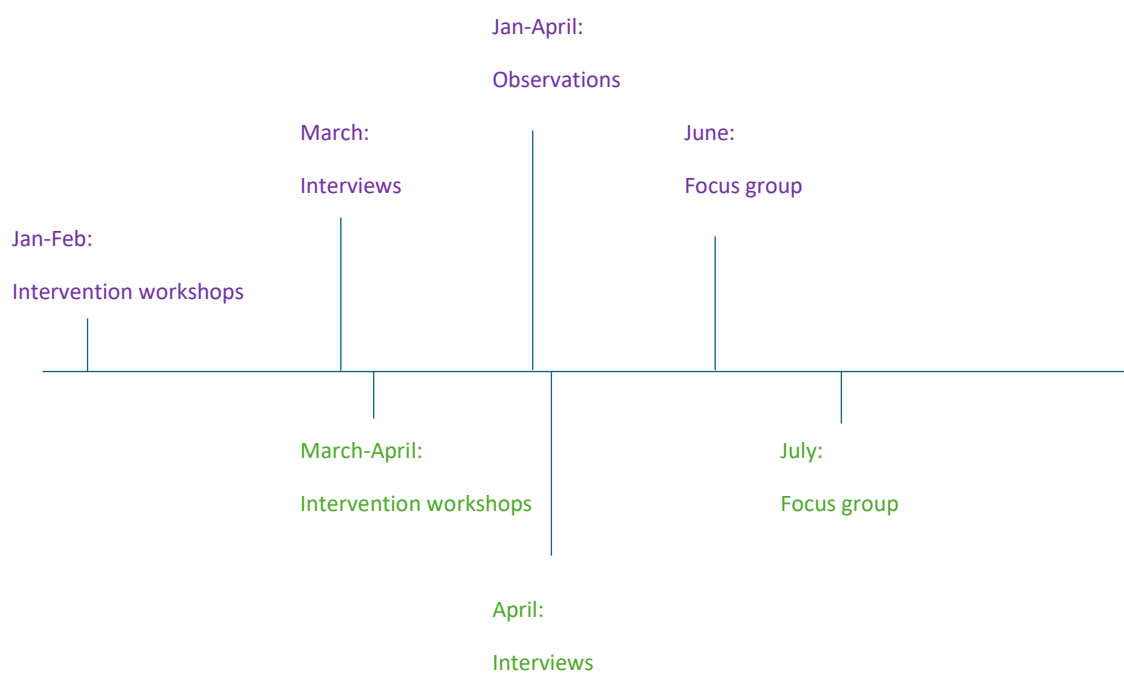
Table 12*The Evaluation Plan*

Evaluation format	When
Anonymous surveys	After each workshop
Observations	Every week throughout the intervention, about once a month after
Interviews	2-4 weeks after the last workshop
Focus group	3-3.5 months after the last workshop

The below Figure 3 shows a timeline of the intervention workshops, interviews, and focus groups with both running clubs. South West Athletics' (i.e., pseudonym for the club that was involved in the previous co-production study) timeline is at the top in purple, and Western Runners' (i.e., pseudonym for the second club that was recruited for this study) timeline is at the bottom in green.

Figure 3

Timeline of the Delivery With South West Athletics Timeline on top and Western Runners Timeline at the Bottom.



Participants and Recruitment

The intervention workshops and evaluation involved coaches and leaders from two different running clubs (with the intervention and evaluation arranged separately for each club), called South West Athletics and Western Runners. As mentioned in Chapter 5, there is a technical difference between a leader and a coach; leaders would have done the Leadership in Running Fitness course (LiRF), and coaches had usually done an additional Coach in Running Fitness course (CiRF) (England Athletics, 2023a). For simplicity, the participants will all be called coaches. See Table 13 for the participant qualifications and experience for those who attended the intervention workshops and the evaluation phase.

A separate recruitment process was followed for the two clubs that took part, and for the intervention workshops and for the evaluation phase. Coaches who were invited to take part in the intervention workshops were informed that there will be an evaluation (i.e., they will be invited for an interview and a focus group), but it was stated that they could choose to only participate in the intervention workshops without having to participate in the evaluation phase. It was also made clear that coaches could attend any of the intervention workshops without any prior knowledge or attendance at the previous workshops.

Table 13

Participants' Qualifications and Experiences

Participant	Club	Qualification	Coaching experience (approximate)
Jill	South West Athletics	LiRF	2 years
Joe	South West Athletics	LiRF, plus CiRF course done (but not the assessment)	4 years
Sylvia	South West Athletics	CiRF	11 years

Participant	Club	Qualification	Coaching experience (approximate)
Bobby	South West Athletics	LiRF	3 years
Jody	South West Athletics	LiRF	7 years
Rick	Western Runners	Athletics coach & event group coach	10 years
Nancy	Western Runners	Athletics coach	10 years
Sarina	Western Runners	Athletics coach	6 years
John	Western Runners	Athletics coach	6 years
Phil	Western Runners	LiRF/currently doing CiRF	9 years
Steve	Western Runners	LiRF	Unknown

South West Athletics

South West Athletics was the same club who took part in the co-production phase of the intervention (see previous Chapter 5). The coaches were initially recruited for the intervention workshops through a private Facebook group and via emails. As I was doing the observations with this club, I also invited coaches I saw at the running club by word of mouth. The head coach added me to a private group of senior coaches on Facebook and gave me permission to post advertisement of the intervention on their page. Prior to me trying to recruit the coaches, it was agreed that the head coach would post on the page telling people to look out for the information from me, ensuring that the message on their private page (as a non-coach in their club) would have some context to it. Reminder posts were also added, the head coach was asked to distribute the email to coaches on his mailing list, and I also asked the coaches who I had contact with already (through the co-production study) to share information about the intervention workshop with other coaches. Interested coaches were asked to sign up to the introductory workshop via a Google Form, which allowed me to email them the information sheet and consent forms. A recruitment advertisement about the following

workshops was always posted on the Facebook page with reminder posts close to the date of the workshop. Seven coaches attended workshop one, six attended workshop two, six attended workshop three, five attended workshop four, and five attended workshop five. While the coaches changed in the intervention workshops, there was a core group of four coaches (Jill, Joe, Sylvia, Jody) who attended every intervention workshop, and a further coach who attended all but the introductory workshop (Bobby).

Every coach who had attended at least one intervention workshop was invited to take part in the evaluation interview and the focus group via email from the researcher. The core group of five who attended most workshops were the only ones who took part in the interviews. The same five took part in the evaluation focus group, with the addition of Tara who had attended the first intervention workshop. Table 14 below shows the attendance for the intervention and evaluation.

Table 14

South West Athletics' Attendance in the Workshops, the Individual Interviews, and the Final Focus Group

Coach	Introductory workshop	Purpose workshop	Progress & Play workshop	Planning workshop	People workshop	Evaluation interview	Focus group
Tom		X					
Jill	X	X	X	X	X	X	X
Joe	X	X	X	X	X	X	X
Sylvia	X	X	X	X	X	X	X
Tara	X						X
Bobby		X	X	X	X	X	X
Dawn	X		X				
Jody	X	X	X	X	X	X	X
Katie	X						

Western Runners

The intervention workshops were also delivered to another running club who had no prior involvement in the research (i.e., they had not given any input during the co-production). The researcher emailed five local running clubs about the intervention workshops to gauge initial interest. One co-founder of a local running club showed interest in the intervention and wanted their club coaches to attend. The co-founder of the club passed on the information to their coaches, and all interested coaches were asked to sign up via a Google Form to ensure the researcher could send each participant the information sheets and consent forms in advance. The researcher then sent an individual reminder email to each coach about the subsequent workshops. Like South West Athletics, the coaches were informed that they could take part in as many or as few intervention workshops as they liked, and that while they would all be invited to take part in the evaluation phase afterwards, they could opt out of that if they wished. Four coaches attended all six workshops, two coaches attended five of the workshops. All six were individually emailed inviting them to take part in the interview and later in the focus group. Three coaches took part in the evaluation interview, and four took part in the focus group. See Table 15 for their attendance.

Table 15

Western Runners' Attendance in the Workshops, the Individual Interviews, and the Final Focus Group

Coach	Introduction	Purpose	Progress	People	Planning	Play	Interview	Focus group
Rick	X	X	X	X	X	X	X	X
Nancy	X	X	X	X	X	X		X
Sarina	X	X	X	X		X	X	
John	X	X		X	X	X		X
Phil	X	X	X	X	X	X	X	X
Steve	X	X	X	X	X	X		

Note: Western Runners had one more workshop than South West Athletics due to the feedback that combining two Pillars felt rushed.

Intervention Workshops

The coaches in the co-production study (Chapter 5) asked for a practical intervention with interactive in-person sessions, simple take-away messages, and resources to take with them. The specific detail about the planning phase and content of the intervention was outlined in Chapter 5 and therefore not discussed in detail here.

Content

The content was based around the five interrelated psychological Pillars that support running maintenance. For a reminder, see Table 16 for the 5 Pillars and their key messages. The content (i.e., the Pillars and the content within them) was informed by Study 1 results, behaviour change literature, critical friend feedback, and the input from South West Athletics (i.e., their coaches and runners). See Chapter 5, Table 7 for how the different elements mapped onto the 5 Pillars. Each workshop involved a slide deck (see Appendices S, T, U, V, W and X), a 5 minute pre-recorded video of the Pillar of the session (apart from the introductory one: <https://www.youtube.com/@pillepedmanson/videos>), and were supplemented by printed handouts for the coaches. The Purpose workshop also had an additional resource: value cards. These were chosen from Miller et al.'s (2001) open resource. Twenty values out of the 83 listed were chosen considering what represented the values that runners might have and would be able to link running to, strongly informed by the Study 1 results. The coaches were each given their own value cards pack and were explained the purpose of using these with runners. This was based on self-determination theory and aligning existing values to new behaviours to support behaviour change (Ryan & Deci, 2017).

At the focus group following all the workshops and interviews, each coach was also given a printed workbook that included the content that was covered in the sessions, and some additional content that supplemented the intervention and expanded on some of the content based on the coach

feedback. Additional copies were given to be shared with those who could not attend the focus group but attended workshops. See Appendix Y for the workbook.

Table 16

The Pillars with Their Key Messages

Pillar	Key messages
Purpose -help runners identify a meaningful and personal reason for running	1. It's helpful to know your why 2. It's helpful to own your why
Progress -help runners believe they can run, progress, and succeed	1. Seeing yourself succeed can build confidence 2. Seeing similar others succeed can build confidence
People -create an inclusive and supportive environment	1. Not everyone has equal opportunities 2. Coaches, runners, friends, and family are important sources of support
Planning -help runners plan and turn intentions into actions	1. Being specific makes it happen 2. Plan for life getting in the way
Play -make running an enjoyable experience	1. If people enjoy something, they are more likely to continue 2. Enjoying the experience of running is important

Delivery Format

Based on the preference of the coaches, the intervention workshops were delivered in-person. I delivered all workshops to both clubs and evaluated the workshops. Given my applied experience as a trainee sport and exercise psychologist (completing the British Psychological Society's Stage 2 Qualification in Sport and Exercise Psychology), I felt comfortable delivering the workshop content, training the coaches, and facilitating conversations. Being the trainer allowed me to have full

control over what was covered and how the workshops were organised. My supervisor (AM) joined in on the workshops with South West Athletics to ensure everything was running smoothly (e.g., assisting with handouts, recordings, questions), but I delivered most of the workshops to Western Runners alone. I also explained to the coaches in South West Athletics how my role will change when I join in on the C25K sessions; I explained that I will initially join to support them in applying the content and giving them feedback, but later on I will drop in to evaluate how and what (if anything) they are applying from the intervention.

I chose to do the evaluation part as well given that it was my PhD study, and I had the time and resources to do so. I had a good relationship with the coaches in South West Athletics due to the previous co-production study, and had also built good rapport with the coaches in Western Runners. I felt that the coaches would be comfortable talking to me about both their positive and negative experiences. Me being the trainer and the researcher doing the evaluation may have influenced the coaches' answers, but before every interview and focus group I acknowledged my role and how it may be uncomfortable for them to criticise the workshops given I delivered them. I reiterated how I would appreciate their honest feedback on the workshops even though I was the one delivering them.

South West Athletics. As discussed in the previous chapter, the attendance at the co-production workshops was low, suggesting a lack of commitment. There was a “core group” of coaches at the South West Athletics ($n = 6$) who had attended at least two of the co-production workshops and displayed clear interest in the intervention. No preference for a date was suggested during the co-production workshops. To maximise the core group's attendance, a poll was used to determine the best dates for the intervention workshops that would suit this group, and others were then invited to those dates. The intervention workshops were on the same day of the week, every one week or two weeks based on the availability of the coaches. The location of the intervention workshops, which was a small hall booked at a sports facility, was also picked for the convenience of the coaches. Five workshops were arranged with South West Athletics. Given the worry about the coaches'

commitment to multiple workshops, a decision was made to combine two Pillars into one workshop (Progress and Play), which reduced the frequency of the workshops.

Western Runners. In-person workshops were also arranged for Western Runners. The main contact identified a suitable day for the club, and the workshops were arranged every week apart from a two-week gap after workshop four due to some of the coaches being away. Six workshops were arranged with Western Runners based on the preference of their coaches (i.e., they said they would happily have one Pillar per session), and the feedback from South West Athletics also suggested that covering two Pillars in one session was too rushed. The workshops were delivered at the university.

Introductory Workshop

The intervention started with a 1-hour introductory workshop, which briefly covered all five key Pillars, allowed for reflections and discussion between the coaches, included practical tips on how to implement the key Pillars, and asked the coaches to make an action plan to take away from the workshop. A 1-page summary of all the Pillars was given to the coaches in the workshop (see Appendix Z). The introductory workshop was designed to attract those coaches from the club who had time constraints and could only commit to one workshop, while the follow-up workshops covering each of the Pillars in more detail were aimed at those who wanted to learn more and get in-depth knowledge and practical advice that they could implement in their running sessions. The introductory workshop was modified for Western Runners, as they had no prior knowledge of the results from Study 1 or the research process (i.e., the co-production). More time was spent at the beginning to give them an overview of the research up to that point and to explain how the intervention was developed based on another running club's input. It was also explained that some of the language used in the handouts was designed with the other running club in mind, but the researcher tried to explain the terms to ensure they could still apply it to their context. For example, Western Runners did not use the term C25K but instead had a different name for their beginner running programme. Finally, coaches at Western Runners were asked whether the aims of the intervention we had developed with another

club also applied to their context. That is, to what extent was equipping them with skills, knowledge, and confidence to support runners with maintaining running after they have started important to them. This was done to ensure the intervention would be relevant to them.

Follow-up Workshops

Four more workshops were arranged with South West Athletics after the introductory one. The first one covering Purpose, the second one covering Progress and Play, the third one covering Planning, and the fourth one covering People. Five more workshops were arranged with Western Runners: Purpose, Progress, People, Planning, and Play. As mentioned earlier, the number of workshops was different for Western Runners based on the feedback from South West Athletics that combining two Pillars in one session was too rushed. Trying out both options (i.e., combining and separating workshops) also offered an opportunity to compare how the two ways of delivering the workshops were experienced. Harwood's (2008) 5Cs intervention used a cycle of education-application-evaluation for each of the intervention components. While this intervention did not involve an objective evaluation after each workshop, it followed a similar delivery process. The initial session plans were devised during the co-production study and presented in Chapter 5. The session plans were slightly adjusted before the workshops and throughout. See Appendices AA, BB, CC, DD, and EE for the final session plans for each Pillar. Slight modifications were made to the workshops throughout based on reflections and feedback. For example, the wording to explain the Pillars or the tasks was changed when it was apparent that something was interpreted differently to what was intended. At the beginning of the workshops, I also started to recap the previous Pillars, ask about the coaches' reflections on the previous workshop's content, and ask whether they had implemented any changes since last time. This was to bring continuity to the Pillars and the sessions and ensure the previous content would not be forgotten with the new information.

In the last workshop for both clubs there was a recap of the 5 Pillars intervention where the content was tied together and the links between the Pillars explained further. It also gave the coaches

the opportunity to reflect and share their thoughts on how they saw the Pillars linking within their own coaching practice.

Additional Support: Observations & Email Communication

It was established in the co-production study with South West Athletics that I could join in on the C25K sessions at the club to support the coaches in applying the intervention content in practice, and be available via email if the coaches needed further clarification on anything. Supporting coaches after they have attended the intervention can be helpful to encourage the implementation of the intervention into their coaching (Moon, 2001). A new C25K programme at South West Athletics started two days before the introductory workshop, which provided an opportunity for me to join in. I attended the programme, as a participant as observer – (i.e., as a runner; Sparkes & Smith, 2014), with the aim of offering further support and feedback to the coaches. The runners in the group were told that I was there to support the coaches with an intervention the coaches were taking part in. During the five weeks of the C25K while the intervention workshops were still ongoing, the main aim was to support coaches in implementing changes they had been learning from the five Pillars. The aims for the observations were:

- To learn about the utility of the five Pillars within the club context
- Support the use of the five Pillars (i.e., psychological principles)
- Observe the coaches' use of the workshop content, and look for its effects

I focused on observing behaviours that were linked to the previous weeks' workshop content and the suggestions discussed in those workshops. For example, after the Progress workshop I would look at whether the coaches would offer specific encouragement or highlight the distances the runners covered. I also stayed behind after every session to offer some informal feedback where appropriate. Some coaches explicitly asked for my opinions on activities they had tried in the session (e.g., when they used the value cards), whereas other times I commented on the activities I had noticed the coaches implement from the Pillars and made gentle suggestions on how to facilitate the use of them.

Being in the sessions enabled me to spot times the coaches were using principles from one of the five Pillars, it provided opportunities to remind coaches of the ideas they could implement, and it allowed me to suggest improvements based on the content of the Pillars. I attended five running sessions during the intervention and observed each of the “core group” coaches at least once. Reflections were recorded after each observation (*M* duration = 12 mins). I also offered to be available by email to anyone attending the workshops, enabling them to ask questions throughout the intervention. Only one coach took advantage of this and emailed me with a question once.

Western Runners did not have an active beginner running programme at the time of the intervention and no observations were arranged at their club. Each coach had my email address should they have wanted further clarification or to ask questions, but no one did.

Evaluation

The evaluation of the intervention was performed using qualitative methods. Palsola et al. (2020) used qualitative evaluation in their physical activity intervention to understand participants’ overall views of the intervention, to identify how well the content was understood, and to understand how the skills taught were used outside of the intervention. A similar evaluation was suitable in this study given the aim was to understand the influence the intervention had on the coaches’ skills, knowledge and confidence. This intervention was evaluated through observing the coaches at South West Athletics, through anonymous feedback surveys, through individual interviews and through a focus group, but also informally through the feedback in each workshop.

Observations at South West Athletics

I attended another four beginner running sessions after the intervention workshops had finished, with the main aim of evaluating the impact the workshops had on the coaches and what (if anything) the coaches had taken away from the workshops (i.e., what were they using in the session). I offered feedback if the coaches asked for it. As the overall running groups got smaller, less coaches

were present and due to splitting runners into two groups, I only observed two of the coaches from the “core group” of the intervention. All observations were audio recorded immediately after each session (*M* duration = 10 mins).

Feedback Surveys

All coaches were invited to fill in an anonymous feedback survey at the end of each workshop. The survey could be filled in a paper format in-person, or online, and it had three questions that asked about the most useful part of the workshop, suggestions for how to improve the workshop, and any other reflections on the workshop. At the end of the intervention, coaches were also sent an online evaluation survey, which focused on evaluating the overall intervention and its aims, including social validity questions to establish whether the intervention was appropriate, important, and fit for purpose (Page & Thelwell, 2013). The full surveys with the questions can be found in Appendices B and C. Generally, most coaches filled in the evaluation surveys after each workshop from South West Athletics, and about 50% of the coaches filled in the evaluation surveys from Western Runners. For the final overall evaluation survey, five coaches filled it in from South West Athletics (i.e., the “core group”) and four coaches (out of six) filled it in from Western Runners. It is unknown whether these were the same participants who attended the interviews and/or focus groups due to the anonymity of the surveys.

Interviews

Coaches who attended at least one of the intervention workshops were invited to take part in an individual evaluation interview that took place two to four weeks after the final workshop. Three coaches who only attended one workshop were asked to offer feedback via email if they did not want to take part in the interview. Five coaches (the “core group”) from South West Athletics were interviewed (see Table 14), and three coaches from Western Runners were interviewed (see Table 15). Four interviews were in person, and four online to suit the coaches’ preferences. The interviews lasted from 30 minutes to 99 minutes (*M* = 53 min). The interview guide was semi-structured, with a

set of pre-planned questions but with the flexibility to divert from the structure if needed, to suit the individual's experiences with the intervention. Both clubs' coaches were asked the same questions, apart from one question that was related to the co-production phase of the intervention and not relevant to Western Runners. The full interview guide is in Appendix A, but the questions broadly covered the coaches' overall thoughts on the intervention, its relevance to them, the benefits, and barriers they experienced, and whether they applied the five Pillars in their coaching. The coaches were also asked whether they would recommend the intervention to other coaches and for suggestions to improve the intervention. Follow-up questions were used throughout to prompt for detail and elaboration. At the end, coaches had a chance to add anything they had not yet had a chance to discuss.

Focus Groups

Everyone who had been involved in the intervention workshops was invited to attend a focus group six months after the start of the intervention (3.5 months after the last intervention workshop). Following up is key for evaluating the longer-term impact of an intervention like this (Harwood et al., 2015). Focus groups also enable understanding of the impact through a dialogue and within the context of the running club (Ross, 2022). The aim of the focus group was to understand what impact (if any) the intervention had on the coaches after it finished. The full list of questions can be found in the Appendix FF but the questions broadly covered the coaches' motivations for taking part in the intervention, their reflections three months later, the influence the intervention had on the coaches individually and on the club as a whole, any challenges they may have experienced, any observations on how runners have responded to the changes, and their suggestions for improving the intervention. Elaboration questions were used to encourage coaches to share specific examples where they have used the Pillars, and at the end they were given the chance to share anything that had not yet been covered. Six coaches attended the South West Athletics focus group, which was arranged at the same

sports facility as the intervention workshops, and lasted about 1.5 hours. Four coaches attended the Western Runners focus group, which was arranged at the university, and lasted about 75 minutes.

Data Analysis

All intervention workshops, post-C25K researcher reflections, interviews and focus groups were audio recorded. The intervention workshops were only transcribed for the coach discussions that were deemed relevant for the research (e.g., if the coaches demonstrated understanding of the intervention by offering examples of how they could use the Pillars or gave feedback that could improve a future intervention). Post-C25K reflections were transcribed and edited for concision and clarity. Interviews and focus groups were transcribed verbatim. The anonymous feedback surveys (paper and online versions) were also included in the data.

The data were analysed and acted on during the workshops and afterwards for two purposes: to modify the intervention content for future workshops (e.g., adjusting unclear wording, having a separate workshop for each Pillar), and to later evaluate the intervention's viability and the impact it had on the coaches' skills, knowledge, and confidence for supporting runners with maintaining running after starting.

The data analysis was informed by reflexive Thematic Analysis (rTA: Braun & Clarke, 2019), following the six-step process outlined in Braun et al. (2016). The Methodology chapter described the wider considerations for using rTA. In this study, rTA meant that I familiarised myself with the data (i.e., intervention workshops, observational reflections, feedback surveys, interviews, focus groups) by listening to the recordings, transcribing the relevant extracts, and reading over them, noting down relevant points. In transcribing, I tidied up some of the reflections and intervention workshops (e.g., leaving out unnecessary filler words from the reflections and irrelevant conversations from the workshops), to help the subsequent coding process. I then coded all the data relevant to the four research questions, highlighting interesting quotes that represented the general feedback and

common patterns well, while also capturing unique experiences and individual coach differences. The analysis was predominantly done at a semantic level as I was interested in explicit meanings (Braun et al., 2016). I categorised the codes under the four research questions, and then constructed themes that could answer those research questions.

Results

The Results section presents the feedback gained in the intervention workshops, through anonymous feedback surveys, interviews, focus groups, and through my observations at South West Athletics. The results are broken down by the research questions for the study, with each question having 2-3 themes within them. There were some differences between the two clubs in their feedback. For example, more coaches in Western Runners seemed willing to apply ideas to their coaching right away. The differences have been highlighted in the Results section, but overall, the feedback from both clubs was similar, therefore to reduce repetition, the two clubs' data is presented together. Coaches from South West Athletics are identified with the abbreviation SWA and Western Runners with WR.

What Were the Coaches' Overall Experiences With the Intervention?

Coaches had positive views on the structure and design of the intervention workshops, they valued the opportunity to reflect and discuss with other coaches, but they differed in how relevant and valuable they found the intervention. All three themes include data from both clubs' coaches showing similarity across the clubs, with no notable differences between the experience levels or genders. The data for the first two themes mainly came from the anonymous feedback surveys and individual interviews with the coaches, but the third theme "Valuable and Relevant – But Not for Everyone" includes data and conversation extracts from the intervention workshops and focus groups as well.

Good Learning Design

The feedback on how the intervention workshops were structured was overwhelmingly positive and received high praises from both clubs. The delivery style that gave coaches time to digest information and reflect with each other seemed especially valuable, as can be seen from the below quotes:

I thought the mix of lecture time, video time, thinking and chat time was very well balanced.

The time passed quickly and I felt energised at the end, not weighted down with needing to listen to too much lecturing (SWA, anonymous survey)

Excellent format. Everything broken into small chunks in a structured way. Delivered in a very friendly engaging way (SWA, anonymous survey)

I found the course was delivered at the correct pace and was delivered clearly. The content was very informative, well-constructed and relevant (WR, anonymous survey)

When asked about whether workshops were a suitable way to deliver the intervention, the feedback was also positive with the workshops seen as the “ideal format” (SWA, anonymous survey). The feedback on the resources (e.g., handouts, videos) was also excellent with handouts being described as “concise”, with one coach saying that “one sheet paper of two sides” was “spot on”, and more writing would have possibly been “detrimental”. The coaches felt like the resources offered enough information without being overwhelming:

I think it was really good because sometimes you can get like reams and reams of paper and you get to a point ... certainly for me, if it's too long and it's too, you know, there's too much in there, too much information to try and digest then I lose interest a little bit so then you kind of switch off a bit so you don't really take the whole message in. And the way the kind of handouts were, they were all kind of bullet points, and you know little sections that you

could kind of refer to as and when you know so I thought ... really good way of ... helping keep people engaged (Rick WR, individual interview).

The workshops also offered a non-threatening, psychologically safe environment where the coaches felt they could share information but were not forced into doing so. Some of the coaches especially seemed to value the relaxed atmosphere: “I didn’t feel I had to look at my words before they came out either, I felt comfortable ... I didn’t feel I was being judged by what I said” (Jill SWA, individual interview).

In addition, coaches also appreciated the number of workshops and the duration of the workshops: “It wasn’t too long so you didn’t sort of get to the point where you’re thinking ‘oh god I’ve had enough of it’ [laughter]” (Jody SWA, individual interview). Sticking to the timings was highlighted as a positive feature: “thought they were concise, not rambly, which is good ... I did think ... both the number and the length of the sessions worked really rather well ... and I liked the way you stuck to timing” (Sylvia SWA, individual interview).

A Chance to Reflect

For both clubs, the discussion elements and having a chance to reflect with other coaches from their club appeared highly valued. Coaches often cited the discussions as the most useful part of the workshops, as the below quotes illustrate:

I found the breakout discussions between my fellow club coaches most useful. Bouncing ideas and reflecting on our experiences. Talking through ideas like we’ve never done before (WR, anonymous survey).

I think that for me, the most useful thing about the workshops was that it gave us time to think about the sessions we lead and especially to chat them over with other members of the group. We see each other every week and assume we know each other quite well, and yet it became clear as the weeks went on, that this was not necessarily the case. We meet to

run, and chat time during a session is very short, and these evenings gave us all time to chat things through and hear each other's stories (SWA, anonymous survey).

The reflective discussions were predominantly centred around the Pillars, as prompted by the workshop slides. For example, in the Play workshop, the coaches were reflecting on how to make running more enjoyable:

Have we got time to make the current activities achievable and find time to do something fun or do we try and make the activities themselves more fun than they are if they're not fun enough? (Joe SWA, Play workshop).

Having that space to openly discuss created opportunities to make plans for how to improve their beginner running programmes. At times the conversations went off-topic and were not directly linked to the Pillars, however, the generated conversations still often resulted in making changes for the club that supported beginner runners.

Valuable and Relevant – But Not for Everyone

Given that Western Runners had not been part of the co-production phase (Study 2 in Chapter 5), it was important to establish whether this intervention and its aims were still relevant to them. The feedback suggested the coaches saw value in learning about how to support runners to maintain their running:

Survey question: The aim of the overall training is to equip coaches and leaders with the skills, knowledge, and confidence to support runners in continuing their running after they have started. To what extent are the aims of the training important to you personally (and why)?

Anonymous: I am very keen to motivate my fellow club members to continue their running journey. I get a lot of enjoyment personally watching them grow and develop. I am interested in the why people want to run and how I can keep them engaged (WR, anonymous survey).

Anonymous: It is important as it can be quite disheartening to put a lot of effort into a training course to find that the majority will usually give up at the end of the course (WR, anonymous survey).

The Pillars were generally well-received by coaches in both clubs and the associated principles were understood during the workshops: coaches could see the links to their own running and to the groups they had led. Some practical tips did not always fit in the exact way, however. For example, one of the suggestions on Progress was sharing the distance the runners had covered each week on their social media page, but the runners sometimes split into two separate groups covering different distances:

But I don't put it [the distance on the Facebook page] cos like Joe said, it's two groups and I don't want to make it look like they didn't do as well so we never, I never put it on social media or anything I just say to them at the end "this is what we covered" (Jody SWA, Progress workshop).

Whereas with some other suggestions, the coaches would reflect on ways to make it suitable for them:

We were saying, rather than bombarding people with questions, it's better in a conversation in sort of asking and enquiring, because if you say what are you doing this, what you doing, what did you, you know it's, whereas if you just say "ooh had a busy day today?", and you know, it's surprising what comes out, without actually asking questions sometimes (Jill SWA, Purpose workshop).

In general, the five Pillars were appreciated as interrelated and all of them were viewed as important:

Rick WR: I think that's why the analogy of the Pillars is a really good one, because as soon as you start pulling those Pillars away, it makes the structure less stable you know, more likely to collapse, and

Phil WR: yeah less chance for it to continue (WR, Play workshop).

When asked about whether specific Pillars resonated, the Purpose Pillar was chosen most often and discussed the most by coaches across the workshops, interviews, and focus groups. It seemed to especially resonate with those leading beginner runners: “I think that’s [purpose] pretty fundamental to help people understand why they run ... need to understand the real purpose” (Joe SWA, individual interview).

There seemed to be a view that UK Athletics’ resources focus in general on “super duper” runners (Sylvia SWA) as opposed to “pleasure runners” (Jody SWA). The coaches in both clubs learned new information and saw the intervention as offering something beyond their compulsory leading/coaching qualifications (e.g., LiRF, CiRF). Coaches from both clubs suggested this intervention could and should be added to the England Athletics as part of the training they offer for new leaders and coaches, showing the value they saw in it. The coaches in South West Athletics focus group discussed this:

Bobby SWA: I’m wondering if UKA [UK Athletics] would be interested in actually

Jody SWA: We said that last time, we did say that

Bobby SWA: I think it’s quite key really, you know, I think it would be quite key even if it’s just, you lost half an hour out of some other activity, which I’m sure in the LiRF course we could afford to lose that and then put some like this would be a greater value

Jody SWA: We did say that to you before, didn’t we, about it being a useful resource.

In Western Runners focus group, the coaches similarly discussed:

Rick WR: This sits really well with I think the England Athletics LiRF model doesn’t it

Phil WR: I think so

Rick WR: You know and then Run Together, the Run Together part of that it really sits well with that because the retention’s not brilliant for that, for Run Together I don’t think. Yeah it

really sits in a good place and I reckon they could add it as a module to the LiRF course and the coaching courses, for sure the coaching course you know. I think they'd benefit from it to be fair and they're a lot of their aspect is about getting more coaches and leaders and more people involved with, you know, running at grassroots level and yeah this would sit really well, I think personally (WR, focus group).

There was a mixture of views on the intervention's relevance to experienced coaches and for coaches leading non-beginner runners. South West Athletics specifically saw the intervention as very valuable for newer leaders, but some saw it less relevant for experienced leaders:

Yeah I think it was relevant, I think possibly, it would be better for new newly qualified LiRFs ... I think those of us who have been doing it for quite a long time like I said are already using most of those methods and ideas, so I think for those that are newly qualified, and have only just done the LiRF cos the LiRF itself actually is pretty rubbish [laughing], so I think it would be a good programme for new LiRFs to follow as almost as secondary qualification to their LiRF (Jody SWA, individual interview).

The content was seen as mainly applicable to those leading C25K sessions, but less relevant for those coaching more established groups:

Researcher: How relevant was the training for your role at the club?

Sylvia SWA: It wasn't particularly ... just because different sessions, different types of sessions, different runners at a different place in their running continuum, different things to talk about, but really I feel runners turn up and they want to run so actually they don't want to listen to me ... so I think really good for couch to 5k [the intervention], less good beyond that (individual interview).

On the other hand, Western Runners did not have an active beginner runners' programme at the time of the intervention, but they found the content "absolutely invaluable" (Rick WR) and relevant

even for runners who had been running for a while. They were often discussing ways to link the content to their more established runners. In the Progress workshop, when talking about technical running sessions (e.g., hill reps) that their members do not seem to like to come to, two coaches discovered it might be about their confidence:

Rick WR: I wonder if that's their own lack of self-belief though

Phil WR: or maybe lack of understanding

Rick WR: lack of confidence

Phil WR: yeah maybe

Rick WR: I never really considered that until we started doing these sessions, that's almost like a lightbulb moment (WR, Progress workshop).

Coaches in Western Runners were actively looking to find connections from the Pillars to their runners. In the Planning workshop, the content linked Planning to the context of beginner runners, but the coaches saw how they could support the more established runners with planning their runs too. While some coaches in South West Athletics also verbalised that they saw the content as relevant for more established groups, the intervention was predominantly viewed as helpful for less experienced coaches who were leading beginner runners.

Given the overall number of coaches in South West Athletics compared to the low attendance to the intervention, a separate one question survey was sent to the coaches via their Facebook page (where all the advertisements for the workshops were also sent), after the introductory workshop to understand the reasons for the low attendance to the initial workshop. The question was: If you're happy to, could you share why you didn't take part in the workshop on Monday? Three people responded with the reasons for not attending being having a cold, family commitments, and a busy job. While these can be seen as valid reasons, it might also suggest that the intervention was not a priority.

What Factors Influence Engagement With and Application of the Intervention?

The themes in this research question highlighted how the club environment and leadership can influence engagement with the intervention and how it is applied, but also how there are individual differences between how comfortable people are in applying the suggested ideas. Both themes include data from both clubs' coaches with the first theme highlighting some of the differences between the club structures. There were no notable differences between the experience levels or genders. The data for the themes came mainly from the intervention workshops and focus groups during the conversations between the coaches.

“Club Politics” Matter

There was a difference between the size of the two running clubs, and the way they operated. A fraction of the coaches from South West Athletics took part in the intervention workshops (with the main head coach absent for all but one). This also seemed to impact how the intervention was implemented with the runners, with Sylvia from SWA saying that one of the practical suggestions would not work due to the other coaches' lack of involvement: “I mean I thought it was such a good idea in your video thing you just mentioned introduce leaders for the groups that they might end up running with, no chance, it's just not gonna happen”. South West Athletics seemed less cohesive as a club with a small number of them interested in this intervention. It was apparent that the coaches in South West Athletics felt there were too few of them to really “make a real impact”:

Jody SWA: There's just sort of half a dozen of us doing it, it's not enough to make a big difference, it needs to be, like I said earlier it needs to be

Sylvia SWA: [talking over each other] Especially ... as we were all within the one group, I mean that's in a way it was a bit unfortunate, I mean suppose Tom [head coach] had come for instance, from you know, then that would've

Jody SWA: That would be very useful

Tara SWA: You spread it out

Sylvia SWA: Yes, it might have had an impact on South West Athletics mightn't it, do you know what I mean, the fact that we're within our own little bubble, as it were, in the club, makes it unfortunate really

Jody SWA: Cos we're all the same group (SWA, focus group).

They felt the club lacked a proper leader who would have brought people together. Additionally, the structure of the C25K programme had been modified during the study, which was seemingly decided at the club chair level and not something the coaches approved of. It meant many of the coaches (apart from Jill) lacked opportunities to lead the beginner runners and therefore, also lacked opportunity to use the intervention or were not “seriously applying everything” (Joe SWA). The “club politics”, like Joe called it, seemed to get in the way of the intervention and at times took up discussion time in the workshops.

In contrast, in Western Runners, the majority of the coaches, including the co-founders, were involved and engaged with the intervention workshops. The club was smaller, and it seemed more cohesive and operating smoothly. The intervention workshops generated a desire to start a new beginners' programme, as the coaches were all keen to implement what they had learnt, and the club had started a new beginners' programme by the follow-up focus group. Getting the programme going and modifying it was seemingly easy to action as the club was smaller, and the main “decision-makers” of the club were involved in the intervention.

Individuals Could Feel “Comfortable” or “Weird” Applying the Suggestions

There was a difference in how much people were willing to take from the intervention and implement in their coaching. For example, the usefulness of the value cards was viewed differently between coaches. Jill from SWA and Rick from WR seemed to immediately see the value in using the

cards and had a go at using them, whereas Joe and Bobby from SWA were more sceptical. Joe verbalised in his interview that it would be “impractical” and “possibly purposeless” to get runners involved in such an “intellectual exercise”. After hearing about the successful use of the cards by other coaches in the focus group discussion, Joe reflected on perhaps needing to be more open to new ideas: “I think that particular point taught me to have a bit more of an open mind because I was to be honest fairly cynical about the cards from the outset” (Joe SWA). It seemed seeing others in the club using something could help them see the value better than it coming from just the intervention. South West Athletics coaches who were in the workshops also speculated that other coaches in their club may not have attended the intervention because they did not feel the need to learn more, or were nervous of their knowledge being exposed, suggesting openness to change is required.

Some coaches were more willing to try the suggestions, whereas others continued to feel unsure about changing their usual conversations with runners and said they “might feel a bit weird” asking about why someone is running (Nancy WR). Jill, the main leader of the C25K programme at SWA, was particularly keen on trying suggestions from the intervention, even emailing me (i.e., the researcher) in-between and informing me about activities she was implementing. She said she “felt comfortable doing things that you [the researcher] suggested”, showing her openness to trying new ideas. The coaches in South West Athletics who used the value cards did not use them as intended by the theory (from my observation), but rather used the values as additional reasons for running. Nonetheless, the activity generated conversations between the runners and potentially helped the runners build connections with each other. In the coaches’ views however, they stood around “doing the cards for too long” as the runners were “talking too much”. It appears that even though the coaches tried the new activity, and could see the benefit of it, they were still mainly concerned about the running time during the session, and not valuing the talking time as much.

How (if at All) Did the Intervention Impact on Their Coaching?

The themes in this research question highlighted the changes that the intervention produced in some of the individual coaches and at the club level for both clubs. Both themes include data from both clubs' coaches. Individual differences were observed across the coaches, but there were no notable differences between the experience levels or genders. The data for the two themes came from the individual interviews, focus groups and observations.

Increased Awareness, A Confidence Boost, and Changes in Communication

The intervention impacted the coaches differently. As mentioned above, Jill from SWA was particularly open to trying new ideas and was able to articulate what she had done differently. In the running sessions, I often observed her trying suggestions from the intervention, such as advising a runner they could write down when they run, following the Planning workshop, or encouraging runners to run with their family following the People workshop. At first, she was “pre-planning things” to include the Pillars, but then she started to “learn how to fit things in when appropriate”:

I think I'm naturally combining a lot of it in now, and not having to work so hard to do it, because once you start doing it, then it makes sense. Because I can understand the benefits, so I don't have to stop and think, hmm which one I need to include, you know it seems to come, and somebody will say something, and you want to help them with whatever, it might be a conversation you've overheard or something and you think oh right, how can I incorporate that ... and it makes it more interesting for me anyway, doing something a bit different (Jill SWA, individual interview).

Other coaches in South West Athletics struggled to find opportunities to implement the intervention or were not able to clearly articulate what (if anything) they had implemented. When asked what had been useful from the Pillars, Bobby from SWA said “the encouragement ... it's just encouraging to make sure he [a beginner runner] is still there”, showing the vagueness of the descriptions.

Another observation was that South West Athletics seemed to see the intervention as most relevant for the main leader, or something that can only be used if you are “leading” the session, and not necessarily appreciating the other people’s role in implementing suggestions even if they are there to “just” run at the back of the group. I sometimes observed the other coaches appearing distant from the main leader at the beginning of the C25K sessions when doing a warm-up and taking more of a passive role in the sessions. The coaches’ comments also seemed to support this. As an example, Joe from SWA thought “some good ideas came out of the planning one, maybe more for Jill [main leader] to implement”, and Jody from SWA did not think they could easily add ideas from the Pillars when “the programme is set for us” when leading the other more established running groups. Jody’s comment suggested the coaches did not see the Pillars as being suitable to embed into their conversations with runners, unless they were in charge of the session.

Despite the intervention resulting in few actual changes in behaviours for some coaches, the intervention appeared to increase their knowledge, prompt thinking, and increase their awareness. It made them a “little bit more aware of the underlying needs of the individuals” (Joe SWA) and “more aware of other people’s [beginner runners] perspective” (Bobby SWA). It made them think why they are doing certain things even if not actually change the way things are done:

Because I feel we were doing quite a lot of it before, I think yes it, it has reiterated it, made you sort of think what you’re doing more, I think it’s made you sort of think about what you’re doing and why you’re doing it, but I don’t think it’s really changed the way I do things (Jody SWA, individual interview).

This was also evident in my observations at the South West Athletics:

Jody did a lot of things that I could relate to the Pillars today ... I said to Jody at the end that she incorporated a lot of suggestions from the Pillars, and I listed the things she did but she just said that she had always done them in that way (researcher reflection after C25K session).

The intervention therefore seemed to impact some coaches' confidence by reassuring them that they had been "doing the right thing" (Jody SWA), and for Jill it "boosted her confidence", and made her realise that "I do know what I'm doing to a certain extent". The intervention also gave some coaches confidence to ask runners questions when they had previously worried about coming across intrusive:

And I almost felt as though at times if I started asking people questions I was being nosey and prying, so it's kind of taught me that maybe that it is actually a good thing to just ask those questions that are kind of relative, and think about you know not prying but actually finding a way to kind of work with the person to help them maintain their running journey (Rick WR, individual interview).

Some coaches from Western Runners seemed to action suggestions from the workshops right away, using the principles from the Pillars to modify their conversations with runners. For example, Rick tried to help an inconsistent runner to identify her barriers and support her in planning how she can get her runs in. Further, Phil explained how using the Purpose Pillar helped him feel more connected to the runners:

Yeah so just even just with people that I've been running with for probably a few years, just asking them what makes them turn up every week, what their focus is, their why ... some of the information you get is like "oh wasn't expecting that" and I don't know, you just feel like a little bit closer to them, you sort of, you understand what sort of drives them to sort of come along to sessions and why they sort of turn up week in week out, so it's just forming a closer bond with the rest of the people that's in your group (Phil WR, focus group).

Re-structuring Beginner Running Programmes

Western Runners, who started a new beginners' running programme after the workshops had finished, had implemented something from each Pillar in some shape or form, with good feedback from the runners. For example, when using the value cards with the runners, one of their runners

commented it was like a “therapy session”, indicating that the cards generated some deep conversations. Rick also said they discussed barriers with runners from the Planning Pillar: “the conversation opened up a little bit and we talked about considering what your obstacles were gonna be and think about how you’re gonna get around those obstacles”. Another change in their beginner programme was integrating the beginner runners more with the existing club members, which came off the back of reflections in the workshops. They had previously kept the beginner groups “pretty much separate” (Rick WR), but to “keep them involved” and to “keep it more inclusive” (John WR) they now arranged the runs at the same time as the other club runs to support integration with the different members and show the beginner runners what the club runs are like if they join afterwards. In addition, the runners were given a chance to have a say in how much they want to increase the time each week, which in John’s words made them “more involved ... they’re more confident and they probably take more ownership of getting to the end of the course as well”. Western Runners were generally happy to try suggestions from the Pillars and their runners also seemed receptive to what they tried.

As mentioned earlier, the intervention workshops often generated discussions between the coaches that went beyond the topics of the five Pillars, however still focusing on how the clubs could improve their services and support runners better. For example, John from WR discussed how the intervention workshops made them change the focus of the beginner programme to be about “time rather than distance”. It seemed this was prompted by discussions around open goals and runners sometimes treating the 5 km as a natural endpoint in their running journey. This change was not something recommended in the content, but something the coaches took away from the sessions, suggesting that they considered why this change could be beneficial. In addition, coaches at Western Runners sent a questionnaire to existing members to find out their feedback on the club with the aim of “applying some of these processes and the Pillars to those results” which was sparked by “the discussions we had here at the course” (Sarina WR, individual interview).

South West Athletics did not seem to change as much, for the reasons stated above. Nevertheless, they ended up creating an extension for their C25K programme to support those runners in the transition phase with a “nice gradual introduction” (Jill) to the club runs. In Jill’s words, this extension group idea “came out of the workshops when we were thinking how we let them [the beginner runners] down because we got them through the couch to 5k, and then last year it went horribly wrong”. Although these ideas were not something directly suggested in the intervention resources, the questions that were used in the discussions generated fruitful conversations amongst the coaches, helping them identify gaps in their running programmes, and subsequently had an indirect influence on both clubs. It seems that by creating a safe environment for the coaches to discuss their concerns and solutions, the intervention could result in unexpected changes beyond the practical suggestions that were offered.

What Could be Improved in the Intervention?

The themes in this research question highlighted how the intervention could be changed through adjusting some of the content and structure of the workshops and adding more practical elements to it. All three themes include data from both clubs’ coaches, with no notable differences between the experience levels or genders. The data for the three themes came from the workshops, individual interviews, and focus groups.

Adjustments to the Workshops: Wording, Structure, and Mixed Groups

The coaches’ feedback and informal comments during the intervention workshops resulted in small modifications along the way. For example, we altered some wording in the handouts and slides, kept the workshops to one Pillar as the workshop with South West Athletics where we combined two Pillars seemed “rushed”, and also gave them more time to feed back after the last workshop as per the coaches’ request. All these modifications were done following the feedback with South West Athletics, as their intervention workshops started before Western Runners’.

Coaches in South West Athletics often discussed how the intervention would have been better if more coaches from their club had taken part, and one coach from Western Runners suggested that combining the intervention with other running clubs would have been great for sharing ideas and generating even wider discussions. Two coaches from both clubs mentioned that they would have liked to sit with different people each week to enable discussion with people they might not usually talk to:

I think we should've mixed tables each week, yeah, I think that will be a good idea, maybe a bit healthier to do that and get a bit of fresh discussion cos what tended to happen as the weeks went on is we had one big discussion anyway, so maybe we should've sat further apart and mix the groups up (Sarina WR, individual interview).

It was also not necessarily always clear that the intervention was intended to cover the mental side of running or what perhaps falls under psychology. For example, two coaches suggested that the addition of some technical or physiological running advice, like "heart rate guidelines and things like that" (Bobby SWA), or "energy systems, the whole shebang ... the mechanics of running" (Sylvia SWA), could have improved the intervention.

Engage With the Pillars Beyond Their Names

The five Pillars were generated with the aim of being catchy and communicating complex information succinctly. While this seemed to work based on the feedback, at times it seemed the names of the Pillars were taken quite literally and the Pillars were engaged with more at the surface-level, as opposed to fully grasping all the key principles and theory behind the Pillars. The Planning Pillar seemed to be a prime example of this. When coaches discussed the use of the Pillars they linked Planning to their own planning of runs: "Planning, I think we have sort of some fairly set plans, you're a little bit more limited on because of the ability and because of the speed involved" (Sarina WR, individual interview). A similar interpretation can be seen by Bobby from SWA in his interview: Planning is really good ... she'll [the leader of the session] lay out the routes that we go on". It seems that some coaches appeared to treat planning as the word planning relates to their running sessions

(i.e., plan for the runs), instead of engaging with the key messages behind planning (i.e., helping runners be specific with their running plans and helping runners plan for barriers). Progress was another Pillar that tended to generate conversation around just showing runners progress, as opposed to prompting engagement with the wider meaning behind it (e.g., increasing runners' confidence through sharing success stories of others). Perhaps the key messages within the Pillars needed emphasising more in addition to the names of the Pillars.

Make it Even More Practical

I took part in the beginner running sessions with South West Athletics, but not with Western Runners as they did not have a beginner programme at the time. Rick, a coach from Western Runners, saw value in me as the trainer being involved in a beginner's programme to "check" how the Pillars are being used (e.g., are they used in the way intended), and offer coaches some feedback. He verbalised this suggestion in his interview:

Maybe some practical applications with it, say if you were gonna go into a running club and then give them support and keep an eye on how beginners group is going ... so you have a vision of how that should be put in place, but then the people that are taking that information and delivering it to athletes how they're utilising it and are they utilising it in the way that you would expect them to utilise it, or is there some kind of different interpretation and maybe they get it fully and implement it in a really good way or are they not quite getting it and not implementing it so well (Rick WR).

Similarly, Sylvia from South West Athletics suggested that doing something outside, like pretending to do one of the activities they do with runners, and people doing it "wrong" on purpose might help others evaluate on how to do it better. Both Sylvia and Rick acknowledged that time and resources might be an issue for making the intervention more practical, therefore Rick also suggested that perhaps the addition of some videos where we show how the Pillars are actually used in a session could help: "maybe some videos with group leaders saying this group leader did this way and this

group leader did it this way which do you feel is the better way you know ... and then kind of really getting into the nitty gritty of how the psychology works” (WR, focus group). It appears that while the workshops and resources were designed to offer practical suggestions, “seeing” how the Pillars can be used in the club context might have helped to strengthen the practical aspect more and supported the use of the Pillars in both running clubs.

Discussion

In this study, the “Keep on Running – The 5 Pillars of Support” intervention was delivered and evaluated to coaches from two different running clubs. Previous research showed that coaches can be trained in how to use psychology in their coaching (e.g., Harwood et al., 2015), but to my knowledge, this was the first time a psychological intervention was aimed at running club coaches specifically. The aim was to equip coaches with the skills, knowledge, and confidence to support beginner runners with maintaining running after starting, through educating the coaches on the use of psychological principles in their coaching. The intervention was delivered over multiple interactive in-person workshops and evaluated through multiple integrated qualitative methods. The study had four research questions: 1. What are the coaches’ overall experiences with the intervention workshops? 2. What factors influence engagement with and application of the intervention? 3. How (if at all) did the intervention impact on their coaching? 4. What could be improved in the intervention?

Overall, the intervention met its aims, with some coaches more clearly than others. It seems that the coaches were equipped with the knowledge to support runners with maintaining running after they have started, but to a different extent depending on the coaches’ previous knowledge. Some of the coaches were also equipped with skills and confidence but based on the results and based on not receiving feedback from every coach, it is likely that not every coach felt that their skills or confidence were impacted. The results showed that the intervention was generally well-received by the coaches; the workshop format worked well, the delivery was good, and the resources were valued

by the coaches. While the workshops offered coaches some new and additional knowledge about psychology, most coaches valued how the workshops enabled them to reflect on their own practices and discuss ideas with each other; this was something they did not otherwise have a chance to do. Cope et al. (2021) and Nelson et al. (2013) recommended including reflective conversations and collaboration with other coaches in coach-education interventions, and this study would suggest similarly that these activities are key. The questions used in the workshops seemed to prompt reflection well, which was seen with coaches in the interviews saying the intervention made them consider not just what they do but also *why* they do it. Reflective practice has even been used as an intervention to support coach education (Nash et al., 2022), with this study supporting the development of these types of reflective practice interventions further. Elsewhere, coaches have highlighted that they preferred learning about coaching through methods that facilitated peer interaction, and enabled sharing best practice and learning from others (Stoszkowski & Collins, 2016). In Cassidy et al.'s (2006) study, coaches also mentioned that talking with other coaches was their highlight from a coach-education programme. The coaches in the current study valued interactive learning activities and the practitioner's interpersonal skills when delivering the content, which have been highlighted as key factors to consider in formal courses for coaches (Wang et al., 2023).

The workshops included discussions that encouraged coaches to draw links between the content and their own practices (Paquette & Trudel, 2018), which seemed to help many coaches to see the relevance of the intervention. The coaches especially saw value in the intervention for those who were new to coaching and thought that elements of this intervention should be added to the formal qualifications coaches and leaders need to obtain from England Athletics. The coaches openly voiced their opinions of the formal coaching qualifications they were required to undertake, often seeming unimpressed with the training they had received, citing that it did not equip them with the skills they needed for coaching. Wang et al. (2023) systematically reviewed coaches' experiences of coach education that were developed by National Governing Bodies and similarly found that the course content was criticised, with coaches complaining that the education had too much of a

technical focus. Some studies cited in the review talked about coaches' desire to learn *how* to coach, as opposed to just *what* to coach (Wang et al., 2023), which seemed similar to how the coaches in the current study felt.

There was clear evidence of what Moon (2001) called deep learning for some of the coaches; the actual practice of the coaches changed after the intervention, which was apparent in the researcher observations, and in the interviews and focus groups. For some coaches, though, the changes were less obvious. Some of the coaches stated that they did not change anything after the intervention, as the intervention just served as a reinforcer for their existing behaviours. For coaches like these, the 5 Pillars intervention may have been helpful through confidence building if they had already learned to use some of the principles through experience. Teaching someone about mental skills they were already doing but explaining them in more detail (e.g., why it is important, how it works), can be helpful (Dohme et al., 2020). Therefore, even if someone is taught something they already know, it is not necessarily useless, but can serve as a reminder, to validate their coaching, or to give them a rationale for why doing something is important (Leduc et al., 2012). It seemed that even the coaches who did not change anything from the intervention valued the validation of their knowledge, and perhaps the intervention helped them make their implicit knowledge more explicit (Moon, 2001). Other coaches seemed to learn new information but were unable to use this knowledge in their coaching, citing logistical issues (e.g., not being part of the beginner groups) as the reasons or giving vague descriptions of how they had used the intervention. From observations, it seemed that some of these coaches were not applying the intervention even when they had the opportunities, although they said they were planning to when they got a chance. This lack of application could indicate that they had not understood the concepts well enough to apply to their situation or lacked confidence to do so. Jarvis (2006) suggested that without the confidence to execute behaviours, people might learn but without changing their behaviour. Similar to Leduc et al. (2012), the coaches in the study might have "cognitively transformed" (p. 146), but not felt comfortable applying the intervention, lacking a "practical transformation" aspect. Overall, and similar to other findings (e.g.,

(Farhat et al., 2022; Stodter & Cushion, 2019), it seemed that although most of the coaches' knowledge on psychology in beginner runners increased, some coaches kept coaching the way they always had. As suggested, this may have been due to the coaches' lack of confidence to implement new ideas, or due to insufficient practical elements in the intervention.

The aim of the intervention was to be practical, with the handouts and the videos focusing on the practical tips the coaches could use from the Pillars in their running sessions. Based on the results, it appeared that the intervention could have been made even more practical, by including some sessions at the running club or through videos that showed coaching in action. Coaches asking for learning that is more practical aligns with previous literature (e.g., Wang et al., 2023). Coaches in Stoszkowski and Collins' (2016) study specified methods like hands-on practice and something they can see "in action" as some of their preferred ways to acquire knowledge. Similarly, Wang et al. (2023) found in their review that formal educational courses did not enable enough time for engaging with practical activities necessary for transferring theoretical knowledge into practical coaching skills. Psychological skill development takes time (e.g., LaRose, 1988). Other studies have also found that theoretical aspects might not always translate into practice due to insufficient time or skills (Pons-Vigués et al., 2019), and Harwood (2008) discussed how coaches need time to be educated on the use of mental skills until they are comfortable and confident using them in practice. Perhaps some of the coaches in the current study needed more practical activities, and more time to gain confidence and implement the techniques and principles they learnt.

Another consideration relates to the behaviour change of coaches. While the intervention's main aim was to educate coaches on how to support runners so that the runners could maintain their new behaviours, it was also a behaviour change intervention for coaches because the aim was to get the coaches to implement changes to their coaching. How this was considered in the intervention was discussed in Study 2 (Chapter 5). When some of the coaches did not change their behaviours following the intervention, it could have been due to an unsuccessful behaviour change intervention. The

intervention may not have influenced the coaches' self-efficacy or autonomous motivation enough to change their behaviours, or perhaps some of the external factors, like the lack of social support from the club, influenced their behaviour change. One of the coaches alluded to this in their interview and linked the desire for CPD to the Purpose Pillar, stating that some coaches may not have a purpose for wanting to learn more, hence the disengagement. In future, the intervention may need to be looked at through two levels: (1) support the coaches' motivation and behaviour change and (2) educate them on how to use these strategies with runners. More focus may need to be put on the behaviour change support for coaches to maximise the subsequent influence on the runners. At times, however, it may also be necessary to accept that interventions may only be useful for some of the target audience, because of differences in their openness to psychology (Keegan, 2016).

The context in which learning happens also matters (Billett, 2004). The key individuals, such as the co-founders and committee members, from Western Runners attended the intervention and engaged with the intervention, which may have facilitated the buy-in from the other coaches and increased their attendance and willingness to try new ideas (De Jong & Den Hartog, 2007; Zakrajsek et al., 2018). The attendance from South West Athletics was low with some coaches appearing resistant to the intervention. The head coach from South West Athletics showed initial interest in developing the intervention (Study 2 Chapter 5), but only attended one intervention workshop. South West Athletics was a bigger club with more coaches, and it appeared to have challenges relating to a lack of effective leadership and a lack of cohesion amongst the coaches. In the words of those coaches who attended, they lacked a person who would bring them all together. Those who attended were from the same part of the club (i.e., coaching the "lower" end of the runners), felt they could not make a difference on their own and may have therefore been less willing to change their practice. Zakrajsek et al. (2018) found that athletic trainers were more likely to interact with sport psychology if they had worked with more senior trainers who were open to sport psychology and encouraged the use of sport psychology. In addition, coaches in Nash et al.'s (2017) study did not see the importance of CPD when it was not a priority in the organisation they worked for. Perhaps a more effective and encouraging

leader, and more engagement with the intervention by the main leaders of the club, would have increased the attendance and enabled the coaches in South West Athletics to make the most of the intervention (e.g., be more motivated and willing to try new ideas) (Afsar & Umrani, 2020). It appears that leadership behaviours and structure of the running club play a role in how well the intervention is perceived and applied.

Coaches seemed to struggle to grasp some of the psychological principles and activities that were on the intervention resources. For example, a coach in South West Athletics used the value cards but did not engage with the cards in the way intended; the suggestion was to encourage runners to reflect on their existing values, and then select one of their existing values from the pack trying to see how running might fit within their existing value. Instead, the coach gave runners a card from the pack and asked them to consider how that card can be a reason for running and how that relates to them. Similarly, the Pillars were at times only engaged with on surface level (e.g., planning seen as planning runs), as opposed to engaging with the underlying principles (e.g., the specificity principle). The intention was to make the resources as simple as possible while still including enough content to cover the theory and explanation. The fact that some of the principles from the theories seemed to be misunderstood might suggest that the coaches were not given enough time to learn such complex content or perhaps some theories and theoretical principles cannot be taught in such a short amount of time, in short amount of space (i.e., on a 2-page handout), or without coaches having a foundational understanding of psychology. It seems that more in-depth understanding is required to enable appropriate and flexible use of the strategies. While the coaches were the experts in coaching, the researchers (or practitioner-researchers) had more expertise of behaviour change theories and experience with applying the psychological principles; implicit knowledge that was potentially underestimated when training the coaches (Marchant & Robinson, 1999).

Small adjustments were made to the content based on the feedback received in the workshops. Some additional resources were created for the booklet following the interviews to

improve the intervention (e.g., to help coaches see how every coach can use the Pillars, even if they are not leading the session). The main suggestion for improving the intervention workshops was to add a practical coaching element to the intervention, which would have potentially helped to equip coaches with the skills and confidence to support beginner runners even more. Although the practical tips in the resources were designed to be practical and using real-life examples that were drawn from observations with the runners, it transpired that the coaches would have preferred to see *how* the principles are used in a running context, as opposed to just read about it. It might be valuable to add video content to the intervention for future and to allow coaches more time to take it all in and practice. Similarly, more time was potentially needed to focus on the key messages of the Pillars, to reinforce the theoretical principles within the Pillars, and to prevent coaches from engaging with the Pillars on surface level. These additions would have to be carefully balanced with the time that it adds to the length of the intervention, as coaches often mentioned that the duration of the intervention was suitable and they did not want it to be longer. Wang et al. (2023) mentioned this challenge in their review regarding the design of coach education courses: Coaches might want more detailed content, yet the courses cannot be too long to ensure they remain accessible for coaches who tend to be volunteers.

The methodology used in the evaluation was a key strength of the study; using multiple integrated qualitative evaluation methods enabled a comprehensive overview of the feedback and how the intervention was experienced (Chamberlain et al., 2011). Using the observations as an evaluation method with one of the clubs, to see how the coaches were (or were not) using the intervention in practice, was useful but it was also challenging. The coaches were not systematically observed in each running session (e.g., coding their behaviours; Morgan et al., 2014), and no pre-and post-intervention comparisons were conducted, as these did not align with the study aims or the philosophical paradigm (see Methodology chapter). It was also unfeasible to observe everyone as the coaches (apart from the main leader) were different each week and the runners were split into two groups. This meant that it was challenging to determine whether some of the coaches were using the

principles or changing their coaching following the intervention, or if they were coaching in the same way as they had done previously. Some of the suggestions in the intervention resources were activities that the coaches may have done anyway using common-sense approach (Conroy & Coatsworth, 2006), such as prioritising learning and using people's names. As mentioned, the observations were not the main or only method of evaluation, and extensive evaluation data were gathered from the informal feedback, surveys, interviews, and focus groups as well, ensuring that there were enough data for a comprehensive evaluation.

Co-producing the intervention (Study 2, Chapter 5) added value to the intervention as it helped to reflect the context and maximise the relevance of the intervention. Building on this, recruiting another running club that was not part of the co-production phase was a strength of this study; it enabled evaluating whether the intervention that was designed for a particular context could be used at another club. The intervention had a substantial influence on some of the coach behaviours and the beginner running programme at Western Runners, who had no prior involvement in the study, with the coaches able to link the content into their own club. This suggests that the intervention had transferability (i.e., a form of generalisability in qualitative research; Smith, 2018), as it was equally, if not more, valued by the coaches in the club who were not part of the co-production.

The methodology also had a limitation that needs consideration. Participation in the intervention workshops, and the evaluation part (i.e., attending interviews, focus groups, filling in surveys) was voluntary, resulting in potential self-selection bias (Braver & Bay, 1992). Those who attended the intervention may have been the ones most interested in learning about psychology compared to the rest of the coaches. A survey and emails sent to those who did not attend the intervention or only attended a few sessions revealed that family commitments, work commitments, or illness prevented them from attending. While these are legitimate reasons, it could also indicate the intervention was not a priority for them. In Western Runners, three of the six coaches who took part in the intervention volunteered for the interviews, and four out of the six filled in the anonymous

survey at the end of the intervention. The ones who filled the survey could have been different from those who attended the interview, but it could also mean that two coaches did not offer any feedback on the intervention. It is possible that those who were willing to participate in the interviews may have gotten more out of the intervention than those who did not, and in turn offered slightly biased feedback. Everyone who took part in the workshops offered positive verbal input during the intervention, however. It is also possible that those who chose not to respond or attend the interviews equally benefitted from the intervention but did not want to or feel they could articulate their feedback appropriately.

In summary, this study was a key step towards the creation of more practical interventions that are easily translated into the real-world context. The co-produced intervention addressed a gap in existing interventions, demonstrating how running club coaches can be educated on the principles of psychology for them to support beginner runners with behaviour change maintenance. The 5 Pillars intervention could be especially valued by newer coaches who may be less experienced with using psychological principles to support beginner runners. To my knowledge, this was a novel undertaking, and the first intervention aimed at running club coaches. While some changes can enhance the intervention further, it has already shown promising results and transferability to another club.

Reflections on the Research Process

My first reflection related to the observations that I did with South West Athletics but not with Western Runners. One of the coaches in Western Runners suggested that me taking part in their running sessions could be a valuable addition to the intervention and allow me to see how the Pillars are being implemented in practice. Although I did that with South West Athletics, I did not feel it worked as well as planned. It was agreed with the South West Athletics coaches that throughout the intervention I would come and give them feedback after the C25K sessions. One of the coaches suggested a formal get-together at the end of the session to feedback to them. In reality, the feedback

only really happened with the main leader of the C25K. I stayed back after each session to try and input where I could, especially if I was asked, but no formal feedback session took place with the coaches like I had envisioned. I also noticed myself being uncomfortable initiating that conversation or giving the coaches feedback on “missed opportunities” if they did not ask me. I wondered if I should have asked the coaches to share their action plans from the intervention workshops and then directly tried to observe and ask about their plan of action when I saw them in the running club. This may have helped to increase their accountability, too. But personally, this would have felt uncomfortable to do; I wanted to keep the sessions autonomy-supportive and pressure-free, as opposed to forcing the coaches to share or make them feel like I am checking on them afterwards. Perhaps that is the reason I also only offered feedback when I felt the coaches wanted it or were open to it.

My other reflection relates to the coaches’ way of applying the intervention content. I mainly observed the main leader at South West Athletics, and I noticed that when she used the Pillars, for example when she wanted to tell someone how they could plan their runs, she often related the content to herself (i.e., saying “I find it useful to write my runs in the diary”), as opposed to just suggesting that the runner could write their runs down because runs are more likely to happen if they do so. She told me that she finds it easier to relate the topics to herself, as she does not want to just tell someone what to do, or lecture them, and she did not want to give them too much information in one session. This seemed to be the case even if she did not actually engage in the behaviours herself, she just wanted to make it seem like she did. This made me reflect on whether there is a difference between how I, as a sport and exercise psychologist, would talk to a runner compared to the coaches. If the coaches think the practical tips come across as lecturing runners on what to do, perhaps it is uncomfortable to use the suggestions. This also links back the point in the results about how coaches tended to engage with the Pillars at a more surface level. Sport and exercise psychologists who have a more in-depth understanding of the behaviour change theories might feel more comfortable passing on the advice to runners as they are able to use autonomy-supportive language and combine the knowledge from across the theories and across the Pillars. For example, they can give a rationale when

they explain why planning for barriers is important, and they can help facilitate reflective conversations, as opposed to telling the runners what to do. Perhaps we underestimated the role of implicit knowledge that practitioners have or did not link the communication principles from the Purpose Pillar (e.g., how to be more autonomy-supportive) clearly to the other Pillars. The coaches might not have had enough time to practice interpersonal skills, and how to apply the suggestions, which led to the coaches feeling like they are just relaying information from the handouts to the runners. Additionally, if you are working with someone as an exercise psychologist, it is likely that the person has sought your help and therefore you may feel that you have permission to give advice. A coach at a running club might feel that it is controlling and not their place to tell someone that they should write down their runs and plan to run on their holiday for example, even though you could also argue that the runners have joined with the hope of getting support.

In summary, sport and exercise psychologists may use the psychological principles differently, and perhaps at times more effectively, than coaches who have just learnt the basic principles. There are clear benefits to coaches being the ones delivering the content, however, and they may do a better job at relating it to their runners, particularly at the clubs I was involved with where the coaches were relatable to the runners.

Chapter Summary

This chapter included a description of the delivery and evaluation of a psychological coach-education intervention: “Keep on Running – The 5 Pillars of Support”. The interactive intervention was delivered to coaches from two different running clubs, before it was evaluated through multiple qualitative methods. The results demonstrated that the coaches valued the intervention content and structure of the workshops. The intervention impacted individual coaches differently; some successfully applied the Pillars and the suggestions with the runners they worked with, while for others it was more confidence-building and reinforcement of what they had already been doing well. The

intervention resulted in some clear changes for both clubs' beginner running programmes. For example, South West Athletics extended their beginners' programme to aid a smoother transition, and Western Runners integrated the beginner runners with the rest of the runners earlier. The results were linked to wider coach-education literature, showing that similar to other studies, coaches' knowledge can be increased through coach education, but their practice behaviours may not always change (e.g., Leduc et al., 2012; Stodter & Cushion, 2019). Some considerations for the intervention were highlighted: the importance of the context and buy-in from key figures in a running club, and some potential adjustments to the learning design like increasing the practical elements of the education. The discussion points from the current study and future implications from the previous studies in the PhD will be elaborated on and contextualised in the following PhD Synthesis chapter.

Chapter 7: PHD SYNTHESIS

Chapter Introduction

This chapter will provide a summary of the key results, outline the key contributions of the PhD, and discuss the main implications from the PhD studies. First, a summary of the results of each study will be presented, followed by a section on how this PhD contributed to knowledge. Strengths and limitations of the studies will then be considered, and following that, the wider implications and future recommendations will be offered before ending with the summary and conclusions.

Summary of PhD Results

Being physically active through exercise, such as through running, offers many physical and mental health benefits, yet people struggle to maintain running after starting. This PhD aimed to add to the literature on running and behaviour change maintenance and address gaps in the literature on physical activity interventions, such as the lack of context-specific interventions designed for real-world settings. The overall aim of this PhD was to develop a practical, evidence-based intervention that supports beginner runners with maintaining running after starting. The individual aims for each study were:

1. To interpret how beginner runners' experiences of their motivation, barriers, and support change through time, in order to understand how some maintain running and why others stop (Study 1).
2. To understand what kind of intervention that supports beginner runners with maintenance of running could be suitable for a running club (Study 2).
3. To deliver and evaluate the developed intervention (Study 3).

The key results from Study 1 were that a meaningful why appeared to be the most helpful factor in supporting beginner runners maintain running after starting. Having a meaningful why helped people prioritise running amongst their other commitments, which in turn helped them see

improvements and gain confidence with running, allowing them to learn that they could run and enjoy running. The study's results also demonstrated that having a meaningful why was not always sufficient. People's life circumstances, such as caring responsibilities, financial situation, and health and weight-related challenges could result in life getting in the way and hinder running, highlighting the importance of the wider environment and sociocultural factors in whether running is accessible for everyone. The key implications for intervention development were that beginner runners should be supported with identifying their why, supported with their confidence, and supported with prioritising running. Individual life circumstances need to also be considered to establish how running can fit in amongst their existing demands.

The key results from Study 2 were that an intervention to support beginner runners could be best delivered to running club coaches in the form of educational workshops. The coaches who took part in the co-production wanted the intervention to have a sustainable long-lasting impact on the club, something that went beyond the duration of the researchers' involvement. The coaches wanted to learn how to support runners with motivation and confidence, aligning with Study 1 results. Ideally, the intervention needed to be interactive, short enough to maximise attendance and engagement, and offer simple, practical take-away messages for the coaches. A coach-education intervention was created based on these requirements.

The key results from Study 3 were that a coach-education intervention delivered over a series of workshops resulted in tangible changes for beginner running programmes in two running clubs. The intervention was suitable for the club it was co-produced with but also for another running club who had no prior involvement with the study, showing transferability. Nevertheless, the intervention had mixed influence on the individual coaches' skills, knowledge, and confidence for supporting beginner runners with maintaining running. The results demonstrated that more practical content and videos could have improved the impact of the intervention and potentially resulted in more individual

changes in coaching behaviours. Some theoretical content, however, may be too challenging to teach for those with no prior knowledge of exercise psychology principles, especially with time limitations.

Contribution to Knowledge

The contributions of this PhD are categorised into contributions to practice, contribution to theory and contribution to methodology. The aim of the PhD was to create something practical and applied, therefore the main contributions are related to practice. While the focus in this PhD was on running and beginner runners, the contributions (and implications outlined later) can be seen as relevant and applicable to any new exercisers.

Contribution to Practice

Study 1, which was an analysis of longitudinally collected data from beginner runners, captured how people's experiences of running change through time, furthering the understanding of practitioners who work with supporting beginner runners and exercisers with behaviour change maintenance. The analysis showed how there is a dynamic interaction between people's barriers, motivations, and support, which needs considering when working with those who are new to physical activity. Furthermore, the analysis highlighted how being disadvantaged by societal privileges can substantially influence someone's motivations, barriers, and support when it comes to maintaining a new activity; there is inequality even with seemingly accessible exercise, such as running. These results lend support for researchers arguing that running is impacted by our social class (e.g., Baxter, 2021), and for the ecological models of behaviour change that highlight how wider social and environmental factors like location and accessibility can impact physical activity behaviours beyond people's personal attitudes (e.g., Salmon et al., 2020). This PhD contributes to the view that, despite being often seen as an easy-to-start activity, running is in reality more class-based and inaccessible to many.

Study 2, which was a co-production of an intervention, demonstrated the value of collaboration in applied exercise settings. There is much focus on the importance of the needs analysis process in sport psychology (e.g., Keegan, 2016), which emphasises how gathering enough information is needed to determine the best intervention. It was highlighted in the literature review how physical activity interventions often focus only on theory and have a one-size-fits-all approach that do not consider the context or the individual. This study partly addressed this issue through the collaborative development of the intervention that included the receivers of the intervention in the development phase. While a completely individualised intervention could be ideal (e.g., intervention tailored based on each beginner runner's needs; Marcus et al., 1998), it may not be feasible to consistently create such individualised interventions in exercise psychology due to lack of resources in delivering them. While this intervention was not tailored at the individual level, it was tailored to consider the needs of the coaches from one running club. This study demonstrated how co-producing an intervention with coaches and runners can be a form of collaborative needs analysis that can be used throughout the research process. It also showed how the context can be considered in the research process, and how interventions can be tailored to fit the context better. Although often used in research (Smith et al., 2023), co-production can be beneficial for the needs analysis process in applied settings, too. Involving the running club showed how the intervention design and delivery changed and improved based on the participants' input and demonstrated the benefit of giving participants a voice (e.g., Leggat et al., 2023). The co-production process also enabled the identification of some of the challenges and learnings that come with the approach. For example, identifying a key leadership figure who buys into the research can help engage other participants better. Assertiveness from the researcher(s) can be helpful for arranging the logistics of the meetings and prevent having to rely on the participants. Managing everyone's expectations when trying to balance between what participants want and what they are willing to commit to is also important.

Study 3, which was the intervention delivery and evaluation study, contributed to practice by offering an evidence-based intervention that can be built upon. The co-produced 5 Pillars intervention

showed preliminary evidence of being a practical and acceptable intervention that was workable in two running clubs. To the best of my knowledge, this was the first intervention that is co-produced with a running club, and the first intervention that is focused on educating coaches on how to be more psychologically supportive of beginner runners. The evidence-based resources created for the intervention included a booklet, short videos, and workshop slides, which can all be used in their current format to educate other coaches on how to support beginner runners or even used with any other physical activity with some language adjustments. The study also showed the value in using multiple qualitative methods in the evaluation process to get a holistic understanding of the intervention's influence on different coaches (Chamberlain et al., 2011). The final intervention showed promise of being something that could be scaled up or down and used in more running clubs or even different physical activity settings.

Contribution to Theory

This PhD highlighted how behaviour change maintenance for running, and likely for other physical activity behaviours, cannot be explained by one theory alone. In the literature review, a sample of behaviour change theories and related interventions were presented, and their overlapping concepts were discussed. The first study specifically supported this overlap and demonstrated how different aspects from across the theories were shown to be helpful for beginner runners, but also how the importance of the concepts can change over time. For example, the analysis suggested that certain concepts, like supporting someone's autonomous motivation (i.e., SDT; Ryan & Deci, 2017) for running might play a bigger role initially, while supporting people with coping planning (i.e., HAPA; Schwarzer & Luszczynska, 2008), might be more helpful afterwards, when they already have autonomous forms of motivation to continue.

In addition, behaviour change literature, and any theories and models considering behaviour change and behaviour change maintenance, need to reflect the wider context and environment of the person. Inequalities are present in running, and likely in other forms of physical activity, and the

theories should take this into account. For example, Kwasnicka et al. (2016) recognised the need to focus on behaviour change maintenance, above just behaviour change, and proposed a model of behaviour change maintenance. Their model, which was introduced in the first chapter, consisted of five interrelated themes: maintenance motives, self-regulation, resources, habits, and contextual influences, which were all synthesised from various behaviour change theories. The model proposed that all five themes are needed for a new behaviour, such as running, to be maintained. The key strength of Kwasnicka's model is the theoretical explanation of behaviour change maintenance that can help practitioners know which factors to target for the maintenance of behaviour change. While Study 1 found some support for this model (specifically for maintenance motives, self-regulation, and contextual influences), it also added to the notion of maintenance motives suggesting these need to be meaningful to the person and found that the wider environmental influences have a significant role in the maintenance of running. Although environmental and social influences are mentioned in Kwasnicka et al.'s (2016) model, they tend to focus on the immediate environment and social support, as opposed to considering the individual inequalities and wider socio-cultural (e.g., social class) challenges. Many of the behaviour change theories and models lack emphasis of the socio-cultural factors when proposing how behaviour change and specifically behaviour change maintenance occurs.

Contribution to Methodology

This PhD demonstrated how an educational intervention can be co-produced with its end users, specifically using an approach that aligns with what Smith et al. (2023) call integrated knowledge translation co-production. The PhD also demonstrated how a co-produced intervention can then be evaluated using a qualitative methodology. Given the novelty of this type of co-produced intervention and the novelty of the qualitative evaluation, five recommendations for researchers interested in similar projects are listed below. First, getting to know unfamiliar contexts by spending time with participants and asking questions can be very helpful, as this can significantly enhance the applicability of the intervention (Popp et al., 2021). Second, researchers should stay

open minded to changing plans throughout a co-production process. People may start a co-production with some pre-set ideas, but co-production is more than just an opportunity for feedback and ultimately the purpose is to make the intervention suitable for the end users (Smith et al., 2023). Flexibility is therefore key. Flexibility is also needed because many factors can be out of the researcher's control during a co-production process. As a third suggestion, it is therefore important to control what you can. While giving participants the opportunity to contribute is key in co-production studies, the researcher can still take charge of the other aspects around co-production. For example, by establishing the right contacts from the start, communicating directly with participants, and taking charge of the meetings (e.g., booking the venues). Fourth, it is vital to consider the role of the researcher in the research process. In the co-production study, the researcher was actively participating through joining the C25K runs as a "participant as observer", as well as facilitating the co-production workshops. In the intervention delivery and evaluation phase (i.e., Study 3), the researcher adopted a dual role of being the one delivering the workshops as well as evaluating them. Researchers should engage in reflexivity (e.g., Reid et al., 2018) to reflect on their role(s) and assumptions, how others may perceive their presence, and the potential consequences of adopting multiple roles (e.g., social desirability bias). Finally, researchers co-producing and evaluating an intervention should consider using multiple methods throughout as combining various data collection methods can enhance the intervention and evaluation (Chamberlain et al., 2011). Using multiple qualitative methods in the co-production phase can help get a broader understanding of the people and context the intervention is aimed at, improving its applicability. Using multiple qualitative methods in the evaluation of the intervention can also help get a much more holistic and in-depth overview of how the intervention is received. In summary, researchers doing similar projects should focus on getting to know the context, stay flexible to changes, control what they can, reflect on the implications of their role, and use multiple methods to get a rich picture of the intervention context and the intervention's applicability.

PhD Strengths and Limitations

This PhD has many strengths and some limitations that need discussing when considering the overall results. Some of the key strengths and limitations of each study have been discussed in the respective study chapters, therefore the focus will be on the broader strengths and limitations not yet discussed.

Strengths

The quality markers for this PhD were outlined in the Methodology chapter (Chapter 3). These were based on the quality criteria synthesised by Smith and Caddick (2012) and Tracy (2010), and included substantive/significant contribution, impact/resonance, transparency/sincerity, worthy topic, rich rigor, ethical, and meaningful coherence. The Methodology chapter highlighted how this PhD aimed to achieve each quality marker, and one of the strengths of the PhD is the combined contribution of the three studies. As detailed in the previous sections, the three studies combined show a substantive practical contribution through highlighting the dynamic nature of beginner runners' experiences, through showcasing the use and value of a co-produced intervention, and through creating an evidence-based coach-education intervention. The detailed methods sections, the personal reflections in study chapters, and the limitations section below offer transparency of the research processes and provide the reader with considerations for judging the results. Rich rigour was achieved through extensive familiarisation with the data (Study 1) and prolonged contact with participants in Studies 2 and 3, which also helped create better relationships and rapport with the participants (Chamberlain et al., 2011). In addition, meaningful coherence was shown through connections between the studies; it was illustrated how each phase of the research logically built upon the previous one. Meaningful coherence was also shown through paradigm consistency; the whole PhD was situated in a "Big Q" qualitative framework (i.e., research that uses qualitative methods within a qualitative paradigm; Kidder & Fine, 1987).

A related strength was using a fully qualitative approach to co-production, which enabled better collaboration with participants (Monforte et al., 2022). Co-producing an intervention with a running club was, to my knowledge, a novel undertaking, and a significant strength of this PhD. Seeking input from the running club enabled tailoring the intervention according to the needs and preferences of the end users. Getting the additional input from applied practitioners, who had expertise working in the field, strengthened the intervention design further. The created intervention achieved its aim of being practical as it worked in the real-world (i.e., in the running club context), and consequently contributed towards bridging the research-practice gap (Keegan et al., 2017).

The key strength of Studies 2 and 3 was that a practical, psychological coach-education intervention; “Keep on Running – The 5 Pillars of Support” was produced and tailored to the target group. The co-produced intervention was evidence-based, drawing on a wide range of multiple sources from theories and behaviour change techniques to direct feedback from coaches and runners. It was explained in Study 2 (Chapter 5), *how* theory and evidence informed the intervention (Michie & Prestwich, 2010), and which components were considered in the final output. A recently published “Just Run” online intervention aimed at beginner runners consisted of similar principles and included some overlapping content (e.g., values-based exercises, planning for barriers) with the current “Keep on Running – The 5 Pillars of Support” intervention (Blacket et al., 2024). The Keep on Running – The 5 Pillars of Support is different from the Just Run intervention due to using co-production, being aimed at coaches, and being delivered in-person, however, sharing similar content with another recently developed evidence-based intervention further demonstrates the current intervention’s rich rigour and the worthiness of the topic.

While the current intervention can be adjusted in future based on the initial feedback, it is already a viable intervention that sport and exercise psychologists could implement in running clubs for supporting coaches with learning how to be more psychologically supportive of beginner runners, and consequently facilitate runners’ behaviour change maintenance. Involving a second running club

in the delivery and evaluation strengthened the intervention further by demonstrating that the intervention can be applied to another club beyond the one it was co-produced with. The ongoing evaluation throughout the intervention, and the use of multiple qualitative methods enabled understanding of how the intervention influenced coaches and what can be changed in future to make improvements (Chamberlain et al., 2011).

Ultimately, this PhD fulfils a gap and addressed a need for this kind of intervention, which was demonstrated by the positive feedback, by the engagement from the coaches who took part and by the coaches' recommendations to add this to the England Athletics coaching qualifications. Further evidence for the potential of this intervention came from informal conversations with Active Devon, a local non-profit organisation that focuses on increasing people's activity levels. These conversations suggested there was interest in this type of intervention beyond running; the people at Active Devon saw how the intervention Pillars and their principles could also be applied to any other activity that people start and try to maintain (personal communication, January 11, 2023).

Limitations

Some of the limitations that need considering relate to the methodology, specifically the participants and the evaluation methods. Participants across all three studies volunteered to participate in the interviews and focus groups, resulting in potential self-selection bias. Specifically, it is worth noting that the beginner runners who volunteered for the interviews in Study 1 may have been those who were initially the most motivated or committed. Some of the runners even told the interviewer that they signed up for the research for extra accountability to help them keep going. It may be that the views of those initially less committed were not included. Additionally, there was a higher representation of women, participants were all White, and the study participants were predominantly from a generally affluent, middle-class market town. These are important to consider given that physical activity can be affected by gender, race, and socio-economic status, with arguments suggesting running is a middle-class activity (e.g., Baxter, 2021; van Ryn & Fu, 2003;

Wiltshire & Stevinson, 2018). The motivations, barriers, and support experienced by people from different social classes or ethnicities were not represented. The whole research team was White, and similarly, in Study 2, the participants were predominantly White, and from an affluent, middle-class market town, which meant that the intervention was designed based on a certain demographic, leaving some voices unheard. While the studies did not have representation from people from more diverse backgrounds, the intervention resources included a suggestion for coaches to consider different religions and ethnic groups when arranging runs. However, the intervention could have been improved and made more inclusive if the participants were more diverse.

The final consideration regarding participants is that those who took part in the co-production and in the subsequent intervention were likely those most interested in supporting runners. The attendance dropped significantly in the co-production workshops, but also in the intervention delivery with one of the clubs, which suggested that the ones who remained were the most committed and motivated to learning more. The participants could volunteer for the evaluation interviews and focus groups post-intervention, which means the evaluation may have also portrayed a one-sided view. Nevertheless, most participants in the intervention took part in the interviews and focus groups, and they offered constructive feedback as well (e.g., highlighting some of the less useful parts), therefore, suggesting that a more holistic view of the intervention was still gained.

An extensive qualitative evaluation of the coaches' perspectives was undertaken in Study 3. Considering only coaches' views was justified as the intervention was aimed at the coaches, however, it is worth noting that actual changes for runners were not assessed. Evaluating the potential impact the intervention may have had on the runners' behaviour change maintenance was beyond the scope of this PhD. Not assessing changes for runners meant that it was unknown whether runners were more likely to stay with the club and maintain running after the coaches were implementing some of the psychological principles. Only one of the clubs had a beginners' programme at the time of the intervention, but the coaches did not regularly track the previous numbers making it difficult to make

any comparisons or get a baseline data. Coaches were asked their views on how they perceived the runners to react to the changes they implemented, however, which provided some indirect positive feedback from the runners.

Another methodological consideration is related to the scale of the intervention and evaluation. The intervention was relatively low scale, with 11 coaches attending most intervention workshops, eight coaches attending interviews, and 10 coaches attending focus groups. This type of small-scale intervention and purely qualitative evaluation aligned with the researcher's constructivist paradigm (Lincoln et al., 2018), and was a good first step into developing a novel intervention. A more extensive delivery and evaluation of the intervention may be a useful undertaking and produce different outcomes, but it would also need a different paradigm and subsequently a different methodological approach. For example, adopting a post-positivist approach might result in a randomised controlled trial (RCT) with a higher number of coaches and the use of control groups. One of the benefits of using a RCT is a non-biased, reliable demonstration of effectiveness of the intervention for groups of coaches (Hariton & Locascio, 2018), however an RCT would not be able to demonstrate individual differences or show how or why the intervention was effective for some coaches and not for others (e.g., Deaton & Cartwright, 2018). The qualitative evaluation methods (i.e., observations, feedback surveys, interviews, focus groups) used for the 5 Pillars intervention enabled a more holistic overview of what worked for the coaches, what did not, and what may have influenced their behaviour change, which is something a RCT (at least without a qualitative element) would struggle to identify. In addition, including a longer-term follow-up post intervention could also help to establish the potential long-term impact the intervention may have had on the coaches and the club. For example, the coaches requested the intervention to be about educating them because they wanted it to have a sustainable impact on their club. While the current evaluation of the intervention included a post-intervention focus group with both clubs that was conducted 3 months after the intervention, it may have been beneficial to follow the clubs beyond that timeframe and do another follow-up (e.g., 1-year later). A long-term follow-up could have helped to establish whether the aim

about a sustainable impact was achieved or not, as the potential long-term impact is currently still unknown.

Implications for Future Research, Policy, and Practice

The main implications from this PhD will be outlined next. Research and policy implications will be briefly discussed, but given the nature of this PhD, the focus will be on the implications for practice.

Implications for Research

Study 1 highlighted the complexity of behaviour change maintenance and showed that none of the existing behaviour change theories, in isolation, were sufficient in explaining behaviour change maintenance of running. Theories should reflect the dynamic nature of motivations, barriers, and support with bigger emphasis on people's wider life circumstances and sociocultural factors. Future interventions targeting physical activity behaviour change and maintenance specifically need to consider how best to combine theories and behaviour change techniques while considering the individual circumstances and wider context. From this PhD, the recommendation is that future research should consider using more co-production in physical activity intervention designs. Co-production would enable researchers and practitioners to understand the setting the participants operate in and the individual context of the participants, which in turn can help shape which theories or behaviour change techniques may fit the given context best (e.g., Norström et al., 2020). Co-producing interventions with the recipients of the intervention can strengthen the acceptability and practicality of interventions (e.g., Mackenzie et al., 2021) and improve the transferability of research to practice, which can lead to quicker research-to-practice guidelines and have a more immediate effect on people's physical activity levels (e.g., Green, 2008). However, engaging in co-production does not automatically make the research and/or interventions better quality; researchers still need to

consider recommendations for effective co-production (e.g., Buckley et al., 2023), and engage with some quality criteria (e.g., Howard & Thomas-Hughes, 2021). In addition, co-production itself does not necessarily empower the participants (Farr, 2018). For example, in the current co-production study, the coaches had a significant influence on the 5 Pillars intervention, and the researcher felt that this was clearly communicated to the coaches. It transpired during the intervention evaluation, however, that coaches had not realised the purpose of the co-production meetings and did not see the connection between the feedback and the intervention delivered to them. The implication is that researchers engaging the community in co-production need to consistently communicate about the process and clearly demonstrate *how* the participants' views are incorporated in the decisions. While in this PhD the broad aim of the intervention (i.e., support beginner runners with maintaining running) was established before initiating the co-production process, it may be valuable to do more research in the community where the research questions also get shaped by the end users, as this may help participants feel even more involved and empowered (e.g., Stevens & Swann, 2024).

Considering the challenges with educating coaches on some of the psychological principles, future research could also look at how psychology knowledge is best transferred to those without existing knowledge. A particular challenge in this PhD and other studies with coaches (e.g., Farhat et al., 2022; Stodter & Cushion, 2019), was that while coaches gained knowledge, they were not always applying that knowledge to their coaching. One suggestion to encourage more application of knowledge is that groups of coaches could be educated in different ways (e.g., through videos, practicals, written materials), and their knowledge retention and application of that knowledge could be compared across the groups to further our understanding on how coaches best learn and become comfortable applying their learnings. For example, in a different setting, pharmacy students' understanding of CPR (cardiopulmonary resuscitation) was better when educators used chalkboards in addition to videos and slides, when the students had to write their own notes, and when they were not provided with copies of the workshop material (Khan et al., 2013). It is possible that individualised approach works best, however, an individualised intervention may not always be practical due to

scalability. Nevertheless, similar interventions may need to consider a variety of ways in which to deliver the content.

The participants across the PhD studies were predominantly White, and middle-class from one specific region of the UK, which meant that while the intervention considered individuals' needs, these needs were specific to a particular sociodemographic. Including a diverse range of participants in co-production projects is important to reduce health inequity (e.g., Buckley et al., 2023), therefore, future research could look at including views from a more diverse participant population to ensure that the intervention is applicable to people from wide range of backgrounds and cultures. For example, including participants from different religions may produce additional considerations for the intervention, such as guidelines on how coaches can support beginner runners during Ramadan. Finally, further evaluations of the intervention, in its current or modified format, are needed to understand how the intervention is perceived beyond the two clubs involved in this PhD.

Implications for Policy

As discussed in the literature review, running has grown in popularity, and it is used in public health initiatives like C25K and parkrun (Relph et al., 2023), with some GP practices partnering with parkruns to encourage people to become more active through attending (Public Health England, 2020). It is easy to brand running as an accessible, easy-to-start activity (Runnerstribе, 2018). Although, even the general population has started to recognise the inequalities in running as illustrated by a quote from a LinkedIn article: “Running is a sport that is widely touted for its freedom – *by white runners*” [emphasis added] (Harris, 2022), and by the creation of running clubs such as “Black Girls Do Run UK” (<https://www.blackgirlsdorun.co.uk>). While the public seems aware of the need to consider everyone, these well-intended health initiatives to encourage running should also consider the inequalities that exist even in such seemingly accessible activity like running. Free initiatives like This Woman Runs, which also have their own app to get beginners into running, can help encourage women to run with other women and could be supported to help spread it further.

Apps like C25K or parkruns should consider how to support equality in running and become more accessible for everyone. The representation of people from diverse backgrounds when advertising these initiatives could be considered, together with the location and accessibility of events like parkruns or beginner-running programmes. Parkrun UK has acknowledged this lack of diversity, and some promising collaborative research has already been done with volunteer organisers to address this issue and develop more inclusive strategies (Fullagar et al., 2020). In addition, the government offering funding for childcare options or supporting organisations that offer low-cost/free running kit for those who need it (e.g., Kit for All, Preloved Sports) would be a good starting point to tailor for those with caring responsibilities or financial difficulties.

Researchers in Spain suggested looking at running as a social practice that happens in the society and in the cities, instead of only studying those who run (Capsi & Llopis-Goig, 2023). The researchers showed how transforming urban spaces into running-friendly environments, creating an annual calendar for running events, and the rise of running groups had contributed to making running popular and more accessible in one city in Spain. Capsi and Llopis-Goig (2023) recommended four interventions for policymakers that could also be considered in the UK: create accessible urban spaces for physical activity practices that normalise physical activity and show it is for everyone, promote running events that are shorter distances and “easier” (e.g., parkruns) to attract newer runners, support the formation of more groups in addition to formal sports clubs, and establish connections between different organisations in the city that share a similar aim in wanting to promote physical activity. Creating an environment that supports running (and other physical activities) can change social practices, instead of directly focusing on changing people’s individual behaviour (Capsi & Llopis-Goig, 2023).

Implications for Practice

The co-produced “Keep on Running – The 5 Pillars of Support” intervention has already shown promise to be used in its current format, and sport and exercise psychologists and researchers could

already use the content and deliver these workshops to coaches working with beginner runners. Improvements will be made for the content based on Study 3 feedback and this feedback can be valuable for others developing similar interventions. For example, considering the struggle to get some coaches to commit to all the sessions, the current format of LiRF qualification being only one day, and Active Devon also voicing their concern over the length of the intervention during personal communication, a shorter version of this intervention might be needed to adapt to time constraints. The first introductory workshop could be lengthened to include more detail to be sufficient on its own, while the additional workshops could be offered to those who want and can commit to more sessions. The recommendation for others creating similar interventions is to consider the length of the intervention and the scalability of it, for example, produce interventions that have different levels depending on the participants' needs and constraints. On the other hand, this would need to be balanced with including enough information (e.g., theory) to ensure the quality and usefulness of the intervention is not compromised. For example, Study 3 showed how coaches struggled to fully grasp the theoretical principles even after six workshops, suggesting that shorter interventions may not be ideal or produce the strongest results.

Similar educational interventions need to therefore consider the balance between theory and practice. Interventions may need to be more practical to maximise learning and implementation, but without neglecting the importance of understanding the theory. Practitioners designing interventions should consider adding videos that demonstrate what the theories suggest and how theoretical principles can be acted out in that given context (e.g., a coach being autonomy-supportive towards a runner versus a coach using controlling language; Ryan & Deci, 2017). Where possible, interventions could also be made more practical by taking them into the coaching environment. In a study researching coaches' methods and preferred methods to acquire knowledge, "hands-on practice" and "can see 'in action'" were mentioned (Stoszkowski & Collins, 2016); similar preference came across from the coaches in this PhD. While the ultimate focus was on getting beginner runners to maintain their behaviour change, it appears that training the coaches needs to be considered as a behaviour

change intervention as well, and perhaps more focus needs to be on how the intervention is delivered to the coaches. In this PhD, some coaches lacked the opportunities to implement the concepts they learnt (e.g., due to not leading sessions, no beginner running programme at the club), which may have been solved if more practical content had been incorporated into the intervention itself.

This PhD demonstrated that educating coaches on the principles of psychology can be a valuable undertaking as it can help widen the reach of psychology, but it also demonstrated that psychological theories are not necessarily easy to translate to those without background knowledge, especially when time is limited. Some of the underlying principles behind autonomous motivation or if-then planning may require more time and practice to be grasped and to become fully understood and implemented by coaches. This finding suggests that sport and exercise psychologists have a key role to play: creating and delivering educational workshops to coaches/other practitioners on the use of psychological principles. Therefore, while coaches can access psychoeducation or mental skills training from books and other resources (e.g., Martin, 2020), there is arguably still a need for sport and exercise psychologists to educate running club coaches to help them understand the underlying theoretical principles behind behaviour change maintenance. In addition, sport and exercise psychologists are also well suited to working with individual clients (e.g., runners) on a 1:1 basis offering support that goes beyond what the coaches can offer (e.g., facilitate values-based conversations; Vansteenkiste et al., 2018). This type of individual support would be ideal and enable maximum impact for individual behaviour change, but the challenge is whether a role or a need to create a (paid) role for this type of support currently exists (Martin, 2020; Watson, 2023). As it stands, and while 1:1 support may not be practical, the 5 Pillars intervention has scalable potential to be used by sport and exercise psychologists, to be delivered at running clubs and to be offered to governing bodies.

In addition, like other coach education research, this PhD showed how just bringing coaches together and giving them the space to talk and reflect can be valuable on its own (e.g., Cassidy et al.,

2006). The coaches often highlighted the conversations amongst each other as the most valuable aspects from the workshops, showing how the role of a sport and exercise psychologist may be that of a facilitator. Being a facilitator who shares best practices but focusing on reflective questions can already generate valuable ideas and help others share ideas. The actions the coaches took from the workshops were not always directly taken from the suggestions on the intervention content but something they came up with based on their conversations during the workshops. Practitioners who want to educate others may benefit from taking this approach of being more facilitative of reflective conversations, instead of being content focused (McCormick & Meijen, 2015).

A further implication from the data analysis of Study 1 relates to the individual challenges regarding physical activity. Practitioners working with people to support them with physical activity should seek to understand the wider context in which the person operates and offer further support for those who may have additional challenges related to their health, wealth, or caring responsibilities to name a few. Practitioners should also consider the interactive nature and change in people's motivations, barriers, and support when working with someone over a longer period. In practice, this may mean initially focusing on understanding how a person's wider life environment supports or hinders their opportunities to exercise with the aim of seeking to identify solutions. Secondly, adopting principles from SDT, the practitioner could have a values-based conversation with the person helping them identify meaningful and personal reasons for exercising (Vansteenkiste et al., 2018). They could then start helping the person find enjoyment and fun in exercising, offer encouragement regarding their progress, and tangibly show them their progress, and educate them on ways to use the planning principles for when further barriers may arise (Bandura, 1977; Brand & Ekkekakis, 2018; Carraro & Gaudreau, 2013). Remembering to consider the individual and their circumstances is also relevant if the practitioner chooses to create educational content for other health practitioners (e.g., coaches). A sport and exercise psychologist should include considerations for the individual in the content they design, but also consider the individual they are training in the intervention (e.g., the

personal circumstances of the coach receiving the education), to ensure they can maximise their support and tailor accordingly.

The final consideration relates to understanding the setting the interventions are delivered in and finding an influential figure for the intervention. It was apparent in this PhD that the context and the leadership had an impact on the buy-in and engagement with the intervention. The two running clubs differed significantly in the size and leadership set-up and in their overall engagement with the intervention (see Chapter 6). The lack of engagement from one of the clubs may have been caused by the lack of leadership; someone supporting the research process and highlighting its importance to the other coaches in their club. Bradbury (2020) found that in their co-produced intervention in a healthcare setting, lack of managerial support (i.e., a managerial “champion”) was missing and led to potential lack of engagement, highlighting the importance of managerial engagement (Gifford et al., 2018). In the feedback received in this PhD, it seemed that some of the coaches did not see the need for this type of education or did not perceive their role to be that important in supporting beginner runners. Perhaps a leadership figure who bought into the process more and saw the importance of it could have changed this. Practitioners and researchers wanting to deliver similar interventions may want to focus on identifying and getting the buy-in from a leader who is influential in getting others on board to maximise attendance and engagement.

PhD Summary and Conclusions

The overall aim of this PhD was to develop a practical, evidence-based intervention that could support beginner runners with maintaining running after they have started. These aims were driven by the need to increase and maintain people’s physical activity levels to enable them to receive the benefits from long-term physical activity. The PhD achieved its aim by drawing from a longitudinal data analysis with beginner runners, by consulting the existing behaviour change literature and by collaborating with runners, running club coaches and applied practitioners. Firstly, this PhD expanded

the behaviour change literature by identifying key processes that influence behaviour change maintenance of beginner runners. Identifying a meaningful why often led to prioritising running, seeing progress with running and enjoying running, which was supportive of running. In contrast, running was hindered by life getting in the way, often due to disadvantaged circumstances and barriers related to health, weight, and caring responsibilities. This PhD then demonstrated how these factors can be used and adapted for an intervention by collaborating with the local community. An evidence-based and co-produced “Keep on Running – The 5 Pillars of Support” intervention that consisted of 5 Pillars (Purpose, Progress, People, Planning and Play) was created. These Pillars reflect motivation, confidence, social support and inclusivity, planning for barriers, and enjoyment for running, respectively. The Pillars are informed by the results from beginner runners’ experiences, by cognitive and affective behaviour change theories, by coach feedback, and by applied practitioners’ input. The co-produced intervention was tailored to running club coaches, supporting them with their knowledge, skills, and confidence in supporting beginner runners with maintaining running. The evidence-based educational intervention helped coaches become more psychologically informed and resulted in tangible changes to two running club’s beginner running programmes.

The 5 Pillars are a rigorous research-based approach that simultaneously work as a short and memorable acronym that could be used flexibly across different contexts. Harwood's (2008) 5Cs of football (discussed in Chapter 6) have had a significant impact on football coaches’ education, having been adopted by the FA and football organisations in Iceland (Harwood, 2014). Similarly, the 5 Pillars have the potential to be adopted by England Athletics and other organisations as part of their coach or leader qualification. The 5 Pillars could be particularly useful when incorporated into the current qualifications (e.g., LiRF) for new leaders of running groups, where the recipients are less familiar and less experienced with how to support beginner runners psychologically. While the intervention was designed to educate running club coaches on how to be more psychologically supportive of beginner runners and how to help beginner runners maintain running, the intervention can also be applied to other forms of physical activity that people start and need support in maintaining (e.g., going to the

gym for resistance exercise), which means that it could be modified and suitable for other sporting organisations as well. Furthermore, the 5 Pillars and associated principles are flexible to be adapted to 1:1 work that sport and exercise psychologists engage in and be used when consulting individual clients on behaviour change maintenance. Indeed, psychologists' understanding of underpinning psychological theory might make them particularly skilled at applying these ideas.

In summary, "Keep on Running – The 5 Pillars of Support", is a novel intervention that shows potential to be included in coaching qualifications and applied to running clubs nationwide, to support beginner runners in achieving the benefits of long-term running. Further development work on the 5 Pillars of Support should focus on making it even more practical, more inclusive, and adaptable to different settings.

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Appendices

Appendix A: Interview Guide for Study 3

Aims of the overall research:

To develop, implement, and evaluate a training programme tailored at run leaders and coaches that would support them with skills, knowledge, and confidence to support new runners with continuing running.

Aims of the interview:

To evaluate the workshops, to learn if the aims have been met. To learn how you personally experienced the training workshops and what, if anything, you took away from them. We also want to understand what relevant or irrelevant, and what kind of things may have been challenging, so that we can improve the training in future.

Questions

1. What did you think of the training, overall?

Prompts: workshop format, the resources, the style of delivery, the content...

2. How relevant was the training for your role?

-Can you elaborate on what was relevant/irrelevant?

3. What kind of benefits (if any) did you experience from the training?

4. What kind of barriers (i.e., challenges) (if any) did you experience with the training?

5. To what extent do you now understand psychological principles that support people's continued involvement in running?

6. To what extent have you applied the 5 P's to date? Can you provide examples?

-Were any of the P's particularly useful?

7. The training goals were to equip you with the skills, knowledge, and confidence to support runners in continuing running after they've started. Do you have any reflections on the extent to which we achieved these?

-Can you provide examples?

Follow-up: skills; knowledge; confidence

(Any other changes that you've noticed in yourself?)

8. Would you recommend the training to other coaches?

9. Can you offer suggestions for improving the training?

10. How did you feel being part of the training development workshops (where we discussed and decided on the content/format etc)?

11. Do you have anything else you'd like to add that you haven't had a chance to discuss?

12. Which coaching qualification you have (e.g., are you a LiRF or a CiRF)

13. How many years have you been coaching/leading?

Appendix B: Post-intervention Workshop Survey

ANONYMOUS FEEDBACK SURVEY

We would be grateful if you could share your views so we can improve the future workshops.

1. What did you find to be the most useful part about tonight's workshop for you?

2. Do you have any suggestions for how the workshop could be improved?

3. Do you have any other reflections on the workshop that you would be willing to share?

-For example, on the resources, on the style of delivery, or on the content.

Appendix C: Overall Intervention Feedback Survey

Feedback survey for “Keep on Running – The 5 Pillars of Support” – training workshops

1. Overall, what did you find the most useful from the workshops?
2. Do you have any other reflections on the workshops overall that you would be willing to share?

-For example, on the resources, on the style of delivery, or on the content.
3. The aim of the training was to equip you with the skills, knowledge, and confidence to support runners in continuing their running after they have started. At the end of the training, you should be able to understand the psychological principles that support people’s continued involvement in running & apply these principles to your own coaching.

To what extent have we achieved these outcomes so far? Please offer examples if you have any.
4. To what extent has the format of the workshops been a suitable way to deliver the training?
5. To what extent was the training relevant for your role at the club?
6. Do you have any suggestions for how the overall training could be improved?
7. Any other comments you’d like to add?

Appendix D: Study 2 Participant Information Sheets (Coaches & Applied Practitioners)

Participant Information Sheet (coaches) – 26/05/22

Hi, my name is Pille Pedmanson and I'm studying for my PhD in Sport and Exercise Psychology at Plymouth Marjon University. My research interest is in helping people maintain running after they have started. Here you'll find some more information about my research, which I'd like you to be a part of. The title of my research project is: **Co-designing a behaviour maintenance intervention for runners.**

The research team consists of myself as the PhD researcher and my three supervisors; Dr Alister McCormick, a senior lecturer at Plymouth Marjon, Dr Paula Watson, a reader at Liverpool John Moores, and Dr Kass Gibson, associate professor at Plymouth Marjon university.

What is the purpose of the study?

The overall aim of the PhD project is to design and evaluate an intervention for new runners that would help them with long-term behaviour change. We have previously interviewed new runners about their experiences when they start running to find out what helps someone continue and what leads to some people stopping. We are also consulting psychologists who work in the field, on their views on what kind of intervention could work in running club context. The purpose of this study is to use these findings together with your personal and professional experiences to design an intervention for runners.

We want your input as the potential deliverers of the intervention as well as the receivers of the intervention.

The research questions: What factors must be considered when translating the findings from the interview study into practise at your particular club? What does an effective and practical intervention for runners look like?

What is the benefit to you: As a participant in this study you would have a chance to share your practical experiences from running and from working with runners at your club. You can share things that you have found work or do not work when trying to support long-term change either for yourself or for other runners.

If you're a run club leader/coach/helper: you will also be able to give input on what type of intervention is practical in the nature of your role and at your club.

If you're a new runner: You will be able to give input on what kind of intervention you would prefer and find practical.

This study would also provide you with evidence-based knowledge from our research so far and support your own running journey as well as your work with people who start running.

The wider benefits: This study's results aim to support more people with establishing lasting exercise habits and receiving the widely documented benefits of exercise. The wider research field of physical activity would also gain further knowledge on what kind of interventions work in practice and inform the design of future interventions. Your particular club would benefit from being able to receive the intervention you have helped to design.

Eligible participants: You should be a running club leader, running coach, helper at the club or in a similar role, OR a runner who has not been running for more than 12 months. You should be over the age of 18 and have proficiency in English language.

You should also be able to participate in all 3 of the workshops. The date of the first one is on the 20/06/22 (TBC) and the second and third will be approximately at the end of July and at the end of August. There might be a fourth one in September.

No other restrictions are in place.

Location: The study will be conducted in-person at your local running club or at Plymouth Marjon University depending on the preference.

Why have I been invited?

You have been invited because you have the real-life experience from starting running and/or working with runners and know a lot of the barriers and challenges people who are new to running are facing. You will also be able to identify what kind of interventions make practical sense and would work in your role at the club, or for you as a receiver of the intervention.

Do I have to take part?

Taking part in this study is entirely voluntary. If you are happy to proceed after reading this information sheet, you will be given a consent form to read through, and provided you are happy with it, we will ask you to verbally consent at the beginning of the workshop. You are free to withdraw your participation from the study at any point.

What will happen to me if I take part?

You will be asked to participate in 3-4 workshops at the running club or online, over the course of 2 months. All three sessions will have a duration of about 45 min to two hours. All workshops will be recorded, and we will also collect data through observations, researcher reflections and visual data (e.g., whiteboard notes). If the workshop is online then both audio and video will be recorded. The audio data will be transcribed, and we might use direct quotes from the discussions in the published research, but we will use pseudonyms and remove any identifying information from the quotes (e.g., location) ensuring you will not be able to be recognised from the quotes.

The data will be stored in a password-protected laptop in the secure university network. The data will be kept for 5 years for publishing purposes.

Expenses and payments

There will be no reimbursement for participation.

What will I have to do?

You will be in the workshops with 12-15 other people who are either runners or run club leaders/running coaches. During the first workshop the main researcher will guide the discussion by introducing the study aims, our previous findings and suggestions for the intervention based on those. The researcher will start by asking some open questions and you will be asked to participate by offering your feedback and personal opinions on the topics that are being discussed. We encourage you to be as honest and open as possible when sharing your views.

In workshop 2 you will be shown the proposed intervention after last workshop's feedback and asked for specific input on things like the practicality of the intervention. You will be separated into two groups; runners and run leaders, to have a discussion with your group about the intervention and then asked to feedback to the rest of the group.

In workshop 3 you will be presented with the final proposed intervention based on the previous workshop's feedback. You will be asked to provide any additional thoughts on it.

Workshop 4: If required after the third workshop we might ask for your final comments on the designed intervention.

What are the advantages of taking part?

By participating this study you will help further academic research knowledge on exercise behaviour change interventions. You will also gain further insight into what we have found to be helpful when supporting new runners/exercisers that might be valuable for yourself as a runner or for your role as a run group leader.

What are the possible disadvantages and risks of taking part?

The workshops will take place in-person and could last up to two hours so it could be tiring and the timings could be inconvenient.

There should not be any risk of anonymity as we will ensure any identifying information is removed from the quotes that are used.

Everyone's views will have equal weighting, there are no experts in the study, and no one has more power over others. The environment is designed to be inclusive for everyone to share their views with no right or wrong answers. Being in this kind of open environment with others could be an uncomfortable situation for some.

Will my taking part in the study be kept confidential?

I'll keep anything you say in the workshops confidential. This kind of research does use quotes from discussions, but I'll use a pseudonym (a name different from yours) and will not give any identifying information. If you've got any more questions about this, please ask me.

I ask that you keep anything said in the workshops confidential. Obviously, I cannot guarantee that people in the workshops will not share what is said. You should keep that in mind when deciding what to share in the workshops.

All data will be stored on the secure network drive at Plymouth Marjon University. The audio files of the discussions will be uploaded to the secure network and the original files will be deleted.

The data will be kept for 5 years. The data will be used to inform this study, but the data could also be used in a published journal and the subsequent intervention we design based on these findings.

The data will only be used by the research team. As this study is part of a PhD research, it is possible that the data will also be accessed by authorised people from Plymouth Marjon university to check that the study is being carried out correctly. Everyone will have a duty of confidentiality to the research participants and will do their best to meet this duty.

The data will be kept do up to 5 years and destroyed either after the study has been published or the 5 years has passed (whichever is sooner).

What will happen if I don't want to carry on with the study?

You can withdraw from the study at any time before the workshop has started. You can also withdraw your participation at any time during the workshops or afterwards, however, withdrawal of data that is contributed prior to withdrawal might not be entirely possible. You can ask me to remove quotes of your contributions to the conversations (i.e., anything you've said) from the written research report up until the point of withdrawal, and I will do this if your contributions can be identified amongst the rest of the conversation.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to one of the researchers who will do their best to answer your questions, contact details are at the end of the information sheet.

If you have any questions about your rights as a research participant, or wish to make a complaint, you can contact the University Research Ethics Panel at ethicspanel@marjon.ac.uk If you have any concerns about the integrity of the research you can contact Lucy Pengally lpengally@marjon.ac.uk

What will happen to the results of the research study?

The results of the study will be used to inform the intervention. The results will also be used in a PhD thesis and also potentially published in a peer-reviewed journal. A pre-publication version might be published in an open access repository. The results will likely also be presented at different sport & exercise psychology related conferences in the UK and abroad.

You will be sent a copy of the results and the publication details where applicable.

Thank you for taking the time to read the information sheet. If you decide to participate you will be given a copy of the information sheet to keep and your consent will be sought.

Main researcher: Pille Pedmanson, Plymouth Marjon University, Derriford road, PL6 8BH, Plymouth, Pedmanson.p@pgr.marjon.ac.uk, 07511312086

Director of studies/Second researcher: Dr Alister McCormick, Plymouth Marjon University, Derriford road, PL6 8BG, amccormick@marjon.ac.uk, +44 (0)1752 636700 (ext. 5001)

PARTICIPANT INFORMATION SHEET (applied practitioners)

Participant Information Sheet - 09/09/22

Hi, my name is Pille Pedmanson and I'm studying for my PhD in Sport and Exercise Psychology at Plymouth Marjon University. My research interest is in helping people maintain running after they have started. Here you'll find some more information about my research, which I'd like you to be a part of.

The title of my research project is: Co-designing a behaviour maintenance intervention for runners.

The research team consists of myself as the PhD researcher and my three supervisors; Dr Alister McCormick, a senior lecturer at Plymouth Marjon, Dr Paula Watson, a reader at Liverpool John Moores, and Dr Kass Gibson, associate professor at Plymouth Marjon university.

What is the purpose of the study?

The overall aim of the PhD project is to design, implement, and evaluate an intervention for new runners that would help them with long-term behaviour change. We have previously interviewed new runners about their experiences when they start running to find out what helps someone continue and what leads to some people stopping. The second step is to co-design this intervention with a local running club. The purpose of this particular study is to get your knowledge and professional views on the intervention ideas and the implementation of it.

The research questions: What factors must be considered when translating the findings from the interview study into practice? What does an effective and practical intervention for runners look like? Who should deliver the intervention?

What is the benefit to you: As a participant in this study you would have a chance to share your practical experiences from working with runners/athletes/exercisers/coaches. You could share things that you have found work or do not work in applied practice. You could offer your feedback on the intervention we are planning to deliver to the running club, and you could also offer your thoughts on whether you could see this type of intervention being used by sport and exercise psychologists. This study would also provide you with evidence-based knowledge from our research so far and support your work with people who start running/exercising.

The wider benefits: This study's results aim to support more people with establishing lasting exercise habits and receiving the widely documented benefits of exercise. The wider research field of physical activity would also gain further knowledge on what kind of interventions work in practice and inform the design of future interventions. We will also hope to promote the role of sport and exercise psychologist in working with running clubs.

Eligible participants: You should be a psychology practitioner (trainee or registered), who has experience in doing applied psychology in exercise or physical activity contexts, and able to participate in the online focus group on the **30th of September**. No other restrictions are in place.

Location: The study will be conducted online through Teams.

Why have I been invited?

You have been invited because you have the knowledge through education and real-life experience from working with runners/athletes/exercisers/coaches, and know a lot of the barriers and challenges for behaviour change. You will also be able to identify what kind of interventions make practical sense, and what type of training you could offer to a running club to deliver an intervention like this.

Do I have to take part?

Taking part in this study is entirely voluntary. If you are happy to proceed after reading this information sheet, you will be given a consent form to read through, and provided you are happy with it, we will ask you to verbally consent at the beginning of the focus group. You are free to withdraw your participation from the study at any point.

What will happen to me if I take part?

You will be asked to participate in a focus group on Teams with other psychologists. The call will be recorded, for both audio and video. The calls will be transcribed and we might use direct quotes from the discussions in the published research but we would use pseudonyms and remove any identifying information from the quote (e.g., location) ensuring you will not be able to be recognised from the quotes.

The data will be stored in a password-protected laptop in the secure university network. The data will be kept for 5 years for publishing purposes.

Expenses and payments

There will be no reimbursement for participation.

What will I have to do?

You will be in the Teams call with 6-10 other people. The session will last about 60 minutes. During the session the main researcher will guide the discussion by introducing the study aims, our previous findings and suggestions for the intervention based on those. The researcher will start by asking

some open questions and you will be asked to participate by offering your feedback and personal opinions on the topics that are being discussed. We encourage you to be as honest and open as possible when sharing your views.

We particularly want to know how you think this type of intervention we are proposing would work in practise and seek feedback on your experiences from training other people to deliver interventions (e.g., coaches). Any additional input on what we should consider from your perspective would be valuable.

What are the advantages of taking part?

By participating this study, you will help further academic research knowledge on exercise behaviour change interventions. You will also gain further insight into what we have found to be helpful when supporting new runners/exercisers that might be valuable for your role going forward. We are also hoping that through this research we can show the value of sport and exercise psychologists working with running clubs, therefore promoting the profession.

What are the possible disadvantages and risks of taking part?

The focus group discussion will take place in Teams and could be tiring. The session will run live, so the timing could be inconvenient.

There should not be any risk of anonymity as we will ensure any identifying information is removed from the quotes that are used.

Everyone's views will have equal weighting, there are no experts in the study, and no one has more power over others. The environment is designed to be inclusive for everyone to share their views with no right or wrong answers. Being in this kind of open environment with other professionals could be an uncomfortable situation for some.

Will my taking part in the study be kept confidential?

I'll keep anything you say in the focus group confidential. This kind of research does use quotes from the focus groups, but I'll use a pseudonym (a name different from yours) and will not give any identifying information. If you've got any more questions about this, please ask me.

I ask that you keep anything said in the focus group confidential. Obviously, I cannot guarantee that people in the focus group will not share what is said. You should keep that in mind when deciding what to share in the focus group.

All data will be stored on the secure network drive at Plymouth Marjon University. The audio files of the discussions will be uploaded to the secure network and the original files will be deleted.

The data will be kept for 5 years. The data will be used to inform this study, but the data could also be used in a published journal and the subsequent intervention we design based on these findings.

The data will only be used by the research team. As this study is part of a PhD research, it is possible that the data will also be accessed by authorised people from Plymouth Marjon university to check that the study is being carried out correctly. Everyone will have a duty of confidentiality to the research participants and will do their best to meet this duty.

The data will be kept do up to 5 years and destroyed either after the study has been published or the 5 years has passed (whichever is sooner).

What will happen if I don't want to carry on with the study?

You can withdraw from the study at any time before the focus group has started. You can also withdraw your participation at any time during the focus group or afterwards, however, withdrawal of data that is contributed prior to withdrawal might not be entirely possible. You can ask me to remove quotes of your contributions to the conversations (i.e., anything you've said) from the written research report up until the point of withdrawal, and I will do this if your contributions can be identified amongst the rest of the conversation.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to one of the researchers who will do their best to answer your questions, contact details are at the end of the information sheet.

If you have any questions about your rights as a research participant, or wish to make a complaint, you can contact the University Research Ethics Panel at ethicspanel@marjon.ac.uk. If you have any concerns about the integrity of the research you can contact Lucy Pengally lpengally@marjon.ac.uk

What will happen to the results of the research study?

The results of the study will be used to develop an intervention to help people continue running. The results will also be used in a PhD thesis and also potentially published in a peer-reviewed journal. A pre-publication version might be published in an open access repository. The results will likely also be presented at different sport & exercise psychology related conferences in the UK and abroad.

You will be sent a copy of the results and the publication details where applicable.

Thank you for taking the time to read the information sheet. If you decide to participate you will be given a copy of the information sheet to keep and your consent will be sought.

Main researcher: Pille Pedmanson, Plymouth Marjon University, Derriford road, PL6 8BH, Plymouth, Pedmanson.p@pgr.marjon.ac.uk, 07511312086

Director of studies/Second researcher: Dr Alister McCormick, Plymouth Marjon University, Derriford road, PL6 8BG, amccormick@marjon.ac.uk, +44 (0)1752 636700 (ext. 5001)

Appendix E: Study 3 Participant Information Sheets

Participant Information Sheet – 20/12/22

(South West Athletics)

Hi, my name is Pille Pedmanson and I'm studying for my PhD in Sport and Exercise Psychology at Plymouth Marjon University. My research interest is in helping people maintain running after they have started. Here you'll find some more information about my research, which I'd like you to be a part of.

The title of my research project is: Implementing and evaluating an educational programme for running leaders and coaches to support runners with behaviour maintenance

The research team consists of myself as the PhD researcher and my three supervisors; Dr Alister McCormick, associate professor at Plymouth Marjon university, Dr Paula Watson, physical activity and exercise psychologist, and Dr Kass Gibson, associate professor at Plymouth Marjon university.

What is the purpose of the study?

The overall aim of this PhD project is to design, implement, and evaluate an intervention to support behaviour maintenance of new runners. We have previously interviewed new runners about their experiences after they started running, and these findings helped form the intervention content. The intervention has also been informed by consultations with running leaders, coaches, new runners, and other professionals working in exercise/physical activity psychology.

We are aiming to deliver and evaluate an educational programme to you, as the coaches and leaders, that will equip you with skills, knowledge, and confidence to support runners in developing a sustained relationship with running.

The research questions:

1. How was the programme experienced and perceived by leaders/coaches?
-Specifically, its usefulness to their role, the benefits, and the barriers of it?
2. How did the programme influence leaders/coaches' skills, knowledge, and confidence?

What is the benefit to you? As a participant in this study, you would get a chance to learn about some of the key factors that influence maintenance of running, and practice applying the learnings in your coaching.

The wider benefits: Your running club would benefit from the programme by increasing the knowledge of coaches and leaders, and helping coaching become more psychologically informed. Other coaches and leaders could also benefit by having access to the material we produce for the

programme. More broadly, this study aims to support people with establishing lasting exercise habits and receiving the widely documented benefits of exercise. The wider research field of physical activity would also gain further knowledge on what kind of programmes might work in running clubs. This research could also inform future educational programmes for other running clubs.

Eligible participants: You should be a running club leader or a running coach. You should be over the age of 18 and have proficiency in English language.

To be eligible, you would also be willing to participate in the workshops, willing to answer an anonymous survey, take part in an individual interview, if invited, and attend a focus group a few months after the programme. The first workshop is on the **16th of January** and the follow-up workshops are TBC, individual interviews would be arranged at a time suitable to you.

No other restrictions are in place.

Location: The study will be conducted at a venue near your running club.

Why have I been invited?

You have been invited because you are a coach or a leader at a running club that offers sessions for novice runners. The programme has been designed by consulting other leaders/coaches, and therefore fits the context of a running club.

Do I have to take part?

Taking part in this study is entirely voluntary. If you are happy to proceed after reading this information sheet, you will be given a consent form to read through, and provided you are happy with it, we will ask you to verbally consent at the beginning of the workshop/the interview/the focus group. You are free to withdraw your participation from the study at any point.

What will happen to me if I take part?

You will be invited to take part in up to six educational workshops, each lasting about 1-1.5 hours. The workshops will be held over a period of two to three months, and they will intend to support your coaching. These workshops will be interactive; we will use different activities and encourage you to participate in discussions with other coaches and leaders from your club. You will be invited to action some of the learnings from the workshops in your coaching practice. You will also have a chance to ask questions and get additional input from myself during the delivery of the programme through emails, and/or when I am attending the running sessions.

You may be observed during some running sessions with two different aims; to support you, and to evaluate the programme. During the delivery of the programme, I will observe how you are implementing what you have learnt with the aim of supporting you, answering any additional questions you might have, and offering feedback. After the programme has finished, I will observe some of the sessions with the aim of evaluating the programme and seeing how you are applying what you have learnt, to identify how the programme has transferred into real-life. At this point, my main role will be evaluating the programme, rather than proactively offering guidance for you. I can still offer feedback after the sessions.

Half-way through the workshops and following the last workshop, we will ask your feedback about the programme through an anonymous online survey. We will also invite you to take part in an individual interview to evaluate the usefulness of the programme. We will ask you questions related to your experience of the workshops and how you perceived the overall programme. The interview will last approximately one hour.

About 5-6 months after the programme, we will also invite your club to take part in a final focus group discussion to understand how (if in any way) the programme has impacted your club in general, and you as the leaders/coaches within it. This focus group will last approximately one hour.

The workshops will be audio and video recorded (video recorded only if on Microsoft Teams). The interviews will be audio recorded and transcribed, and the survey responses will be transcribed. We might use direct quotes from your surveys and interviews in the thesis and published research, but we will use pseudonyms and remove any identifying information from the quotes (e.g., location) ensuring you will not be able to be recognised from the quotes. The data will be stored in a password-protected laptop in the secure university network. The data will be kept for 5 years for publishing purposes.

If you chose to participate in all aspects of the study, then it would at most involve six educational workshops, two online surveys, an interview, and a focus group.

Please note: You can take part in the educational workshops, without being part of the evaluation phase. This means that you can receive the training but opt out of the observations, not complete the surveys, not take part in the interview, and not attend the focus group. However, I might reflect on any informal feedback you offer during the educational workshops, and include that informal feedback anonymously.

Expenses and payments

There will be no reimbursement for participation.

What will I have to do?

You will be invited to take part in up to six workshops, fill in two online surveys, take part in an individual interview, and take part in a focus group. The workshops and focus groups will involve other leaders/coaches.

The workshops are designed to educate and train you on how to support runners with keeping them going with running. The workshops will be interactive encouraging you to discuss and reflect on your current coaching practice and come up with solutions to example scenarios based on what you are learning. I will also ask you to set goals you can take forward from the workshops and implement in your coaching in between the workshops and beyond that.

The anonymous online survey will ask your thoughts on the programme and how you experienced it. The individual interview will ask you to further evaluate the programme, what you thought of the content and delivery method, the potential barriers and benefits you experienced, and invite you to offer suggestions for improvements.

The focus group will involve a group discussion on how (if in any way) the programme has impacted how your club operates, and the practices of the leaders and coaches.

What are the advantages of taking part?

By participating this study, you will learn about how you can use psychological principles in your coaching to support runners. You will also help further academic research knowledge on behaviour maintenance interventions at running clubs.

What are the possible disadvantages and risks of taking part?

Completing all workshops, surveys, interviews, and focus groups would require a significant time commitment from you. The workshops will take place in-person (with hybrid option available), and could last over 1.5 hours so it could be tiring and the timings could be inconvenient. However, there is no pressure to complete all aspects of the study.

There should not be any risk of anonymity as we will ensure any identifying information is removed from the quotes that are used.

Everyone's views will have equal weighting, there are no experts in the study, and no one has more power over others. The environment is designed to be inclusive for everyone to share their views with

no right or wrong answers. Being in this kind of open environment with others could be an uncomfortable situation for some.

Will my taking part in the study be kept confidential?

I'll keep anything you say in the workshops, interviews, and the focus group confidential. This kind of research does use quotes from discussions, but I'll use a pseudonym (a name different from yours) and will not give any identifying information. If you've got any more questions about this, please ask me.

I ask that you all keep anything said in the focus group confidential. Obviously, I cannot guarantee that people in the focus group will not share what is said. You should keep that in mind when deciding what to share in the focus group.

All data will be stored on the secure network drive at Plymouth Marjon University. The audio files of the discussions will be uploaded to the secure network and the original files will be deleted.

The data will be kept for 5 years. The data will be used for this study, but the data could also be used in a published journal and in conference presentations.

The data will only be used by the research team. As this study is part of a PhD research, it is possible that the data will also be accessed by authorised people from Plymouth Marjon university to check that the study is being carried out correctly. Everyone will have a duty of confidentiality to the research participants and will do their best to meet this duty. The data will be kept up to 5 years and destroyed either after the study has been published or the 5 years has passed (whichever is sooner).

What will happen if I don't want to carry on with the study?

You can withdraw from the study at any time before the workshops have started. You can also withdraw your participation at any time during the workshops, observations, interview, focus group, or afterwards, however, withdrawal of data that is contributed prior to withdrawal might not be entirely possible. You can ask me to remove quotes of your contributions to the conversations (i.e., anything you've said) from the written research report up until the point of withdrawal, and I will do this if your contributions can be identified amongst the rest of the conversation.

No data will be able to be removed after the data analysis has taken place (30/04/22 for observations and interviews, and 30/06/22 for the final focus group).

No data will be able to be removed from the surveys as they are anonymous, and I would be unable to identify your contribution.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to one of the researchers who will do their best to answer your questions, contact details are at the end of the information sheet.

If you have any questions about your rights as a research participant, or wish to make a complaint, you can contact the University Research Ethics Panel at ethicspanel@marjon.ac.uk

If you have any concerns about the integrity of the research you can contact Lucy Pengally lpengally@marjon.ac.uk

What will happen to the results of the research study?

The results of the study will be used to evaluate the programme. The results will also be used in a PhD thesis and potentially published in a peer-reviewed journal. A pre-publication version might be published in an open access repository. The results will likely also be presented at different sport & exercise psychology related conferences in the UK and abroad.

You will be sent a copy of the results and the publication details where applicable.

Thank you for taking the time to read the information sheet. If you decide to participate you will be given a copy of the information sheet to keep and your consent will be sought.

Main researcher: Pille Pedmanson, Plymouth Marjon University, Derriford road, PL6 8BH, Plymouth, Pedmanson.p@pgr.marjon.ac.uk, 07511312086

Director of studies/Second researcher: Dr Alister McCormick, Plymouth Marjon University, Derriford road, PL6 8BG, amccormick@marjon.ac.uk, +44 (0)1752 636700 (ext. 5001)

Participant Information Sheet – 01/02/23

(Western Runners)

Hi, my name is Pille Pedmanson and I'm studying for my PhD in Sport and Exercise Psychology at Plymouth Marjon University. My research interest is in helping people maintain running after they have started. Here you'll find some more information about my research, which I'd like you to be a part of. The title of my research project is: Implementing and evaluating an educational programme for running leaders and coaches to support runners with behaviour maintenance

The research team consists of myself as the PhD researcher and my three supervisors; Dr Alister McCormick, associate professor at Plymouth Marjon university, Dr Paula Watson, physical activity and exercise psychologist, and Dr Kass Gibson, associate professor at Plymouth Marjon university.

What is the purpose of the study?

The overall aim of this PhD project is to design, implement, and evaluate an intervention to support behaviour maintenance of new runners. We have previously interviewed new runners about their experiences after they started running, and these findings helped form the intervention content. The intervention has also been informed by consultations with running leaders, coaches, new runners, and other professionals working in exercise/physical activity psychology.

We are aiming to deliver and evaluate an educational programme to you, as the coaches and leaders, that will equip you with skills, knowledge, and confidence to support runners in developing a sustained relationship with running.

The research questions:

1. How was the programme experienced and perceived by leaders/coaches?
-Specifically, its usefulness to their role, the benefits, and the barriers of it?
2. How did the programme influence leaders/coaches' skills, knowledge, and confidence?

What is the benefit to you? As a participant in this study, you would get a chance to learn about some of the key factors that influence maintenance of running, and practice applying the learnings in your coaching.

The wider benefits: Your running club would benefit from the programme by increasing the knowledge of coaches and leaders, and helping coaching become more psychologically informed. Other coaches and leaders could also benefit by having access to the material we produce for the programme. More broadly, this study aims to support people with establishing lasting exercise habits and receiving the widely documented benefits of exercise. The wider research field of physical activity

would also gain further knowledge on what kind of programmes might work in running clubs. This research could also inform future educational programmes for other running clubs.

Eligible participants: You should be a running club leader or a running coach. You should be over the age of 18 and have proficiency in English language.

To be eligible, you would also be willing to participate in the workshops, willing to answer an anonymous survey, take part in an individual interview, if invited, and attend a focus group a few months after the programme. The first workshop is on the **8th of February** and the follow-up workshops are TBC, individual interviews would be arranged at a time suitable to you.

No other restrictions are in place.

Location: The study will be conducted at a venue near your running club.

Why have I been invited?

You have been invited because you are a coach or a leader at a running club that offers sessions for novice runners. The programme has been designed by consulting other leaders/coaches, and therefore fits the context of a running club.

Do I have to take part?

Taking part in this study is entirely voluntary. If you are happy to proceed after reading this information sheet, you will be given a consent form to read through, and provided you are happy with it, we will ask you to verbally consent at the beginning of the workshop/the interview/the focus group. You are free to withdraw your participation from the study at any point.

What will happen to me if I take part?

You will be invited to take part in up to five educational workshops, each lasting about 1-1.5 hours. The workshops will be held over a period of two to three months, and they will intend to support your coaching. These workshops will be interactive; we will use different activities and encourage you to participate in discussions with other coaches and leaders from your club. You will be invited to action some of the learnings from the workshops in your coaching practice. You will also have a chance to ask questions and get additional input from myself during the delivery of the programme through emails.

Following the last workshop, we will ask your feedback about the programme through an anonymous online survey. We will also invite you to take part in an individual interview to evaluate the usefulness

of the programme. We will ask you questions related to your experience of the workshops and how you perceived the overall programme. The interview will last approximately one hour.

About 5-6 months after the programme, we will also invite your club to take part in a final focus group discussion to understand how (if in any way) the programme has impacted your club in general, and you as the leaders/coaches within it. This focus group will last approximately one hour.

The workshops will be audio and video recorded (video recorded only if on Microsoft Teams). The interviews will be audio recorded and transcribed, and the survey responses will be transcribed. We might use direct quotes from your surveys and interviews in the thesis and published research, but we will use pseudonyms and remove any identifying information from the quotes (e.g., location) ensuring you will not be able to be recognised from the quotes. The data will be stored in a password-protected laptop in the secure university network. The data will be kept for 5 years for publishing purposes.

If you chose to participate in all aspects of the study, then it would at most involve five educational workshops, one online survey, an interview, and a focus group.

Please note: You can take part in the educational workshops, without being part of the evaluation phase. This means that you can receive the training but opt out of the surveys, not take part in the interview, and not attend the focus group. However, I might reflect on any informal feedback you offer during the educational workshops, and include that informal feedback anonymously.

Expenses and payments

There will be no reimbursement for participation.

What will I have to do?

You will be invited to take part in up to five workshops, fill in an online survey, take part in an individual interview, and take part in a focus group. The workshops and focus groups will involve other leaders/coaches.

The workshops are designed to educate and train you on how to support runners with keeping them going with running. The workshops will be interactive encouraging you to discuss and reflect on your current coaching practice and come up with solutions to example scenarios based on what you are learning. I will also ask you to set goals you can take forward from the workshops and implement in your coaching in between the workshops and beyond that.

The anonymous online survey will ask your thoughts on the programme and how you experienced it. The individual interview will ask you to further evaluate the programme, what you thought of the content and delivery method, the potential barriers and benefits you experienced, and invite you to offer suggestions for improvements.

The focus group will involve a group discussion on how (if in any way) the programme has impacted how your club operates, and the practices of the leaders and coaches.

What are the advantages of taking part?

By participating this study, you will learn about how you can use psychological principles in your coaching to support runners. You will also help further academic research knowledge on behaviour maintenance interventions at running clubs.

What are the possible disadvantages and risks of taking part?

Completing all workshops, surveys, interviews, and focus groups would require a significant time commitment from you. The workshops will take place in-person and online, and could last over 1.5 hours so it could be tiring and the timings could be inconvenient. However, there is no pressure to complete all aspects of the study.

There should not be any risk of anonymity as we will ensure any identifying information is removed from the quotes that are used.

Everyone's views will have equal weighting, there are no experts in the study, and no one has more power over others. The environment is designed to be inclusive for everyone to share their views with no right or wrong answers. Being in this kind of open environment with others could be an uncomfortable situation for some.

Will my taking part in the study be kept confidential?

I'll keep anything you say in the workshops, interviews, and the focus group confidential. This kind of research does use quotes from discussions, but I'll use a pseudonym (a name different from yours) and will not give any identifying information. If you've got any more questions about this, please ask me.

I ask that you all keep anything said in the focus group confidential. Obviously, I cannot guarantee that people in the focus group will not share what is said. You should keep that in mind when deciding what to share in the focus group.

All data will be stored on the secure network drive at Plymouth Marjon University. The audio files of the discussions will be uploaded to the secure network and the original files will be deleted.

The data will be kept for 5 years. The data will be used for this study, but the data could also be used in a published journal and in conference presentations.

The data will only be used by the research team. As this study is part of a PhD research, it is possible that the data will also be accessed by authorised people from Plymouth Marjon university to check that the study is being carried out correctly. Everyone will have a duty of confidentiality to the research participants and will do their best to meet this duty. The data will be kept up to 5 years and destroyed either after the study has been published or the 5 years has passed (whichever is sooner).

What will happen if I don't want to carry on with the study?

You can withdraw from the study at any time before the workshops have started. You can also withdraw your participation at any time during the workshops, interview, focus group, or afterwards, however, withdrawal of data that is contributed prior to withdrawal might not be entirely possible. You can ask me to remove quotes of your contributions to the conversations (i.e., anything you've said) from the written research report up until the point of withdrawal, and I will do this if your contributions can be identified amongst the rest of the conversation.

No data will be able to be removed after the data analysis has taken place (30/04/22 for interviews, and 30/06/22 for the final focus group).

No data will be able to be removed from the surveys as they are anonymous, and I would be unable to identify your contribution.

What if there is a problem?

If you have a concern about any aspect of this study, you should ask to speak to one of the researchers who will do their best to answer your questions, contact details are at the end of the information sheet.

If you have any questions about your rights as a research participant, or wish to make a complaint, you can contact the University Research Ethics Panel at ethicspanel@marjon.ac.uk

If you have any concerns about the integrity of the research you can contact Lucy Pengally lpengally@marjon.ac.uk

What will happen to the results of the research study?

The results of the study will be used to evaluate the programme. The results will also be used in a PhD thesis and potentially published in a peer-reviewed journal. A pre-publication version might be published in an open access repository. The results will likely also be presented at different sport & exercise psychology related conferences in the UK and abroad.

You will be sent a copy of the results and the publication details where applicable.

Thank you for taking the time to read the information sheet. If you decide to participate you will be given a copy of the information sheet to keep and your consent will be sought.

Main researcher: Pille Pedmanson, Plymouth Marjon University, Derriford road, PL6 8BH, Plymouth, Pedmanson.p@pgr.marjon.ac.uk, 07511312086

Director of studies/Second researcher: Dr Alister McCormick, Plymouth Marjon University, Derriford road, PL6 8BG, amccormick@marjon.ac.uk, +44 (0)1752 636700 (ext. 5001)

Appendix F: Example Consent Form

Title of Research Project:

Implementing and evaluating an educational programme for running leaders and coaches to support runners with behaviour maintenance

Name of Researchers:

Pille Pedmanson, PhD researcher at Plymouth Marjon University

Dr Alister McCormick, associate professor at Plymouth Marjon University

Dr Paula Watson, physical activity and exercise psychologist

Dr Kass Gibson, associate professor at Plymouth Marjon University

- I confirm that I have read and understand the participant information sheet dated **01/02/23** for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
- I understand that my participation is voluntary and that I am free to withdraw at any time up to the point of the start of the data collection without providing a reason. I understand that I can withdraw my participation at any point during the study but it might not be possible to withdraw my data that I have contributed up to the point of withdrawal.
- I understand that data collected during the study may be looked at by individuals from the University of St Mark & St John for regulatory purposes. I give permission for these individuals to have access to my data.
- I agree to my interview being audio and video recorded. The recordings will be transcribed and analysed for the purpose of the research. The files will be securely stored on the Plymouth Marjon University's drive and destroyed after 5 years.
- I consent to verbatim quotes being used in publications and conference presentations, I will not be named although I understand that there is a risk I could be identified.
- I understand that the results of the study may be published and / or presented at meetings or conferences and may be provided to research funders. I give my permission for my anonymised data to be disseminated in this way.

- I consent to the data being stored for 5 years.
- I agree to the data I contribute being retained for any future research approved by a Research Ethics Committee.
- I understand that electronic data will be stored at Plymouth Marjon University's secure drive. Any paper copies will be stored in a locked cupboard. Only the research team will have access to the data.
- I agree to take part in the above study

We will ask to record your verbal consent before each workshop, focus group, and interview, providing you are happy with the above.

Please note: If you have any questions about your rights as a research participant, or wish to make a complaint, you can contact the University Research Ethics Panel at ethicspanel@marjon.ac.uk

Appendix G: Interview Guide (Study 1)

Interview Questions

Introduce the research aims.

Aims

- Learn about their reasons for starting running.
- Learn about what has, so far, made running difficult.
- Learn about what has, so far, helped them to run.

Involvement in exercise

- Tell me about your involvement in running.
 - Do you do any other forms of exercise or physical activity?

The interview questions are based around three themes: Reasons for running, demands, and strategies and support. First, I am keen to discuss your reasons for running.

Reasons for Running

- What has led you to start running? Why now?
 - What are your reasons for running currently?
- Do you have any goals, in relation to running?
- What (if anything) is rewarding about running?
- To what extent do you enjoy, or feel satisfied by, your involvement in running?
- This question relates to how you define yourself. To what extent are you “a runner”, “an exerciser”, or an “active person”?
- Some people say that they *want* to go running. Others say they *ought* to go running, or others *have* to go running. To what extent do you *want* to go running currently?
- What does running currently mean for you, in the context of your life?
- Summarise

We have discussed your reasons for running, next I am keen to discuss the demands you encounter before, during, and after running.

Demands

- Introduce in relation to the demands before/during/after running.
- What makes it difficult or challenging for you to run?
- What else do you do in your free time?
- What do you dislike about running?
- How easy or difficult is it for you to go running?
 - How hard do you have to try, to go running?
 - To what extent do you need to “make yourself” run?
- Do you (and perhaps you don’t) encounter demands whilst running?
- Do you (and perhaps you don’t) encounter demands after running?

- *What* has made it harder for you to go running?
- *Who* has made it harder for you to go running?
- Summarise
 - Remember to enquire about emotions/thoughts/motivation specifically.

Signal that we are close to ending. “There is one more theme that I would like to discuss”.

We have discussed the demands you encounter, next I am keen to discuss the strategies and support you have for running.

Strategies and Support

- *What* (if anything) has helped you to go running?
- *Who* (if anything) has helped you to go running?
- What strategies do you use to help you to go running?
- What strategies do you use to help you whilst running?
- To what extent is running part of your routine / lifestyle?
- Summarise

Ending

- Are there any questions that I should have asked you, that I didn’t think to ask?
- Is there anything else that you would like to add about your experiences running that we haven’t explored?
- Do you have any questions about the interview or the research in general?
- How has the interview experience been for you?

Expansion questions

- Detail – Fill out the picture of what you’re trying to understand! “What was it like...”
- Elaboration
- Clarification
- Contrast

Examples:

- How have these experiences affected you?
- What was that like?
- What thoughts stood out to you?
- What physical sensations stood out to you?
- What emotions were you aware of at the time?
- Can you tell me more about...?
- What else do you remember about that experience?
- How did that feel?
- How did that affect you?
- Could you give me an example of when this happened?

Appendix H: Example From Study 1 Coding (Zack)

Interview 3:

Researcher: Okay, so it could be helpful to start with a fairly open question so that in terms of, the research is really looking to understand what leads to some people who start running to keep the running in the longer term. So, for yourself, you started in January, we're now through to June, so you kind of five months and still going. So, to start on a fairly broad question, what has led to you still being running currently?

Zack: Um, I think it was a mixture of various things. As previously, we discussed the determination to keep going. Um, I think as I said before about that, you know, I wasn't, it wasn't particularly enjoyable, it was hard work having to push myself, but I was hoping I'd reach a point, having run a long time before where it would start being enjoyable. Now, I have actually reached that point, which is really good. So I've started enjoying it and I think that makes a big difference. And also noticing that, you know, I've gone from the back of one group, to being at the front of the group, the next one up so, and lots of people are pointing out that I've improved. So, obviously, I don't mean that I've suddenly got really good, but I've kind of like, um sort of caught up with my peers in the group because I was lagging behind a bit but I think after losing some weight, I've kind of caught them up, which is, feels good. Feels like I, you know, there's an obvious, marked progress. So, say the main thing.

Researcher: So that um, obvious, marked progress knowing that you, you are seeing the benefits in terms of your fitness, that feels...

Zack: Yeah, so not necessarily on a week by week basis, but in taking, a you know, a different perspective over several weeks or a few since I started. Well, I mean, since I started, since I started the couch to 5k, you know, I couldn't run continuously, probably not even 100 yards and like last night, did 12k with the group and was even in the lot that were having to loop back to let the others catch up, which you know I, and I wasn't fast but if you look at, you know, the period of six months that's quite a, you know good. Positive.

Alister: And you said that you know, just knowing that you've progressed like that feels good. Can you tell me a bit more about that?

Zack: About feeling good?

Researcher: Yeah, can you, yeah, if you could.

Zack: Okay, I guess it um, it's almost like, you know, it's doing the running, this investment of time, perhaps some money as well, you know, and various things, and it's nice to sort of see a bit of a return on it. I mean, improvements in physical, mental health, how you feel, sort of self-esteem, all those things. Yeah, so it's just a general feeling of feeling, you know, good. Sort of pleased with yourself, maybe even go as far as saying, you know, proud of yourself for sticking at it.

Pedmanson Pille

...

Determination to run even when it was hard because of previous memories of running becoming enjoyable (Zack)

Reply

Pedmanson Pille

...

Running now enjoyable (Zack).

It makes a big difference when running is enjoyable (Zack).

Reply

Pedmanson Pille

...

Noticing improvements and progression feels good and motivating (Zack).

Reply

Pedmanson Pille

...

Noticeable progress over the 6 months of running (Zack).

Progress might not be obvious each week

Reply

Pedmanson Pille

...

Seeing progress in running and keeping it up makes him feel pleased and proud (Zack).

Running requires investment so it's rewarding to see the benefits through progressing and feeling physically and mentally better (Zack).

05 May 2021, 10:24

Reply

been trying to alternate between sort of 5 and I think the furthest I've done I think it's 12 kilometres so I don't tend to do like 12 kilometre days back to back, but I might do 5 and 12 and 5 and 7, and um although I'm a bit stiff, often the next day, its um, I, I've haven't felt to the extent that I couldn't you know do it the next day... and I actually found you know, I've got to, it's almost like a kind of an addiction so, which is good, kind of what I was hoping would happen. So whereas, 'Oh no, I've got to make myself go running', it's Oh no, I haven't gone running!]

Researcher: (laughs) That's it, that's kind of a big change, isn't it, to, to have over the course of three or four months to...

Zack: You think, you see the thing is, is having experienced this before, I didn't know it would happen again, but I was hoping it would happen again. I'm guessing that that feeling sense, is not, is something that most people, unless you know straight away they start enjoying it, but I would imagine a lot of people who start from not being particularly fit or over-weight, imagine that it's probably quite similar, but if they've never felt that before it must feel sometimes that you are kind of like, you know, there's no light at the end of the tunnel. So, and the fact that, that reaching that point could be quite far off. And you feel other people describing that they have reached it and do it, you must sometimes feel you know, 'it's just not for me, I'm never going to do it'. I can imagine that's a would be a factor that would lead to people stopping.]

Researcher: Are you able to put that feeling into words, are you able to describe what that feeling's like?

Zack: It's hard to I think I'd describe it more as (sigh) it's like you, [it's not like someone's suddenly clicked a switch, you just suddenly, you just suddenly realise that you're wanting to go running, rather than, rather than kind of, 'I need to do my own work for this couch to 5k' as they call it, or 'I

need to do more of that', it's like, 'Oh, I haven't been, I want to go' or, 'how am I going to fit that in? Yes'. It's kind of thinking like that. I don't think you suddenly start running along thinking, 'Wow, I'm enjoying myself and I feel great, endorphins flowing from my body', I don't think it's like that. I think it's you suddenly just realise that you're, you know, 'look where I was so many months ago'. And then I guess when people comment, you know, you, 'wow, what an improvement haven't seen you for', that does feel good.]



Reply



Pedmanson Pille



Running has almost become an addiction - he wants to go running instead of having to force himself (Zack).

Reply



Pedmanson Pille



His advantage was knowing that he has enjoyed running before so he persevered (Zack).

Awareness that most people who start will probably dislike running and will not be able to see "the light at the end of the tunnel" (Zack).

05 May 2021, 11:09

Reply



Pedmanson Pille



Learning to enjoy running is a gradual process (Zack).

Reply



Pedmanson Pille



Other commenting on his improvement is encouraging (Zack).

Appendix I: Study 1 Example Participant Summary (Mia)

Interview 1 (1st month of running)

Mia has been unfit and overweight for a long time, her activity levels have gone up and down depending on work and her mood. Last 18 months the main thing she has done is walking. She has had this vision that being a runner would be amazing so she tried C25K app before but that fizzled out as she did not have self-motivation to do it on her own, and running was hard and not as idyllic as she imagined. She has been aware of the running club for a while but this time the prompt was an ad that emphasised that you can be “any ability and any size” with someone who had completed the programme, so the relatability and mindset of “well if she can” helped her give it a go. She has been to 3 sessions at this point and has enjoyed it a lot, it gives her a buzz and makes her feel positive and “smug” afterwards, it gives her a sense of achievement that she has done something for herself. Running offers her “me time” that she has not really seemed to have previously and it helps it is at a set time. The Saturday runs seemed to be built into her schedule early on, she has arranged her other commitments around the run as she does not want to fail during the course. She is hoping that sticking with it will then lead to her continuing it regularly.

She chose running as it was accessible and offered freedom and being outdoors. She has not done any homework runs at this point but is planning to arrange them with others for accountability. It seems she does not want to do them on her own. She enjoys being outdoors, doing it with likeminded people in a safe environment which makes her less self-conscious about running than if she was on her own. Running is “something I’ve always felt I would like to do and never been able to do”. She has negative memories of PE in school (e.g., feeling like a failure), and she wants to prove to her old self that she can become active. She feels like she missed out on enjoying exercise and running has allowed her to try it again.

Her reasons for running are to increase and gain confidence in her fitness, as well as age healthier and combat high blood pressure. Aging has made her appreciate the importance of exercise. Her goal is not to become a runner or someone who does races but just increase her fitness so she can “get more out of life” and become more of an active person in their family outings. Her children being proud of her and her being able to do active things with them in the future offer motivation. At this point running is seen as a means to an end that helps her get fitter. Her main goal is to keep going and improve along the way, and be able to just go for a run on her own. The club’s friendly welcome was key to make her feel at ease, the leaders are perceived as supportive, they don’t push too hard, and she has a lot of trust in the leaders from the very start and relies on them to tell her if she is ready to progress. She especially enjoys the social aspect and meeting new people through running. The key to keeping her going is that the people are similar size, age and ability – the group offers relatability and judgment-free environment. At the beginning she goes to the club mainly because she likes the people and the feeling afterwards but also she enjoys seeing improvements in her running, progressing seems important to her. On Saturdays she wants to go but the mid-week runs feel like she “ought to” go.

She does not see any constant barriers at this point for the Saturday runs, her children are older and she does not have ties to home, the only thing stopping her would be her own motivation. Running can be fitted into her schedule easily if she wants to, “So if I, if I organise my life, it shouldn't be a problem. If it does become a problem it is because I haven't prioritised it if that makes sense. I should be able to arrange my life to fit it in”.

Her main barrier to the mid-week runs is being tired from work and also feeling embarrassed, self-conscious about running on her own, she feels safer in the group. She is hoping that with increased fitness her confidence will increase too and allow her to run on her own. She wants to make the mid-week runs part of her routine like the Saturday already is. The main support for her comes from the club but her family also seem supportive. She has already started to use positive self-talk to encourage herself to go running. She seems to really want to stick with running this time.

Interview 2 (3 months into running)

Mia has continued to run. She started to notice progress in her running but she also feels stronger and fitter in her other daily activities. She completed the 5k graduate race which made her feel proud and gave her the sense of achievement from finishing the course. It seems other people's encouragement and confidence in her ability to do the 5k was something she needed to sign up for the race. Other people believing in her has increased her own self-belief in running. Also, it seems that her age might play a part in her going for things more, she did not want to wait until she is fitter:

"You sort of realised not necessarily that your time's running out but life's there for living. And for you don't haven't got 101 opportunities left anymore if I'm going to do something, I want to do it properly and get what I can out of it. Maybe age is a factor in it."

She continued to prioritise the runs, she has not missed a Saturday and she has started mid-week runs through the facilitation from the club leader. It seems she needed someone else to arrange the mid-week runs, she did not arrange it herself. She also does not have enough motivation to run on her own when tired from work, mid-week runs are easier because of the accountability and structure, they have always been at the same time. She would find something else to do if the run was not planned in with others. She still needs others to run with her, she is self-conscious and would need to pre-plan a route as she would not want to run on the streets. She feels safer and happier running with others, it seems it is more "emotional security" that she gets from others, the feeling of being "in it together", she feels comfortable running with people of the same size, age and ability which suggest low self-esteem regarding her body and ability? Running with others will also push her more than she would on her own, it seems she lacks self-motivation.

The club support in real-life and social media has been a key to keeping her going, she feels a sense of belonging to the group, their support inspired her to do well in the 5k to show her appreciation of their help. She also enjoys the sense of achievement and seeing improvement in her running. She also started to appreciate running in the nature more and realised running is not only for fitness but also for exploring. Her reasons for running are the same (e.g., fitness, being outdoors, social aspect, time for herself). She acknowledges that people need to have personal meaning for running and it seems that keeping fit to improve life in her older years is one of hers.

An additional reason is to try and improve her previous 5k time. It seems that her confidence in her running ability has increased a little and now she is curious as to how far she can take it.

The difference is that running has become means on its own, not just to increase fitness, she now enjoys running itself. She is about to join one of the groups and her goal is to run 2-3 times a week and do occasional 5k race to track improvement as progress is important for her. She wants to get fast enough to be able to join the club on mid-week runs which shows she is planning to keep running.

Running is rewarding because it offers sense of achievement, she feels good about herself after she has run, and her self-confidence and self-esteem have increased after seeing improvement in fitness. Running is seen as an opportunity where she can achieve something and she has control over it, but also it is a chance to be recognised by others. I wonder if this is especially important because she has never had any “exercise success” before.

“So it's, it's, it's good for my ego. Because, you know, I get out of it, what I put into it, and I feel good about what I've done. And it's nice when people who know what they're talking about with running sort of recognise you that you've achieved something. So a bit of massaging of the old ego, it's doesn't go amiss.”

Her enjoyment has grown throughout the course as she feels that the people who stayed are more like-minded, genuine, and focused on the running. She does not identify as a runner yet but she hopes she soon will. Gaining confidence in running and being able to keep up with others would make her a runner, it seems that pace determines a runner status. Running with the club has made her aware that runners come in all different levels, not just the fast ones she used to see on the streets.

She has not experienced any barriers yet. Her support network is the same, her family and the club. She is inspired by the leaders and other runners who have similar background, if people have come from unfit background they offer the mentality of “if they can do it, I can do it”. This relatability seems significant because of her previous beliefs that exercise was only meant for the Olympians. She appreciated the C25K structure a lot, the gradual increase and safe, pressure-free environment. This is perhaps because of her low confidence. She trusted the people and the process because the leaders had been through it themselves which again increased the relatability and made her believe she can do it too.

Interview 3 (5 months into running)

Mia has continued to increase her running with the club and now considers herself a runner.

“It, it, I've, I feel like I've sort of gone up a st- a step. I know you said before, ‘would you consider myself a runner?’ I think, probably, I would say now, ‘Yes, I would’ (be)cause I run, I try and run three times a week.”

Calling herself a runner is significant to her because of her past negative experiences with sport and because she has identified as a non-active person for so long. She has continued to enjoy it and looks forward to the runs, she has not felt like she had to make herself go, rather she is finding “excuses to go”. Running offers her a buzz, a sense of achievement, she is amazed that she can actually run. She enjoys the views where they run, as she is seeing places she has never seen, and she still gets a lot out of the people she runs with. Those reasons (e.g., sense of achievement, being outdoors, social element) are all key to keeping her running and enjoying it. She is still not running on her own. Running offers her a chance to “switch off” where she does not have to make decisions, just follow the leaders and run. Running on her own would require having to plan and think.

Completing a “bus run” with the club was a key positive experience as she felt brave for attempting it, perhaps overcoming her previous doubts? That instilled in her the belief that she can run longer distances which she has drawn on to increase her self-belief in other instances. Doing that run also

helped her then to carry on with the mid-week runs with the club, which was important to make it into her routine. Another key moment was realising she can run up hills, as hills were built into this big thing at first (by the club). She seems to enjoy the challenging runs that include hills rather than see them as a negative. I wonder if they offer even bigger sense of achievement? Her overall confidence in her running ability has increased with the more runs she has done: "I feel I've done enough runs now that I can do it. It wasn't just a fluke". It seems she is now using her own previous experiences for confidence not only vicarious.

Her daughter was running with her during the summer and sharing that experience with her was special. In a way she felt like a role model to show her daughters that age is not a barrier to trying new things. Running with her daughter was nice but not essential for her to keep running, she will continue when the daughter goes back to university. She has signed up to her first 10k race, she needed other people to encourage her and believe in her ability to sign up but this suggests that her confidence in running has grown. That's when she also upped her twice a week running to 3 times as she wanted to train properly for the race. The strong commitment to running seems to still be there. She is hoping that by doing the 10k it will confirm she can run and will spur her on even more.

She is feeling like part of the wider club now after joining the mid-week runs and the connections have strengthened, she enjoys the chats, friendships, and encouragement from other runners. The club has been her biggest support, she needed the advice and the reassurance from them that she can run. "But yes, definitely it's, it's being part of a club. I would never have become a runner on my own."

She is still running because of health and fitness reasons but the added thing is that she now really enjoys it too. At first running was enjoyed to meet people and getting out but once her fitness increased she started to enjoy it for the exercising itself. She worries about injury because she would not want to lose momentum with running, and lose all the fitness she has gained, so that pushes her to keep going as well. Worrying about that suggests that her recovery self-efficacy is not as strong yet. She seems to really want to go running now, even when she is tired she has gone and she has learnt that it gives her energy afterwards.

"Actually that is what is quite interesting. You know, quite often I'll come home from work when I've done sort of like a 10 hour shift or whatever, I feel- I sit down and think, 'Ah, I'm so tired'. And a few times I sort of nodded off in the chair. But I can get up and go running and get back and I'm buzzing. It, it's funny isn't it, how you convince yourself that you're tired and you can't do something, but if you actually force yourself to go and do it, then I'm fine."

Her main goals are to keep going and keep enjoying running. She likes to set achievable goals, she has the 10k booked but she is already planning other races once her fitness improves further. Races are seen as something to keep running interesting, which is a change from the first interview where she did not think she would ever want to run races. It seems that with the increase in fitness and confidence she has expanded her view of running and what she can do with it.

She still does not have any barriers, she anticipates that running in the winter might be harder but even when discussing a clothing challenge she refers to it as a "minor technical point", which suggests that this would not put her off running. The only barrier would be her own motivation (i.e., she could find an excuse if she did not want to go). Running seems to fit in with her other life commitments and work hours without much "forcing". It seems running is part of her lifestyle already and she trusts her routine – missing a few Saturdays is not seen as a big deal anymore like it was at the start. This suggests

that she knows the routine and habit is there so a missed run will not affect it. She even initiated a run with her relatives when she was away indicating the strength of that routine. She feels that her life is “her own” without any commitments so this is a great time for her to be running. “So I think I can see a lot of people might- my stage in life do get a bit, sort of, torn between family commitments, but you know, I’m not, you know, I’ve lost my parents and I’m not quite into the grandparent bit yet. So, this, I suppose, is one of the free times in my life, I should make most of it, shouldn’t I.”

Interview 4 (8 months into running)

Mia has continued to run 3 times a week quite regularly. She has continued to prioritise her running, even over Slimming World commitments as she feels she benefits from the running more. The biggest thing that has happened since the last interview was her 10k race which was a very positive experience, she felt “pure elation” when crossing the finish line as she could not believe she had done it. Being the runner and not the spectator was a nice change, perhaps as she has previously been the “passive” one in the family as well. She enjoyed being in the race with the other club members, it gave her sense of belonging and made her feel safe. Even though they did not run together, she took comfort in knowing that others were in the race and she was not alone. Being part of a club and running with others or sharing these experiences with others seems really important still, she would not have enjoyed it on her own. She has done one run on her own which is a change from previous interviews but she did not enjoy it as much as when running with others. When she runs with the group she can just be in the moment whereas on her own she has to think about the route and make decisions, and there is the temptation to cut the run short. It seems she still needs other people for the enjoyment. When she is “in the moment” she forgets about other things going on in her life, it offers a feeling of freedom and helps her zone out of her everyday problems.

Her confidence in her running ability seems to have continued to increase, she has ran with the faster group in training and is preparing to move up a group now, which is something she was unsure on previously. She is aware that she would not improve in the slower group so it seems improving is still important. Her two main reasons for running are still the same as before and equally important; keeping physically fit and the social element of meeting people.

She feels that she still has the support of her family and the club in her running. Running has become her thing, something important that makes her feel good, so she now justifies the prioritisation of it. She knows it will make her live healthier for longer.

“You know, I have said to the girls a couple times, ‘I’m sorry if I seem a bit selfish sometimes, but, you know, running’s important to me, it really helps me. I just, it makes me in a good place. It just makes me feel good about myself. And in the long term, it will benefit you because I’ll be a happier person.’”

She also did another 5k where she improved her time. It was important that she was faster but she did not seem too bothered about the exact times. Her goals are to keep going and improve. She is planning races for the following year because she thinks it is good to have something to aim for. She is also looking at maybe volunteering as a leader at the club in the future as she wants to give back and encourage others the same way they did for her. She seems very committed to the club long-term.

She thinks she is lucky that she can prioritise running. She does not see any barriers because she has no other commitments. She thought the winter running would be more challenging and the routes more boring but she still enjoys it and it has not put her off running. Bad weather would not stop her now because running has become a habit. She has discovered that one of her neighbours also runs which increases accountability on bad weather runs because they have arranged lifts. It seems she has just found facilitators rather than barriers to running. Even when her muscles ache from running she sees it as “nice ache” because it indicates that she has done something, rather than view it as negative/excuse to not run. She seems to find positives in everything running-related. It is reassuring to her that lot of the runners are 10 years older than her which shows her that she can also keep it up for a long time.

Her confidence has grown through running but there is still disbelief at times that she can actually run. It seems that the change in mindset from thinking exercising is not for her to then becoming a runner has been very meaningful and inspiring, it was also the biggest thing she had to overcome. Establishing that self-belief was aided by the other runners who first believed in her, being told she could do it made her believe she could. “So yes, constantly all those people saying you can do it just believe in yourself you can do it and you go for it because you think if they've been running they know what they talking about and they were right. I don't know if they really did believe it but because they said that they believe that I believe that and then I did it.”

She runs now “because she can”, and it makes her feel proud. No matter what else happens in her day, if she runs she has achieved something. Running outdoors offers a sense of freedom and doing it with others offer a safety net.

Overall Summary

Mia was not a big exerciser, and held a strong belief that she was not meant to do sports. Through running, she seemed to find the joy in exercising that she missed out on her life before. One of the main things that kept her interested in running was the social aspect of the club (the encouragement from others, and the friendships she formed). It seemed to offer her another outlet outside of her home and work but she also needed the belief and encouragement from others to believe that she could run. The other reason she ran was for the health benefits, she was aware of her age and wanted to live a happier and healthier life by getting fitter.

It seemed that she genuinely ended up enjoying running itself; the feeling of freedom, gaining fitness, sense of achievement, whilst in the company of other like-minded people. The enjoyment seemed to be linked with running in a group, not on her own. The group offered her safety and a chance to let go of any decision making and planning, she could just follow the leaders and run.

She prioritised running early on ensuring that she would not miss any sessions and re-arranging other plans to accommodate this. It seems the commitment was there from the start. After the course finished she joined the club and started running 2-3 times a week. It seems she would continue as long as the club runs were there. Running became her thing, she made plans for future races for the following year, and planned on joining the club as one of the helpers one day too, indicating she was committed to running (and the club) long-term. The leaders’ encouragement and belief in her seemed so significant that she wanted to spread that and become a leader who encourages others.

She seemed to have a low belief at the start about whether she could become a runner but that quickly changed through her progress. She held a view that sport was for the elites, but joining the club

showed her the diversity of runners and levels which then helped her increase the belief that she could become active too. It feels like joining the club opened her eyes to the world of possibilities in running and she wanted to be part of that. There was no appreciation previously that exercise is a tool to look after her body: "I never had that feeling for a long, long time that you know, your body was there to be looked after. Because I always thought that sport was just for the ones that were in the team. I didn't see the sports and physical exercise had any other role other than to make people achieve win medals."

Others around her held some negative views about running (e.g., her sister hurt her back, others told her not to run at her age). She did not let these stop her so it seems that this time she was quite committed to properly giving running a go. Perhaps after seeing the older runners at the club she chose to believe them rather than the other views. It was almost like she was focusing on the reasons to run/make running feasible, rather than look for excuses not to.

Although her job was at times physical, she never skipped a run because of being tired. She seemed to have an internal driving force that pushed her into running because no one from her initial off the couch group continued onto the club but she did. It also seemed to be the perfect timing for her to start running. She talked about her age a lot and it almost seemed like a "last chance" to try something new and do it properly. A lot of things seemed to align for her to make running easy (e.g., her daughter being home and running with her).

It seems that her confidence in running and in her physical abilities increased a lot throughout the 8 months. The first races and the bus run were the key experiences that increased her belief in her running ability. She initially needed people to go to the club with, and seemed quite worried about failing, compared to later where she was running even though others did not continue with her, completing races and looking at joining more advanced groups in the club.

Appendix J: Examples From Study 1 Theme Development Process

A	B	C	D	E	F	G						
Participant	Interview	Data extract	Code	Context	Additional notes							
3 (Isa)		2 yeah, but I think it is. 3 Erm, no think, yeah, I think. I think it's just my mindset has changed, I am very determined to become fitter whereas before I was like, oh be nice to lose weight, it'd be nice to get a bit fitter or (unclear), you know, whereas now I'm like, no, this is, you know, I want this to become a whole lifestyle change, not just, oh, I'm going to do this for three months. And then, you know, I think you have to see it as like a longer thing, if you are gonna keep going, I think I could, that's the only difference between, I can see between me this time. And previous times I've tried to take up running is I'm kind of seeing it as like a long term thing rather than a, like a short term benefit, or I do this, that'll help me lose weight, I'll do this, and then I'll be a bit fitter. You know, it's like no, I am gonna do it. And this will be how I change, I hope.	Mindset different this time, determined to get fitter and change lifestyle permanently (P3). Important to see this as a long term thing (P3) Hopeful that this time running will be the way to change lifestyle longer term (P3).									
3 (Isa)		2 because I know last time when you said to me about and I said something about, having time for myself, I went home and I thought do you know I had, I knew that that was one of the reasons I was running but I'd never really vocalized it or thought about and I thought gosh, that is actually such I really do, that's something I've for a long time I felt like I needed. But just never really thought about it and said it	Vocalizing your reasons for running in the interview like "doing it for myself" hadn't occurred before but saying it out loud makes you realize it's needed (P3).									
3 (Isa)		3 But it's still really the whole just wanting to be fitter and able to keep up with them all, you know, when we go walking. But and I have, I'm noticing that. So then once you see that you can kind of see the benefits of doing it. You know, we went to (place) on Sunday. And normally I would be absolutely on my knees, you know, all day walking around. And you know, it's quite hilly, isn't it? And I was, you know, I was tired, but absolute fine. You know, that's, I thought oh, yeah. You know, little. Yeah, that's, that's, that's easier now so. I didn't realize how unfit I was that's quite shocking really. So yeah, so I think that's kind of still my motivation and obviously, all this stuff with my mum's heart is very, you know, that, that has driven me definitely, I think that's been my the biggest change for me is, is having that and you just think no I can't have that happen to me. And I'm not saying it won't just because I'm running, like once or twice a week, but at least if I feel like I'm doing some things to you know help it, it is kind of been a kind of a positive thing	Noticing differences in general fitness levels when walking with family (P3). Being fitter makes you realize how unfit you were previously (P3). Mother's heart disease still a big motivator (P3). Running can make you feel like you are taking action against the heart disease (P3).									
3 (Isa)		3 I think it is having joined the group because that is this one of the main differences. Last time when I did the couch to five K, I just stopped. I didn't I didn't go on the Tuesday. And I think making that right, I'm going to go and do that. And I decided that very early on, that's what I'm going to do. I think because you then it just keeps you going. And then you're part of that running group. And you almost is that now if I don't go, I feel like I'm so sorry, I'm not going to be there tonight. You know, they don't mind if you are there or not but you feel like not that you're letting people down. Because that's it's not as strong as that. But do you know what I mean, you kind of you look forward to going and seeing every one, and you know, things like that	Joining the running group after the C25K helped with commitment to running (P3). Feeling bad if can't go for a run now with the group (P3). Going to the running group is something to look forward to (P3).									
3 (Isa)		3 Plus, obviously, what's happened with my mum, I think has been very personal, like it's personally motivated me to kind of go do you know what? I've got 40, 41 now, I've got a you know, if I don't do it now, before I know it I'll be 45 and even more unfit and put on more weight. And it's just a slippery slope isn't it I think as we get older so, I think that's been from a personal point of view, that's really motivated me. But then I could have had that. But if I hadn't joined the group, I think that'd be running once every three weeks or something like that. And just oh well better go for a run today I haven't done anything for a while. Whereas when you're in a group, it makes you go back	Mum's heart disease still a big motivator to change lifestyle now while you still can (P3). Running would be very inconsistent if hadn't joined the running club (P3).									
<	>	Life getting in the way	Stress	Prioritizing & Planning running	The Why	Running means to an end	Enjoying running	An effort	Learning that I can run	If they can do it so can I	Momentum	Seeing Improvement

A	B	C	D	E	F							
Participant	Interview	Data extract	Code	Context	Additional notes							
1 (Aaron)		1 also I want to be fitter and stronger in myself. It's another thing I think, you know, when I'm on the treadmill, I'm running, I'm thinking even though I'm doing it, it was only approximately five years 5, 6, 7 weeks ago when I couldn't run at all. And now I'm running for, I believe it's stints of 20 minutes three times a week, which is a massive achievement, taking consideration the fact that I haven't run since probably 2014. So yea it's to improve my fitness	Current running level is seen as massive achievement compared to not being able to run at all before starting the program (6-7 weeks ago)									
2 (Aaron)		1 (unclear) Yes, yes, it is. Purely because of the I like to see the progression. Therefore like on Monday, I will Monday its speed 11 on Wednesday, it's 11.3. And then on Friday at 11.5 speed, I like to keep them the same, I like to keep the incline the same I need to keep it the same. And that's how I see my progression	Running only done on treadmill because it allows him to track progression very clearly	The answer is a question "Is all your running done on the treadmill currently?"								
3 (Aaron)		1 I know that on Friday I've run faster than I run on Monday. And that's that's all I need. And then I'll start the same on the following week. 11.11.3 them. very militant, but it works. It works for me and it worked when I was in rehab. So I know it works for me.	Progression important - he needs to know he has run faster on Friday's run compared to Monday's run									
4 (Aaron)		1 I once I've completed a run, I feel achievement because I know what I've overcome. I can remember being told in hospital that I wouldn't walk without crutches, I remember being told that I would never run. I can remember all those things cos it was obviously quite distressing at the time. I remember taking my first steps without crutches. I remember my first time on a treadmill. So every time I run, it reminds me of where I've come from.	Completing a run offers sense of achievement. Every run reminds him of how far he has become.									
5 (Aaron)		1 I think one step further, always, always one step further than I was before.	Every run is seen as one step further than what he was before									
6 (Aaron)		1 But every week, it gets better and more comfortable and more fluid and I can see from week one to week where I was just before Christmas. I think come week, you know 9 10 11 12 I'll run a bit more comfortable	Running has become more comfortable throughout the program									
7 (Aaron)	Diary	Researcher: What (if anything) is rewarding about running? Reduction of pain, achieving personal goals, faster times, further distance	Results-orientated in running. Improvement important									
8 (Aaron)		2 I do enjoy it. I feel. I feel like I'm accomplishing stuff while I'm running. I do enjoy it. Yeah. erm (pause) Yeah, I enjoyed hitting my targets every week. You know, every three runs a week. I went faster, a little bit each time and then our final Final Friday run the final third run of the week. That would be my fastest one (unclear) Yeah. And it would be faster than I was on Monday, which showed that I was fitter on Friday then I was on Monday or I was stronger and more agile and that's what it's all about. Researcher: And I think (talking over) P1: visible goals now, which I was achieving, so yeah, I was happy.	Achieving visible goals is enjoyable and provides feelings of accomplishment (P1)									
<	>	Life getting in the way	Stress	Prioritizing & Planning running	The Why	Running means to an end	Enjoying running	An effort	Learning that I can run	If they can do it so can I	Momentum	Seeing Improvement

Appendix K: First Workshop Slides for Co-Production Study (Study 2)

An intervention to support new runners using evidence-based psychology



1

Introductions

Who are we?

Pille Pedmanson

- PhD Researcher at Plymouth Marjon University
- Runner, Trainee Sport and Exercise Psychologist
- Interested in helping other people find the love of running too

Dr Alister McCormick

- Senior Lecturer at Plymouth Marjon University
- Runner, Sport and Exercise Psychologist, PhD in Psychology
- Interested in helping people to keep doing something meaningful and healthy



2

Goals for our work together (i.e., why are we here?)



Help new runners to continue their involvement in running & involvement with the club through an intervention



We want your input on what this intervention could look like and how we can best support you based on our findings



The structure

Three workshops in total

Workshop 1 (tonight)

- Share our findings and get your initial thoughts

Workshop 2

- Present ideas for intervention based on tonight's session, and ask further feedback from you

Workshop 3

- Share the intervention design and ask any additional comments on it

Potentially an additional workshop with runners as well

What is Exercise Psychology?



- Interested in people's thoughts, feelings, and behaviours (e.g., whether they continue running) in relation to exercise
 - What encourages exercise?
 - What benefits (e.g., self-esteem) do they get from it?
- Practitioners are interested in applying strategies, to support people in starting and sticking to activity.
- We are both specifically interested in the **maintenance of behaviour change**, and how the principles can be applied to running.

Research project in 2019-2020

- Alister interviewed 20 new runners (13 from your club's C25Ks) about their experiences after starting running (e.g., motivations & barriers)
- Participants were interviewed 1-5 times and up to 12 months after they started running
- Everyone found the club very supportive and helpful for starting running, but not everyone continued to run

Findings – Theme 1



Finding a Meaningful 'Why'

- A why related to the person's identity, broader values, life goals, memories, meaningful relationships, or enjoying / "loving" running was helpful for running
 - Contrast with more generic 'healthy aging' reasons
- A why specific to running, rather than broadly for exercising, was important
- Some started with a very clear 'why', others developed it along the way.
 - Without it: need strategies to 'make themselves' attend; life gets in the way; unlikely to become independent of the club (e.g., doing 'homework' runs); slow progress; stopping!

Findings – Theme 2



Opportunities and Experience are Unequal

- Some people's lives meant that they always had more barriers than others (e.g., less time, less money)
- Individual's life circumstances could be supportive or non-supportive for running (e.g., flexible job hours versus having to work overtime)
- In the Tavistock area, we found motherhood to be a particular barrier where there was a lack of additional support
- Some barriers were too big to overcome even when the people had a meaningful 'why'

Findings – Theme 3



Learning that I Can Run

- People needed to learn that they could run and could become runners (e.g., running is not just meant for the elites or certain body types)
- Lack of confidence, lack of self-belief, and self-consciousness needed to be overcome to become an independent runner
→ This happened through consistently attending, increased fitness, noticeable improvements, and seeing relatable others succeed
- The meaningful why explained why some people were able to consistently attend, and therefore improve, helping them keep running

Findings – Theme 4



Life Gets in the Way of Running

- 'Life' (e.g., house moves, job changes, children, holidays, hobbies, commitments, general 'busy ness'...) could get in the way of running, disrupt routine and momentum, and cause stopping.
- Clear differences between runners who ran when their Saturday happened to be free versus the ones who actively prioritized running and planned their life around running
- Having a meaningful 'why', and using mental techniques and strategies (e.g., planning how to overcome the temptation not to run) supported prioritization of running

Summary & Discussion

Take aways from the themes:

1. Runners need a meaningful 'why' (e.g., links to identity, values, relationships...)
2. Some people have more barriers than others (e.g., due to motherhood) - Can exercise become more inclusive?
3. Runners need to gain confidence in their ability to run and become independent of the club
4. Runners need a plan to avoid 'life' getting in the way of their running

Questions (discussion & Padlet)

1. Reflecting on the findings, are there any that seem particularly important?
2. Based on the findings, how do you think we could best support the club?
 - o What could our support look like in your club context?
3. How would we know if we've been helpful?
4. Is there anything else that you would like to add?

Next steps

- Padlet will stay open for one week for further thoughts you might have
- We will start developing the intervention based on your feedback
- Workshop 2 (online) in 5 weeks' time to present the ideas and ask for your comments



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A hand-drawn illustration of a yellow pencil with a pink eraser and a grey band, positioned horizontally above the words 'THANK YOU!' written in a black, casual, hand-drawn font. The exclamation mark is yellow, matching the pencil.



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Appendix L: Workshop Summary (Study 2)

Summary of the in-person workshop on the 25th of July & online workshop on the 3rd of August

What is the programme likely to be?

- Coach-upskilling programme is the preferred way of delivering the intervention

What is the aim of the programme?

- Better skillset for new leaders
- Create an internal leader development programme - having this material used for your own leaders' course that stays with the club for future leaders
- Improving the C25K programme for runners by increasing the knowledge of the leaders
- Motivation for leaders as they learn new things too, empower them to pass on knowledge
- As a by-product, bring the leaders together/club bonding

What do you want to learn? What could the content include?

- Improve communication skills of leaders (what to say or not to say and when), especially when time is limited
- Education on different ways to motivate
- Help runners become aware of their 'why' & their goals
- Learn leadership skills & interpersonal skills to help lead people towards their goals
- Increase confidence for leaders to believe in themselves
- Learn to increase self-belief of runners
- Education on common barriers and how to support runners with coping with those
- Easy & practical take-away messages from the sessions that can be applied right away, but important not to over-simplify - ensure that information can't be misinterpreted

How to evaluate the programme?

- Self-assessment from the leaders individually
- Evaluation from runners (through feedback during and/or afterwards)

The logistics of the programme

- In-person delivery would be best for engagement
- Include recorded & written material (session summary) that can be revisited after
- Important to have practical & accessible content
- Half-day workshop on a Saturday before January C25K, and a refresher session 6 weeks later, or 2 hour-workshops monthly/every 6 weeks suggested
- Include material to handout to leaders (e.g., supplement the session content) & to runners (e.g., goal-setting, how to cope with barriers)
- Some material could be handed out to runners at different stages of their C25K

Additional thoughts

- Biggest barrier to the programme would be buy-in and attendance from the club
- Getting runners' perspective on the programme would be useful

- Important to stay authentic to yourself when coaching
- September C25K opportunity to find out what else might be needed

Appendix M: Applied Practitioners Workshop Slides (Study 2)

Designing a coach-education programme





Pille Pedmanson, PhD Student & Trainee Sport & Exercise Psychologist
Supervisory team: Dr Alistair McCormick, Dr Paula Watson, Dr Kass Gibson



1

Structure for the session

- Background into my PhD
- Introducing the co-production study
- The intervention plan
- Questions for you about the intervention



2

Background to my PhD/Study 1

- I began by analysing previously collected longitudinal interview data from new runners (N=20).
- The aim was to understand which factors explained why some people continued to run and why some people did not
- Four themes were developed:
 1. *"Finding a meaningful why"*
 2. *"Opportunities & Experience are Unequal"*
 3. *"Learning that I Can Run"*
 4. *"Life Gets in the Way of Running"*



3

Co-production with the running club

- The intervention is developed with one particular running club who will also be the receivers of the intervention
- So far 2 workshops with coaches + observations and brief interviews with runners at their Couch to 5k sessions
- In the workshops we showed them the findings from study 1, and asked them how the findings resonated, how an intervention might work in their context, and what content should we include

4

What the coaches wanted?

- The intervention to be tailored at them, to ensure sustainability
- To be upskilled (e.g., to increase their own confidence, their communication & leaderships skills)
- To learn how to motivate runners, how to inspire, how to increase confidence of new runners
- To have a practical intervention with easy take-away messages that can be applied right away

The aim of the intervention

- Equip coaches with the skills, knowledge, and confidence to support runners in developing a sustained relationship with running

How to do this?

- **Skills:**
 - Through practising interpersonal skills with each other (e.g., communication, empathy)
- **Knowledge:**
 - Through educating them on evidence-based findings (e.g., quality of motivation, how to increase confidence)
- **Confidence:**
 - Through increasing the coaches' own skills and knowledge, getting them to reflect on their existing skillset, and allowing them to practice applying what they learn

4 Key Pillars: Purpose, Progress, People, & Planning

- Purpose = helping runners identify a meaningful 'why'
- Progress = showing runners that they can run
- People = creating an inclusive and supportive environment
- Planning = helping runners put intentions into actions



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Purpose, Progress, People and Planning

The 4 Pillars are a combination of evidence-base (study 1 findings), literature, the coaches' requests, and observations/conversations with runners

Purpose	Progress	People	Planning
<ul style="list-style-type: none">• "Finding a Meaningful Why"• Self-determination theory• Coaches wanting to find ways to motivate runners• Runners saying it's down to the individual's motivation if they keep going	<ul style="list-style-type: none">• "Learning that I Can Run"• Self-efficacy theory• Coaches wanting to increase confidence of runners• Runners wanting to see how much they're improving each week	<ul style="list-style-type: none">• "Opportunities & Experience are Unequal"• Basic needs theory (relatedness)• Types of social support• Runners asking for more teambuilding activities	<ul style="list-style-type: none">• "Life getting in the Way of Running"• Self-regulation theory• Runners repeating couch to 5k many times



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Purpose, Progress, People and Planning

Content of the programme:

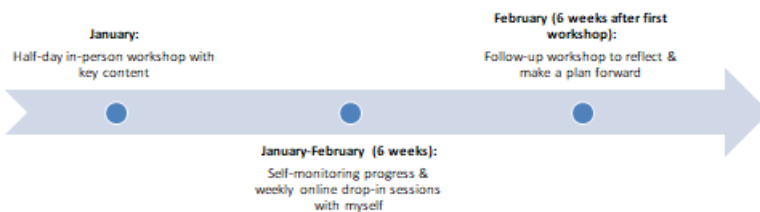
- In-person workshop
- Short videos for each Pillar
- 1 page handout
- Detailed handout for each Pillar

Delivery plan:

- Half-day workshop with 1 hour on each pillar
- Self-monitor progress & weekly drop-ins
- Follow-up workshop 6 weeks later

Purpose	Progress	People	Planning
Helping women identify a meaningful why	1. It's helpful to know your why 2. It's helpful to look at your why	1. It's helpful to know your why 2. It's helpful to look at your why	1. It's helpful to know your why 2. It's helpful to look at your why
Helping women identify a meaningful why	1. It's helpful to know your why 2. It's helpful to look at your why	1. It's helpful to know your why 2. It's helpful to look at your why	1. It's helpful to know your why 2. It's helpful to look at your why
Helping women identify a meaningful why	1. It's helpful to know your why 2. It's helpful to look at your why	1. It's helpful to know your why 2. It's helpful to look at your why	1. It's helpful to know your why 2. It's helpful to look at your why
Helping women identify a meaningful why	1. It's helpful to know your why 2. It's helpful to look at your why	1. It's helpful to know your why 2. It's helpful to look at your why	1. It's helpful to know your why 2. It's helpful to look at your why

Timeline



Example plan for “Progress”

- **Icebreaker:** Get coaches to share their progress/running journey
- **Short video** (~5 minutes):
 - Key messages about Progress: 1. Seeing yourself or others succeed can build confidence, 2. Becoming independent can help people continue
 - How to action & Examples
- **Reflections** from coaches:
 - “Where do you think you currently are (in relation to showing progress to runners)?”
 - “How do you know you are at that level?”
 - “Where could you improve?”
- **Explain/Remind** of the “how to action” points again
- **TASK:** Come up with concrete examples that you can do as a leader that fall under the “how to action” points. For example, for the action point “Give runners opportunities to see progress”, how could you do that?
- **Time for questions**

Real-life scenario (from their club) or Skills practice in some sessions



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Example plan for “Purpose”

- **Icebreaker:** Get coaches to think about their purpose for running, what is their why and has it changed
- **Short video** (~5 minutes):
 - Key message about Purpose: 1. It's helpful to know your why, 2. It's helpful to own your why
 - How to action & Examples
- **Reflections** from coaches:
 - “Where do you think you currently are (in relation to helping runners identify their why)?”
 - “How do you know you're at that level?”
 - “Where could you improve?”
- **Explain/Remind** of the “how to action” points again
- **TASK:** Come up with concrete examples that you can do as a leader that fall under the “how to action” points. For example, for the action point “giving opportunities for runners to reflect on their why”, how could you do that?
- **Example scenario & Skills practice** – A runner tells you that their only reason for running is to lose weight because their doctor said they have to. In pairs, take turns with one of you being the runner, and the other one the leader.
 - What could you as the leader ask the runner/say to the runner to help them identify a more personal reason?
- **Time for questions**



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End of the workshop: Action plan for the coaches

- For each Pillar they would come up with their own action plan – what are they taking forward into their coaching?
- Second session reflecting on what they actioned, how did it go, questions etc
- I would offer to be available for questions in between the two sessions (e.g., drop-in once a week).



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Questions for you

1. What do you think of the plan?
2. Does the plan make conceptual sense to you as an exercise psychologist? Is there anything you would challenge?
3. Are there any barriers that you see with this plan? And how might we overcome them?
4. Are there any good practice suggestions that you would be willing to share?
5. Are there any particular activities or tasks that you know of that might be good for the coaches to apply what they have learnt?



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A hand-drawn illustration of a yellow pencil with a pink eraser and a sharpened lead tip. The pencil is positioned horizontally above the words 'THANK YOU!' which are written in a large, black, hand-drawn font. The exclamation mark at the end of 'YOU!' is colored yellow to match the pencil.



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Appendix N: Handouts for Purpose

PURPOSE

-help runners identify a meaningful why

KEY MESSAGES

It's helpful to know your why: A why is someone's reason for running. Being aware of their reasons for running can help people continue with running.

It's helpful to own your why: The quality of the why matters. It's important that the why is internal and meaningful to the person, and that it is not determined by someone else.

Knowing and owning your why

The quality of our why matters because it can determine whether we continue to run or stop running. Self-determination theory¹ differentiates between two types of motivation: better quality and poorer-quality. Better quality motivation helps people keep going with exercise in the long-term². When we own our why for running, and when it's of better quality (i.e., meaningful to us), we are more likely to continue with running. Poorer quality motivation can be helpful for getting someone started with exercising, but it's not helpful for keeping it going in the long-term. It's important to have better quality motivation alongside the poorer.

Better quality motivation	Poorer quality motivation
<ul style="list-style-type: none">• Enjoy running• Value the outcomes running is giving us (e.g., making us feel more confident, giving us "me time")• Choosing to run• See running as something that supports how we view ourselves, or what is important to us	<ul style="list-style-type: none">• Feeling like running is something we have to, or should do, rather than want to• Running only used as a means to an end but not enjoyed (e.g., to lose weight, to avoid illness, to socialize)

Example 1: Two people could both have a same reason for running: to age healthily. But, for one person, this is a generic reason because they have just read that they should do something about their health (poorer quality), whereas for another person this might be a more personal and meaningful reason because they witnessed someone close to them go through a health issue (better quality motivation).

Example 2: a person might start running only because their doctor told them they should lower their blood pressure so they feel obliged to. This is an external why to begin with and not necessarily owned by them (poorer quality). If that person values health and buys into the reason of lowering blood pressure for their health and other aspects of their life, they start owning their why and move onto having better quality motivation.

What do we need for better quality motivation?

For people to own their why, they need three things: choice, competence and connection.

Choice: Runners having a say in their running

Competence: Runners feeling like they're able to run (see Progress handout)

Connection: Runners feeling connected to others through running (see People handout)

Runners who feel that they have all three, are more likely to want to continue with running.

PRACTICAL TIPS

You could apply these tips at the start of sessions, during the breaks, or in informal chats

1. Help people reflect on what's important to them

You can help people reflect, identify their why, and take ownership over their why by asking them questions – Questions that help them think about their reasons for running and why these reasons are important to them. Prompting runners (through your questions) to think about their purpose of running can be better than telling them a purpose (e.g., telling them it's good for your health may not help) – See the example above where a runner joins because they feel pressured to lower their blood pressure. You could help them take more ownership of their why by asking questions such as "what other things do you hope to get out of running?"

Asking permission when asking questions that might be sensitive can be helpful (e.g., using "Could I ask").

Some questions to encourage reflections from the runners could be:

- "Could I ask what your reasons for running are?"
- "Could I ask why running is important to you?"
- "Could I ask how running relates to the things that are most important to you?"

You could encourage the runners to discuss some of these questions with each other (if they are comfortable doing so) to limit the time it takes you to ask everyone.

Games: Make active games that encourage people to think about their values. For example, use value cards where the runners select (and perhaps run with) a card relevant to them, and discuss how running aligns with that value.

2. Help people see running in a different way

Runners might need help in seeing how running can fit into their life, especially if they currently see it as something that clashes with their other commitments. An example on the table below:

Original view	Alternative view
I can't prioritize running as I need to be home and spend time with my children.	Running could help me be a more energized and patient parent and benefit the family (e.g., by making me healthier and therefore be around them longer)

You can help runners change how they see running by asking questions like "is there another way of seeing running where it benefits you/fits in with your other commitments?". Getting the runners themselves to come up with the answers (rather than telling them an alternative view) can help them feel more ownership over their decision to run.

3. Give people a say in their programme

- Always explain why you're doing an activity (e.g., if doing intervals explain how this helps develop fitness, or when giving homework explain the purpose of homework runs and how these can increase their progress and enjoyment)
- Give people a choice between activities (e.g., let them choose whether to run/walk or jog at a constant pace) or allow them to choose what order they want to do the activities in
- Use language that supports ownership (e.g., "Go at a pace that feels comfortable to you")
- Ask runners' input (e.g., What activity did they enjoy doing? What would they like to do more of?)

References

1. Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory. Basic psychological needs in motivation, development and wellness*. Guilford Press. <https://doi.org/10.7202/1041847ar>
2. Teixeira, P. J., Carraça, E. V., Markland, D., Silva, M. N., & Ryan, R. M. (2012). Exercise, physical activity, and self-determination theory: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, 9(78). <https://doi.org/10.1186/1479-5868-9-78>

Purpose handout that coaches can use with runners

Purpose for running

Being aware of your reasons for running can support continuation, especially when your reasons are personal and deeply meaningful to you. For example, powerful reasons or ‘whys’ are closely related to how you view yourself (e.g., as a healthy person) or what is important to you (e.g., doing activities with family). Powerful reasons also often capture why you *run*, as opposed to why you *exercise*. Powerful reasons might relate to your beliefs and values, meaningful relationships, or meaningful goals you have.

Some questions you could reflect on to help you identify and develop your ‘why’

- What are *your* reasons for running?
- Why is running important to you personally?
- How does running fit with your other life goals?

Appendix O: Handouts for Progress

PROGRESS

-help runners believe they can run, progress, and succeed

KEY MESSAGES

Seeing yourself succeed can build confidence: Experiencing success and progress in running can increase people's confidence. People's confidence in running can increase through the act of running and through seeing themselves improve.

Seeing similar others succeed can build confidence: Witnessing other similar people becoming runners and improving their running also increases confidence. Seeing similar others running, can help people believe that they can run too – "If they can do it, then so can I".

Why does confidence matter?

People need to feel *able* to do something to be motivated to do it. If a person doesn't believe they *can* run, then they're less likely to *want* to run. Research¹ has shown that people will likely only start or continue with running, after setbacks or after stopping, if they believe in their ability to keep going.

Self-determination theory (see Purpose handout), explained that everyone has a need for competence, which means feeling like they are capable. Competence is important for running as people might be put off running if they think they're not "good" at it.

Confidence increases when people:²

- Experience success & see themselves getting better (e.g., noticing they can run a bit further or faster, hurting less than previously)
- See others like them (e.g., similar age, size, fitness level) succeed and do well (e.g., hearing stories from others who successfully managed to start running can result in thinking "if they can do it, then so can I")
- Receive positive feedback & encouragement
- Understand the body's response to exercise (e.g., that fast heart rate and heavy breathing is a natural response and doesn't mean "they can't do it".)

PRACTICAL TIPS

1. Provide opportunities to see progress

- Record distance covered through apps, Fitbits, or watches each week to monitor progress
- Share the distance/time with the runners on the FB page/in the weekly email
- Ask runners what improvements they have seen in their running and in their wider life

Progress might show through running further than previous weeks; other times, maybe the same distance felt **more comfortable**. It can be good to explain to runners why running might be more challenging this week (e.g., you're taking shorter breaks, you're running more than last week). As well as for running ability, people can also experience improvements in the outcomes of their running (e.g., sleeping better, having more energy). Seeing these improvements can boost motivation, but the improvements must be valued.³ It's important to help the runners link the improvements to their personal why for running (See Purpose handout), to help them appreciate the progress they've made. For example, if family is important to the runner, then you could ask them to notice how the improvements they've experienced relate to their family life (e.g., if running has made them more confident to take part in other activities with their family).

2. Provide specific verbal encouragement

Feedback is more meaningful if it's specific, and explains what they're doing well: "You've done really well this week. Have you noticed you can now run 5 minutes without stopping? How does that compare to when you first started?"

3. Set goals

Goals can be specific or more open as people respond differently to goals. Some people want to see clear progression for motivation, others might not enjoy the pressure of a specific distance/time. You could use both types of goals in sessions:

- Set some smaller specific in-between goals before the 5k (e.g., aiming to run 2.5K), and a first goal that's doable within 1-3 weeks (e.g., run for 5 mins), so people can feel sense of achievement early on and grow their confidence
- Set some open exploratory goals in other sessions, such as "let's see how far we get to today"
- Give runners goals for homework runs but include a range (e.g., 10-20 mins total activity), and highlight that it's just a guide, encouraging them to see how well they can do that week

In the C25K, the race at the end is a clear goal. This goal can be motivating for some but intimidating for others. The 5k shouldn't feel like the only goal, or something the runners have to "race" (sometimes the word "race" can cause unwanted associations with competitive, high ability running). It's worth highlighting that goals are flexible, and everyone's progress is different, rather than have the runners fixate on a specific target too much. And if runners don't reach the goal they hoped for, tell people to congratulate themselves on the bit they did achieve.

4. Share success stories

- Share success stories of relatable runners' journeys (e.g., tell runners about your own experiences when you started, ask members to make short videos for the club website or invite "graduates" to briefly speak at the sessions)

It can be helpful to share anything that might be relatable to the runners. For example, highlight to runners that you started in a similar position to them, share any setbacks you've faced and overcome, and share your reasons for running and how they may have changed (linking with Purpose-handout).

5. Support runners with logging and monitoring progress

- Encourage runners to keep a log of all their runs/walks. You can help by telling the runners what they've done (e.g., ran 15 minutes consistently, ran 20 lamp posts, covered 3.1K)

Keeping a log of their progress can be helpful to visualise progression. It can provide evidence that they're improving, increase confidence, and motivate to continue. Writing down details of the run and how they felt can be very powerful through showing proof of progress. Progress isn't always linear, so it can be useful to see that how they feel about running can fluctuate. You could give options on how they do this (e.g., taking notes on their phone, keeping a notebook).

6. Encourage runners to focus on self-improvement rather than comparison with others

- Remind runners that the best way to see how well they're doing, is to imagine now running alongside themselves when they started

It can be off-putting to see others progressing faster, so reminding runners that everyone's different, people have different amounts of time, illnesses can get in the way etc, can be helpful.

References

1. Luszczynska, A., Mazurkiewicz, M., Ziegelmann, J. P., & Schwarzer, R. (2007). Recovery self-efficacy and intention as predictors of running or jogging behavior: A cross-lagged panel analysis over a two-year period. *Psychology of Sport and Exercise*, 8, 247–260. <https://doi.org/10.1016/j.psychsport.2006.03.010>
2. Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1007/978-3-319-75361-4>
3. Selzler, A. M., Rodgers, W. M., Berry, T. R., McFadden, K., Husband, C., & Hall, C. (2019). Reciprocal relationships between self-efficacy, outcome satisfaction, and attendance at an exercise programme. *British Journal of Health Psychology*, 24(1), 123–140. <https://doi.org/10.1111/bjhp.12343>

Progress handout that coaches can use with runners

Logging and monitoring your progress

It can be helpful to keep a log of all your runs to help you visualise your progress, increase your confidence, and motivate you to continue with running. Writing down details of how far or how long you ran for and how you felt on that run can prove to you that you're improving. Progress isn't always linear - sometimes you might not be running any further, but it feels more comfortable. Other times, having a stressful week at work or even the weather can make the run feel harder than the previous weeks. It's worth looking at your progress over a longer time period, rather than just comparing two runs.

An example of logging your run:

Date	Details of the run (e.g., time spent warming up/walking/running, distance covered, location)	How did I feel?	Other notes
09/03/23	Total run time: 10 minutes I went out for 20 minutes. I walked 5 minutes to warm-up, then I ran for 10 minutes without stopping, and walked 5 min. Tried a new route and took the path from behind our house.	The run felt quite hard towards the end, but it was the first time I ran 10 minutes without stopping so I was really happy about that.	The route was hilly.

You could use the below table to log your runs or do something similar on your phone/in your diary.

Date	Details of the run	How did I feel?	Other notes

Appendix P: Handouts for People

PEOPLE

-Create an inclusive and supportive environment

KEY MESSAGES

Opportunities to run, progress with running and enjoy running are unequal: Everyone has different individual circumstances that might either help their running or make running harder. Health problems, financial difficulties, parenting, and caring responsibilities can all impact how much progress people make and how much they enjoy running. Individual circumstances can make it harder for people to keep running, and find the time for running, which is important to remember and consider.

Coaches, runners, friends, and family can provide different forms of support: Social support can come in many forms, ranging from running advice from coaches to encouragement from family and friends, to sharing experiences with other runners in the same boat, to practical support such as travelling together to sessions.

Opportunities are unequal

Some people might face more difficult life circumstances than others, which can make running much harder for them. People might have uneven chances to *enjoy* running and *progress* with running. Below are examples of challenges that might make running difficult for certain groups:

Characteristic	Potential challenges
Living with overweight	Fear of judgment, body consciousness, difficulty running
Health problems	Difficulty running, fatigue, worry about health
Being a mother	Mother guilt—struggle to prioritize themselves
Being a woman	Self-consciousness, safety concerns
Caring responsibilities (e.g., for elderly parents)	Competing demands on time, guilt at taking time for self
Employment (e.g., shift work, stressful job)	Fatigue, lack of routine

Different forms of social support

Having access to different forms of social support can help people cope with the individual challenges they might be experiencing and therefore support their running.¹ For example, someone who is self-conscious about their body could feel comfortable running with a group of similar people, or a mother might find other mothers to share their running experience with, and they might find that encourages commitment to runs they organise together. Building meaningful connections and feeling valued by others can also support better quality motivation (see Purpose handout). When people feel like they belong and are part of a group, it supports them in wanting to continue taking part in the activities (i.e., running) of that group.² You as a coach, can support the forming of social connections and also offer runners many forms of social support. Social support for running can come in different forms and from different people, in and out of the running club. Below are some examples of who could offer support and the different forms of social support:

Coach: Offer advice about running, listen, show care and understanding, offer encouragement and motivation to keep going

Partner/family and friends: Offer a lift to running, provide childcare, listen, show care and understanding, offer encouragement and motivation to keep going, offer company for running

Other runners in the club: Offer motivational support, offer company for running

Colleagues: Offer encouragement, advice (if they're also runners), offer company for running

PRACTICAL TIPS

1. Show interest and care in the runners

Sense of belonging and connection increase when people feel cared for, and can support runners in wanting to keep running. Creating a safe and caring environment can also help runners feel more comfortable to share about some of the barriers they might be facing, which in turn can help you know what type of support they might need. To show interest and care in the runners:

- Learn and use people's names throughout the sessions
- Get to know runners as people by having conversations, asking about their lives and listening to them
- Show understanding of what they're going through and normalize the feelings that running can be hard
- Take time to chat in the sessions and communicate with runners in-between the sessions (e.g., via emails or social media groups).

2. Be aware of barriers & make adjustments where appropriate

Try to understand each individual, their personal circumstances, and what they're going through. You can do this by listening to them without judgment and without making assumptions. Some people might struggle to invest in running kit, or they might feel self-conscious in certain clothes. Be aware of these when offering guidance.

- Tailor the session for people's running abilities (e.g., offer different pace groups)
- Give different options for homework runs and be understanding to those who might be unable to do them
- Be mindful when recommending running kit offering choice where possible (e.g., low-cost options)
- Offer low-cost membership options or free shorter trials to try the club
- Arrange sessions different times of the day
- Consider different religious and ethnic groups (e.g., do they need female only groups, religious attire)

3. Give opportunities for runners to build connections

Encourage people to get to know each other, as that can help build connections between them, increase the feelings of social support, and encourage them to run together outside of the sessions.

- Arrange teambuilding activities and paired tasks during the sessions that allow people opportunity to chat with a range of people in the group
- Encourage conversations between the runners by giving them some questions to discuss with each other (e.g., see Purpose handout for some example questions)

4. Build awareness of the runners' wider support networks

Social support outside of the club runs is important as lack of support can make running more difficult. The most obvious support might come from family and friends but sometimes colleagues or neighbours could also offer different types of support (e.g., shared experiences, run groups, childcare). Runners might need help with identifying who is able to support them in their running.

- Ask the runners to identify who is in their running network (e.g., who might they be able to run with, who could they get advice from, or who could look after their children when they run). The runners can do this privately but encourage them to write it down (e.g., using a diagram with the runner at the centre, their support network around them, and under each person they could think about "how can they help me?"). Some might offer practical support, some just emotional support.
- Encourage runners to involve family and friends on homework runs

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People handout that coaches can use with runners

My running support network

Name: How can they support me?	Name: How can they support me?	Name: How can they support me?
Name: How can they support me?		Name: How can they support me?
Name: How can they support me?	Name: How can they support me?	Name: How can they support me?

Types of social support

There are many types of social support and different people can offer you different types of support.

For example, social support could come in the form of:

- Someone offering you advice about running (e.g., on your running technique, or advising you how to plan your runs and rest days)
- Someone giving you a lift to running, or helping you out financially (e.g., helping you buy running shoes)
- Someone boosting your confidence in running and helping you believe in yourself
- Someone listening to you, caring about your running journey, and making you feel understood
- Someone encouraging and motivating you to keep going with running
- Someone running with you and sharing the experience

This list is not exhaustive, but gives you an idea of the ways people can help you in your running journey.

Appendix Q: Handouts for Planning

PLANNING

-help runners plan and turn intentions into actions

KEY MESSAGES

Being specific makes it happen: Scheduling a run into the diary can help turn well-meaning intentions into actual behaviour

Plan for life getting in the way: It's important to plan for barriers and adapt a schedule if life is getting in the way.

Planning when to run

Many people have the intentions to run, but those intentions don't always translate into actual running. Researchers call this the intention-behaviour gap. Supporting runners to plan the specifics of when and where, and how they will run can help change the intention to run into actual running.¹ For example, a runner could make a plan: "I will run from home, straight after getting home from work." They might then prepare their kit and shoes in advance (e.g., leaving their shoes by the door). It's good to write these plans down (e.g., in the diary, using notes on the phone), as it can make them more likely to happen. Recording the runs and noting down how they went can also highlight progress and help increase confidence (See Progress handout).

Planning for life getting in the way

Other plans and commitments will often appear and might stop someone from being able to run at their usual time (e.g., Saturday morning) or at a planned time (e.g., after work midweek). People also get ill, or go on holidays, which might mean they can't follow their usual structure. Instead of letting "life get in the way of running", it can be helpful to support runners with planning ahead and thinking about the potential barriers they might face, and how to overcome them. This is what researchers call coping planning, and it can take the form of an "if-then"-plan.² For example, a runner could plan: "I'll get my running shoes and kit ready for when I get home from work. If I'm tired, then I'll just try to go for 10 minutes."

Example action plan:

Date	Running plan	Did you do it?	What did you learn?	Other notes

PRACTICAL TIPS

1. Help runners set action plans

To turn intentions into actions, guide runners on how to set more specific plans. This could apply during the C25K when they're planning their weekly running schedule, but it can also help them plan for how they will keep running after the C25K. For example: "When the C25K finishes, I will continue to run for 30 minutes every Saturday morning at 9am".

- Encourage runners to think about the specifics of when, where, and how they will run
- Educate runners on the importance of being specific with their plans, and on the importance of writing these plans down (See the above example action plan)
- For runners whose schedule makes it hard to stick to a regular routine (e.g., shift work), encourage them to plan at the start of the week when they're going to do their runs
- Give runners specific guidance for homework runs as that can help them with planning, but keep the goal flexible to encourage different abilities (e.g., "you could aim for 1-2 runs this week of 10-20 minutes")

- Help runners find others who are aiming to do their homework runs on the same day and encourage runners to arrange informal meet ups at a specific time
- Ask those runners who managed to get out for their homework runs to share how they did that to give ideas for other runners (e.g., what helped them plan, when did they go, for how long etc).
- If someone is going on holiday, tell them what the next session involves so they can try to do it on their own. Reassure them that if they miss that week, then they'll be OK to return.
- Make sure runners also plan for rest days, and aren't doing too much.

2. Help runners plan for barriers & setbacks

Helping runners identify potential barriers that could affect their running or their regular routine (e.g., holidays, club runs being cancelled) can be helpful so the runners can plan for these ahead of time. You could tell runners about some common barriers (e.g., illness). You could also ask runners to think ahead for what personal barriers they might face that could make running more difficult (e.g., change in work pattern), and encourage them to start planning for those.

- Educate runners on the use of if-then plans for when they can't run or are tempted not to run. As with action plans, encourage runners to write these down (e.g., on their diary, or on their phones)

IF	THEN
If the club run is cancelled because of weather,	Then I'll run alone on Sunday morning from home, before lunch.
If I'm tempted to not go,	Then I'll aim to only go for 10 minutes.
If I can't run on my holiday,	Then I'll do a brisk walk instead.
If it's raining after work on Monday,	Then I'll go after work on Tuesday instead.

- You could encourage runners to imagine a desired future they want to get to (e.g., running regularly 3 times a week) and contrast it with their current reality (e.g., running once a week). Imagining the goal they want to achieve, and then identifying an obstacle that stands in the way of their goal (e.g., not wanting to run alone) can support them to form plans for achieving their goals.
- Help runners to also plan for the transition phase at the end of the C25K by introducing them to the leaders who arrange the runs, and explaining about where and when the runs will happen if they join the regular club runs.

3. Help runners understand it's ok if running doesn't go to plan

- Help runners develop a flexible approach to running, by explaining that setbacks can happen and are normal. It's necessary to miss sessions from time to time but that doesn't mean they can't get back into running. By using language to normalise this, you can help them feel more comfortable to return.
- Reduce "all or nothing"- thinking with running (i.e., "I can't go this week, so I should just stop"). Reassure runners that it's fine if they can't make it out one week, or if they can only go out for 10 minutes when you suggested they aim for 20 minutes.
- Reassure runners that they can get back into running after time off by adjusting their paces and distances, rather than having to stop and start all over again.

References

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Planning handout that coaches can use with runners

Plan for life getting in the way

To support you in keeping going with running, think about the exercise barriers you might face in the future. Potential barriers might include:

- Being busy with work
- Feeling tired
- Bad weather
- Going away on holiday

You might have your own personal barriers, like a work pattern changing or lots of visitors coming.

Think about the barriers you might encounter and use the “if-then” plans below to help you prepare for these ahead of time. “If-then planning” is about planning in advance what you will do if something happens, and it can support automatic and helpful responses to barriers.

Example:

If....	Then...
<i>I'm busy with work</i>	<i>I'll just go for a shorter run.</i>
<i>The weather is bad</i>	<i>I'll run the following day.</i>
<i>I'm on holiday</i>	<i>I'll do a brisk walk instead.</i>

Write your own below!

If....	Then...

Appendix R: Handouts for Play

PLAY

-make running an enjoyable experience

KEY MESSAGES

If people enjoy something, they are more likely to continue: Enjoyment is important for keeping up exercise, such as running.

Enjoying the experience of running is important: Although many people enjoy the feeling that running gives them afterwards, this often isn't enough. For people to be more likely to continue with running, it's important they find running pleasant, or fun, *whilst* they're doing it.

Enjoying running

Many people get a sense of satisfaction and enjoyment *after* they have run – They might not enjoy the running itself, but they get a feeling of achievement afterwards as endorphins kick in. People might even find the running itself unpleasant or boring while they are doing it. Research has shown that for exercising to be continued in the future, it's more important for people to enjoy the exercising *whilst they are doing it*. Studies have compared those who felt good during the exercising, and those who felt good only afterwards, and suggest that feeling good *during* exercise is a stronger predictor for exercising in the future, whereas only feeling good *after* exercising is unrelated to people's future exercise behaviours.

PRACTICAL TIPS

1. Make running fun

Including novelty and variation into running can increase interest, reduce boredom and lead to better quality motivation (See Purpose handout). This, in turn, can make people want to continue with running. Using humour and enthusiasm in the sessions can help. Do what you can to make the experience itself fun and enjoyable.

Change up the scenery:

- Change up the scenery and vary the routes of the runs as early as possible in the C25K (e.g., doing a session in the park or run along the canal, as opposed to only staying on the track)
- Encourage runners to explore and find pleasant and new locations for their homework runs

Make running social:

- Include some fun games or social activities in the sessions (e.g., activities that involve pairing up, or light-hearted activities that are done in teams)

Encourage listening to music:

- Encourage people to listen to their favourite music, podcasts, or audio books while they run alone to make it more fun

2. Slow down the runs

Starting out slowly, with low intensity, can help make running more enjoyable. Ending the session in a gentle way (e.g., with a cool-down or a light-hearted activity) can also create a pleasant memory from the session and support the runners in wanting to come back. Starting out slowly can be especially important for runners who are living with overweight and might find running even harder than others.

- Guide runners on their pacing during the session, by role-modelling a slower pace, and explain the reasons behind why slowing down is important (e.g., to make running feel more pleasant)
- Remind runners to slow down when they are doing their homework runs

3. Use open goals

Research has previously suggested that setting SMART goals (i.e., specific, measurable, achievable, realistic, and time-based) can help us achieve our goals. But some newer research suggests that for people who are new to exercising (e.g., beginner runners), and for those that are currently inactive, exercising can actually be more enjoyable if we use open goals instead. Open goals are non-specific goals that are aimed at exploring how people might do (e.g., "Let's see how far we run today" or "Let's see if we can cover 2-3km", as opposed to "Let's run 3K"). Open goals are more flexible, allowing the runner to decide their own effort, giving them a sense of ownership, reducing perceived pressure, increasing enjoyment and therefore also supporting better quality motivation (See purpose handout). Including room for goal flexibility can promote feelings of flow, such as being in the zone, and therefore increase enjoyment during the run itself.

- When setting goals, always explain that there is flexibility in the goals, and encourage people to explore for example, how far they can run in 5 minutes, or to see how many lamp posts they can do, or to see how much they can run during the whole session
- Set goals for homework runs, but make people aware that there's flexibility in the goals, asking people to "see how much you can do this week" (within a range to ensure they don't do too much) without fixating too much on a specific goal.

4. Encourage runners to notice the positives while running

- Encourage runners to run with curiosity (e.g., appreciate the nature around them, or run through the eyes of a 5-year old imagining how fascinating the world looks).
- Encourage runners to start paying attention to how their body is feeling while running, and what is positive about the experience (e.g., the feel of sun on their face, or feeling fast on a downhill)
- Encourage people to smile when running as that can help running feel easier
- Encourage runners to listen to their bodies and take rest days if they feel unwell or injured (See tips from Mind on developing a healthy relationship with exercise: <https://www.mind.org.uk/about-us/our-policy-work/sport-physical-activity-and-mental-health/resources/tips-on-developing-a-healthy-relationship-with-physical-activity/>)

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Play handout that coaches can use with runners

ENJOYING RUNNING

Ideally, running is an enjoyable or pleasurable experience. For some, the running itself can feel pleasant or pleasurable. For others, they can get pleasure from the opportunities that running opens up – Like being in nature, exploring environments, spending time with friends, or meeting new people. If you can find the experience of running enjoyable *whilst* you're doing it (e.g., enjoying the movement itself) then you're more likely to want to keep running long-term than if you only enjoy the feeling you get afterwards (e.g., the sense of achievement).

Here are some tips that can make running more enjoyable for some people. Are any a good fit for you?

- Slow down your runs so that the running feels more pleasant and less effortful.
- Set yourself flexible and open goals (e.g., let's see how far I can go today; let's see if I can do 2-3K today).
- Change up the scenery of your runs to explore new areas and get some variety.
- Run in safe green spaces (e.g., parks, countryside) and safe blue spaces (e.g., near the sea).
- Listen to music, podcasts, or audiobooks (if safe to do so).
- Make running social and include friends/family on runs or meet new people.
- Pay attention to the scenery around you.
- Note down what you're enjoying about running and what's positive about it (e.g., the fresh air on your face, running downhill).

Some questions you could reflect on now:

- What could *you* do that would make running more enjoyable?
- What are you currently enjoying about running?
- What was the most positive thing about your last run?
- What would your life be like if you enjoyed running?

Appendix S: Introductory Workshop Slides Western Runners

Keep on Running: The 5 Pillars of Support



Pille Pedmanson, Pedmanson.p@pgc.marjon.ac.uk

PEARSON MARJON UNIVERSITY

1

Where did this training come from?

- Interviews with new runners
- Workshops with other club leaders & coaches
- Conversations with Couch to 5k runners
- Research on exercise behaviour change



PEARSON MARJON UNIVERSITY

2

Information about the research

These training workshops are part of my PhD research, which means:

- Feedback surveys & evaluation interview

You CAN just take part in the workshops, and not in the research-element

Please note:

Today's session is recorded, and I might include some of your anonymised feedback and comments in my research (any identifying information will be removed)

Can I get everyone's verbal consent that they are happy with the above and to be recorded?



3

The aim of the 5 Pillars - training

- To equip coaches and leaders with the skills, knowledge, and confidence to support runners in continuing their running after they have started
- At the end of the training you'll be able to:
 - Understand the psychological principles that support people's continued involvement in running
 - Apply these principles to your own coaching



4

The 5 Pillars - training

- Today's workshop lasts for 1.5 hours
- There are up to 5 more workshops after tonight for those who are interested
 - online and at Marjon

Plan for today

- Introducing the 5 key Pillars
- Reflections from you on the Pillars
- Writing an action plan to take away
- Your feedback on the workshop



Keep on Running: The 5 Pillars of Support



The 5 Pillars of Support

Pillar 1: Purpose

-Help runners identify a meaningful and personal reason for running

Key messages

1. It's helpful to know your why
2. It's helpful to own your why



The 5 Pillars of Support

Pillar 2: Progress

-Help runners believe they can run, progress, and succeed

Key messages:

1. Seeing yourself succeed can build confidence
2. Seeing similar others succeed can build confidence



The 5 Pillars of Support

Pillar 3: People

-Create an inclusive & supportive environment

Key messages:

1. Not everyone has equal opportunities
2. Coaches, runners, friends, and family are important sources of support



The 5 Pillars of Support

Pillar 4: Planning

-Help runners plan and turn intentions into actions

Key messages:

1. Being specific makes it happen
2. Plan for life getting in the way



The 5 Pillars of Support

Pillar 5: Play

-Make running an enjoyable experience

Key messages:

1. If people enjoy something, they are more likely to continue
2. Enjoying the experience of running is important



The 5 Pillars of Support

Purpose: Help runners identify a meaningful and personal reason for running

Progress: Help runners believe they can run, progress, and succeed

People: Create an inclusive & supportive environment

Planning: Help runners plan and turn intentions into actions

Play: Make running an enjoyable experience



13

Over to you (discussion in pairs)

1. As a coach, which Pillars resonate most with you?
2. As a coach, what do you think you are currently doing well in relation to these Pillars?
3. As a coach, where do you struggle, or think you could improve?



14

Example activities

Purpose: Value-cards activities to help runners reflect on how running can fit with their values and life more broadly

Progress: Measure the distance and/or time covered each week and share with runners

People: Give opportunities for runners to build connections with each other through paired or small group activities

Planning: Help runners set specific plans (e.g., for in-between sessions) on how and when they will run

Play: Vary the scenery of the runs to make running more enjoyable



15

Setting your own action plan

- Choose 1 Pillar that personally resonates with you as a coach
- Discuss in pairs ideas on how to action something from your chosen Pillar
- Write down ONE actionable thing for your chosen Pillar that you will take away from tonight



16

ACTION PLAN FOR ONE PILLAR	ACTION PLAN FOR ONE PILLAR
<p><i>I will action this in the next running sessions</i></p> <p>My chosen pillar is:</p> <p>Progress</p> <p><i>What would I like to do differently?</i></p> <p>I would like to start recording the distance we run every week, and then share that with the runners.</p> <p><i>What do I need to do to make this happen (e.g., what planning or preparation)?</i></p> <p>I will need to bring my GPS watch and record the session. I will also ask the other leaders to bring their watches and measure as well as we can get a range of distances depending on whether people are at the front or back of the group. I will need to send a reminder for the leaders the day before. I will ask the other leaders to tell me the distances they recorded and I will write it down after the session. I will then send out an email to the runners about it.</p>	<p><i>I will action this in the next running sessions</i></p> <p>When am I going to do this?</p> <p>I will do the recording and taking notes in next Saturday's run session. I will then send an email out to the runners on Sunday.</p> <p><i>Who else could help me with this? (if applicable)</i></p> <p>Other leaders in the session could help to make sure we have a rough idea of the range of distances.</p> <p>EXTRA NOTES</p>

17

Summary & Next steps

- This was a taster session to briefly introduce you to the 5 key Pillars
- 5 Key Pillars: Purpose, Progress, People, Planning & Play
- We reflected on where you are currently & made an action plan
- You will also receive the value cards pack & 1-page document on all key Pillars to take with you
- The next session would be on Purpose
 - The session will include more information, training, examples, reflections, and discussions for how to action Purpose in your coaching

18

Your views on tonight's session

- It would be valuable to get your feedback
- You can write down as little or as much as you wish



Thank you



Appendix T: Purpose Workshop Slides

Western Runners



1



2

The aim of the 5 Pillars - training

- To equip you with the skills, knowledge, and confidence to support runners in continuing their running after they have started
- At the end of the training you'll be able to:
 - Understand the psychological principles that support people's continued involvement in running
 - Apply these principles to your own coaching



3

The 5 Pillars - training

- Today's workshop lasts for 1.5 hours
- There are 4 more workshops lasting about 1.5 hours (next one on the 22nd of February?)

4

Information about the research

These training workshops are part of my PhD research, which means:
– Feedback surveys & evaluation interview

You CAN just take part in the workshops, and not in the research-element

Please note:

Today's session is recorded, and I might include some of your anonymised feedback and comments in my research (any identifying information will be removed)

Can I get everyone's verbal consent that they are happy with the above and to be recorded?



Last week's workshop

- Last week we introduced the 5 Pillars.
→ Are there any reflections or valuable bits of learning you want to share relating to last week?

Keep on Running: The 5 Pillars of Support



7

Plan for tonight

- Question for you
- Short video
- Reflections from you
- Practical examples from you
- Action plan
- Questions
- Feedback



8

Chat with your pair

- What is YOUR purpose (or reason) for running?
- Has it changed over time?

5 minutes



Short video on Purpose

- <https://www.youtube.com/watch?v=k8ebxrYHSf8>

PURPOSE

-Help runners identify a meaningful and personal reason for running

Key messages

1. It's helpful to know your why
2. It's helpful to own your why



Over to you

10 minutes



1. Where do you think you currently are in relation to identifying runners' why or helping runners own their why?
2. As a coach, what do you think you are currently doing well in relation to Purpose (i.e., to help runners identify and own their why).
3. As a coach, where do you struggle, or think you could improve?

Example scenario

- A runner tells you that their main reason for running relates to their GP recommending they try running to help manage a health issue. They seem to feel they 'should' be there, rather than 'wanting' to be there.
→ What could you as the leader ask the runner/say to the runner to help them identify a more meaningful reason that they can feel ownership of?



13

Practical tips for actioning Purpose

1. Help people reflect on what's important to them & identify how regular running supports these values
2. Help people see running in a different way
3. Give people a say in their programme



14

Over to you – examples of what you could do?

- What could you do in a running session that falls under the three practical tips?

For example,

- How could you use the value cards?
- What kind of questions could you ask runners?
- How could you give runners choice?

10 minutes



Setting your own action plan

ACTION PLAN FOR PURPOSE PILLAR

I will action this in the next running session

What would like to do differently?

What do I need to do to make this happen (e.g., what planning or preparation)?

ACTION PLAN FOR PURPOSE PILLAR

I will action this in the next running session

When am I going to do that?

Who else could help me with that? (if applicable)

EXTRA NOTES

5
minutes



Do you have any questions about Purpose?



Summary & Next steps

- This was a session on one of the 5 key Pillars: Purpose
- You will receive:
 - A value-cards pack
 - 2-page handout on Purpose
 - Access to the short video on Purpose
- The next session on Wednesday the 22nd of February will focus on Progress, and will last 1.5 hours

Your views on tonight's session

- It would be valuable to get your feedback
- You can write down as little or as much as you wish



thank you!

Appendix U: Progress Workshop Slides

Western Runners

Keep on Running: The 5 Pillars of Support



Pille Pedmanson, Pedmanson.p@pgr.marjon.ac.uk

1

BRUNEL MARJON UNIVERSITY

PROGRESS



2

BRUNEL MARJON UNIVERSITY

The aim of the 5 Pillars - training

- To equip you with the skills, knowledge, and confidence to support runners in continuing their running after they have started
- At the end of the training, you'll be able to:
 - Understand the psychological principles that support people's continued involvement in running
 - Apply these principles to your own coaching



The 5 Pillars - training

- Today's workshop lasts for 1.5 hours
- There are 3 more workshops lasting about 1.5 hours (next one on the 15th of March?)

Information about the research

These training workshops are part of my PhD research, which means:

- Feedback surveys & evaluation interview

You CAN just take part in the workshops, and not in the research-element

Please note:

Today's session is recorded, and I might include some of your anonymised feedback and comments in my research (any identifying information will be removed)

Can I get everyone's verbal consent that they are happy with the above and to be recorded?



Reminder of the Pillars we've covered so far

- Purpose – Help runners identify a meaningful and personal reason for running
1. Have you noticed anything relating to Purpose at the club?
 2. What changes (if any) have you made in relation to Purpose (and what differences did this make)?

Keep on Running: The 5 Pillars of Support



Plan for tonight

- Question for you
- Short video
- Reflections & Discussions
- Practical examples
- Action plan
- Questions
- Feedback



Chat in pairs

- At what point did you realise you *could* run? What did it mean to you? Did you ever doubt that you could?

5
minutes



Video on Progress

- <https://www.youtube.com/watch?v=dsQmemsDM2E>

PROGRESS

-Help runners believe they can run, progress, and succeed

Key messages:

1. Seeing yourself succeed can build confidence
2. Seeing similar others succeed can build confidence



11

Over to you

10 minutes

1. Where do you think you currently are in relation to helping runners believe that they can run and showing they're progressing?
2. As a coach, what do you think you are currently doing well in relation to Progress? (i.e., in relation to helping runners believe they can run).
3. As a coach, where do you struggle, or think you could improve?

12

Practical tips for actioning Progress

- Provide opportunities to see progress
- Provide specific verbal encouragement
- Encourage goal-setting (flexible range, specific & open goals)
- Share success stories
- Support runners with logging and monitoring progress



13

Over to you

- What could you do in a running session that falls under some of those practical tips?

For example,

- How could you provide opportunities to see progress?
- How could you share success stories?



14

Setting your own action plan

ACTION PLAN FOR PROGRESS PILLAR

What would you like to do differently?

What are you going to do to make this happen?

ACTION PLAN FOR PROGRESS PILLAR

What are you going to do to make this happen?

What are you going to do to make this happen?

5
minutes



Do you have any questions?



Summary & Next steps

- This was a session on Progress
- You will receive:
 - 2-page handout on Progress
 - Access to the short video on Progress
- The next session is on Wednesday the 15th of March(?) and will cover People



17

Your views on tonight's session

- It would be valuable to get your feedback
- You can write down as little or as much as you wish



18

Appendix V: People Workshop Slides

Western Runners

Keep on Running: The 5 Pillars of Support



Pille Pedmanson, Pedmanson.p@pgr.marjon.ac.uk

 MARJON UNIVERSITY

1

PEOPLE



 MARJON UNIVERSITY

2

The aim of the 5 Pillars - training

- To equip you with the skills, knowledge, and confidence to support runners in continuing their running after they have started
- At the end of the training, you'll be able to:
 - Understand the psychological principles that support people's continued involvement in running
 - Apply these principles to your own coaching



The 5 Pillars - training

- Today's workshop lasts for 1.5 hours
- There are 2 more workshops lasting about 1.5 hours (next one on the 22nd of March?)

Information about the research

These training workshops are part of my PhD research, which means:

- Observations, feedback surveys & evaluation interview

You CAN just take part in the workshops, and not in the research-element

Please note:

Today's session is recorded, and I might include some of your anonymised feedback and comments in my research (any identifying information will be removed)

Can I get everyone's verbal consent that they are happy with the above and to be recorded?



5

Keep on Running: The 5 Pillars of Support



PURPOSE



PROGRESS



PEOPLE



PLANNING



PLAY



6

Reminder of the Pillars we've covered so far

- Purpose – Help runners identify a meaningful and personal reason for running
 - Progress - Help runners believe they can run, progress, and succeed
1. Have you noticed anything relating to these Pillars at the club since last week?
 2. What changes (if any) have you made in relation to these Pillars (and what differences did this make)?



7

Plan for tonight

- Question for you
- Short video
- Reflections & Discussions
- Practical examples
- Action plan
- Questions
- Feedback



8

Chat in pairs

- How (if in any way) have your individual circumstances made running harder or easier for you?
- How has social support or your relationships (in and outside of the club) helped your running?

5 minutes



Video on People

<https://www.youtube.com/watch?v=dijZ7QXJuyM>

PEOPLE

-Create an inclusive & supportive environment

Key messages:

1. Opportunities to run, progress with running, and enjoy running are unequal
2. Coaches, runners, friends, and family can provide different forms of support



10 minutes

Over to you

1. Where do you think you currently are in relation to the People pillar? (i.e., in relation to creating an inclusive and supportive environment?)
2. As a coach, what do you think you're currently doing well in relation to the key messages of People (i.e., how are you tailoring to individual's circumstances and what type of support are you offering?)
3. As a coach, where do you struggle, or think you could improve?

Practical tips for actioning People

- Show interest and care in the runners
- Be aware of barriers and make adjustments where appropriate
- Give opportunities for runners to build connections
- Build awareness of the runners' wider support network



13

Over to you

- What could you do in a running session that falls under some of those practical tips?

For example,

- How could you show interest and care in the runners?
- How could you give opportunities for runners to build connections?



14

Setting your own action plan

ACTION PLAN FOR PEOPLE PILLAR

I will action this in the next running session

What would like to do differently?

What do I expect to do to make this happen (e.g. what planning or preparation)?

ACTION PLAN FOR PEOPLE PILLAR

I will action this in the next running session

When am I going to do this?

Who else could help me with this? (if applicable)

EXTRA NOTES

5
minutes



Do you have any questions?



Summary & Next steps

- This was a session on People
- You will receive:
 - 2-page handout on People
 - Access to the short video on People
 - 1-page handout on "My running support network"
- The next session is on Wednesday the 22nd of March(?) and will cover Planning



17

Your views on tonight's session

- It would be valuable to get your feedback
- You can write down as little or as much as you wish



18

Appendix W: Planning Workshop Slides

Western Runners

Keep on Running: The 5 Pillars of Support



Pille Pedmanson, Pedmanson.p@pg.marjon.ac.uk

 MARJON UNIVERSITY

1

PLANNING



 MARJON UNIVERSITY

2

The aim of the 5 Pillars - training

- To equip you with the skills, knowledge, and confidence to support runners in continuing their running after they have started
- At the end of the training, you'll be able to:
 - Understand the psychological principles that support people's continued involvement in running
 - Apply these principles to your own coaching



The 5 Pillars - training

- Today's workshop lasts for 1 hour 30 minutes
- There is one more workshop next week on the 29th of March, which will last about 1 hour 45 minutes

Information about the research

These training workshops are part of my PhD research, which means:
-Feedback surveys & evaluation interview

You CAN just take part in the workshops, and not in the research-element

Please note:

Today's session is recorded, and I might include some of your anonymised feedback and comments in my research (any identifying information will be removed)

Can I get everyone's verbal consent that they are happy with the above and to be recorded?



Keep on Running: The 5 Pillars of Support



PURPOSE



PROGRESS



PEOPLE



PLANNING



PLAY

Reminder of the 3 Pillars we've covered so far

- Purpose – Help runners identify a meaningful and personal reason for running
 - Progress - Help runners believe they can run, progress, and succeed
 - People – Create an inclusive and supportive environment
1. Have you noticed anything relating to these Pillars at the club?
 2. What changes (if any) have you made in relation to the previous Pillars (and what differences did this make)?
 3. What role have the written action plans played for you (if any)?



7

Plan for tonight

- Question for you
- Short video
- Reflections & discussions
- Practical examples
- Action plan
- Questions
- Feedback from you



8

Chat in pairs

- How (if at all) do you plan for your own runs? How (if at all) do you plan for your own barriers?

5
minutes



Video on Planning

- <https://www.youtube.com/watch?v=p7KcLyVGXoo>

PLANNING

-Help runners plan and turn intentions into actions

Key messages:

1. Being specific makes it happen
2. Plan for life getting in the way



Over to you

10 minutes



1. Where do you think you currently are in relation to helping runners plan for their runs and prepare for barriers?
2. As a coach, what do you think you are currently doing well in relation to Planning? (i.e., in relation to helping runners make specific plans and plan for barriers).
3. As a coach, where do you struggle, or think you could improve?

Practical tips for actioning Planning

- Help runners set action plans
- Help runners plan for barriers and setbacks
- Help runners understand it's ok if running doesn't go to plan

Example scenario

- A runner tells you that they're going to be away for 2 weeks.
-What could you say or do to support them in coming back after the 2 weeks?

Example scenario 2

- A runner reports that they want to run, but they have particularly heavy weeks because of work, meaning they've got less time during the week.
- What could you say or do to support them in keeping running?

15

Over to you

- What could you do in a running session that fall under some of those practical tips?

For example,

- How could you help runners make more specific plans?
- How could you help runners prepare for setbacks?



16

Setting your own action plan

5 minutes

ACTION PLAN FOR PLANNING PILLAR

What would you like to do in the next 5 minutes?

What are you going to do in the next 5 minutes?

What are you going to do in the next 5 minutes?

What are you going to do in the next 5 minutes?

ACTION PLAN FOR PLANNING PILLAR

What would you like to do in the next 5 minutes?


What are you going to do in the next 5 minutes?

What are you going to do in the next 5 minutes?

What are you going to do in the next 5 minutes?



What are you going to do in the next 5 minutes?

STAY MOTIVATED



17

Do you have any questions?

18

Summary & Next steps

- This was a session on Planning
- You will receive:
 - 2-page handout on Planning
 - Access to the short video on Planning
- The next and last session is next Wednesday the 29th of March. It will cover Play, tie together what we've learnt about the 5 P's, and discuss 'what next'



19

Your views on tonight's session

- It would be valuable to get your feedback
- You can write down as little or as much as you wish



20

Appendix X: Play Workshop Slides

Western Runners

Keep on Running: The 5 Pillars of Support




Pille Pedmanson, Pedmanson.p@pgzmarjon.ac.uk

PGZ MARJON UNIVERSITY

1

PLAY



PGZ MARJON UNIVERSITY

2

The aim of the 5 Pillars - training

- To equip you with the skills, knowledge, and confidence to support runners in continuing their running after they have started
- At the end of the training, you'll be able to:
 - Understand the psychological principles that support people's continued involvement in running
 - Apply these principles to your own coaching



The 5 Pillars - training

- Today's workshop is the last one and will last for 1 hour 45 minutes
- Follow-up interviews will be arranged with each of you individually

Information about the research

These training workshops are part of my PhD research, which means:
– Feedback surveys & evaluation interview

You CAN just take part in the workshops, and not in the research-element

Please note:

Today's session is recorded, and I might include some of your anonymised feedback and comments in my research (any identifying information will be removed)

Can I get everyone's verbal consent that they are happy with the above and to be recorded?



5

Keep on Running: The 5 Pillars of Support



PURPOSE



PROGRESS



PEOPLE



PLANNING



PLAY



6

Reminder of the 4 Pillars we've covered so far

- Purpose – Help runners identify a meaningful and personal reason for running
 - Progress - Help runners believe they can run, progress, and succeed
 - People – Create an inclusive and supportive environment
 - Planning – Help runners plan and turn intentions into actions
1. Have you noticed anything relating to these Pillars at the club since the last workshop?
 2. What changes (if any) have you made in relation to the previous Pillars (and what differences did this make)?



7

Plan for tonight

- Question for you
- Short video
- Reflections & discussions
- Practical examples
- Action plan
- Questions
- Recap of the overall training
- What next?
- Feedback from you



8

Chat in pairs

- What do you enjoy about running? And to what extent has that been enough to keep you running?

5
minutes



Video on Play

- <https://www.youtube.com/watch?v=CF6WazIM-0Y>

PLAY

-Make running an enjoyable experience

Key messages:

1. If people enjoy something, they are more likely to continue
2. Enjoying the experience of running is important



10 minutes

Over to you



1. Where do you think you currently are in relation to making running enjoyable?
2. As a coach, what do you think you are currently doing well in relation to Play (i.e., making running fun and enjoyable?).
3. As a coach, where do you struggle, or think you could improve?

Practical tips for actioning Play

- Make running fun
- Slow down the runs
- Use open goals

13

Over to you

- What could you do in a running session that falls under some of those practical tips?

For example, how could you make running more playful?



14

Setting your own action plan

ACTION PLAN FOR PLAY PILLAR

What are your top 3 priorities?

What are your top 3 goals?

What are your top 3 actions?

ACTION PLAN FOR PLAY PILLAR

What are your top 3 priorities?

What are your top 3 goals?

What are your top 3 actions?

5
minutes



15

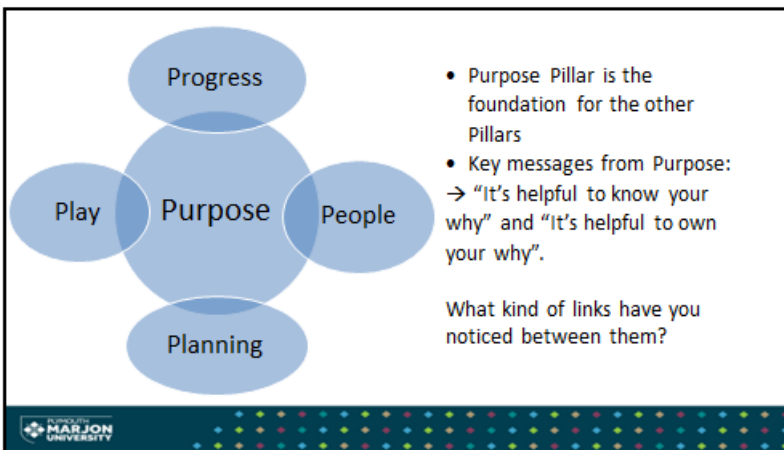
Do you have any questions?



16

The 5 Pillars combined

- We presented each Pillar separately but they all link with each other



Pillars in the club

Each pillar has 2 principles. For example, Progress had:

1. Seeing yourself succeed can build confidence
 2. Seeing similar others succeed can build confidence.
- Try engaging with the principles of the Pillars in different ways
 - You've mentioned how the discussion element with other coaches has been helpful
- share with each other what you try and what has worked/what hasn't so you can learn from each other

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Reminder of the aims of the training

- To equip you with the skills, knowledge, and confidence to support runners in continuing their running after they have started
 - At the end of the training, you'll be able to:
 - Understand the psychological principles that support people's continued involvement in running
 - Apply these principles to your own coaching
- To what extent have we achieved these outcomes so far?
- To what extent has the format of the workshops been a suitable way to deliver the training?

20

Looking forward

- How can you keep using these Pillars in your coaching?
- How could I further support you?



Summary & Next steps

- This was a session on Play & it also tied in all the Pillars
- You will receive:
 - 2-page handout on Play
 - Access to the short video on Play
- The next step is an individual interview (online or in-person) where I ask you questions about how you found the training and how (if in any way) it has impacted your coaching.

Your views on tonight's session & the training overall

- It would be valuable to get your feedback
- You can write down as little or as much as you wish



23

thank you!



24

Appendix Y: Workbook for Coaches

The workbooks had the same handouts for coaches and runners for each Pillar that they received in the workshops (see Appendices N, O, P, Q and R). Here I have included the additional content that the workbook had but removing the Pillar handouts to avoid repetition.

Keep on Running: The 5 Pillars of Support



Pille Pedmanson, Plymouth Marjon University,
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NAME:

Thank you for taking part in the “Keep on Running –
The 5 Pillars of Support” training

July, 2023

Contents

1. Introduction
2. Purpose Pillar handout for coaches
3. Value cards handout
4. Purpose Pillar example handout for runners
5. Progress Pillar handout for coaches
6. Progress Pillar example handout for runners
7. People Pillar handout for coaches
8. People Pillar example handout for runners
9. Planning Pillar handout for coaches
10. Planning Pillar example handout for runners
11. Play Pillar handout for coaches
12. Play Pillar example handout for runners
13. Additional resources
14. Final thoughts

Introduction

This workbook contains information from the “**Keep on Running – The 5 Pillars of Support**” training workshops, and some additional resources that you could share with runners.

The aim of the training was to equip coaches with the skills, knowledge, and confidence to support runners in continuing running after they have started.

This training content was put together considering a combination of factors:

- What coaches and leaders at your running club asked for
- The input from your club runners
- Observations at your club
- What behaviour change theories & psychology research suggest.

Some examples of how the coaches and runners’ comments fed into the Pillars:

Pillar	Coaches...	Runners...	Training content
Purpose	...wanted to learn how to motivate, and inspire runners	...said it’s down to the individual’s motivation whether they keep going	We discussed better quality motivation & the meaningful why
Progress	...wanted to learn how to increase self-belief of runners	...said it would be good to see how much they run and improve each week	We discussed how to increase runners’ confidence
People	...wanted to tailor sessions for different abilities & create a supportive environment	...suggested teambuilding activities	We discussed social support & how to create an inclusive environment
Planning	...wanted to learn how to help runners identify & overcome barriers	...struggled to do homework runs... suggested planning their runs in the diary would be helpful	We discussed specific plans & planning for barriers
Play	...thought it’s important to help runners enjoy running	...mentioned a lack of enjoyment with running itself	We discussed how to create a fun environment

Value cards

People are more likely to continue with behaviours that align with how they see themselves (i.e., their identity) and that align with what is important to them (i.e., their values). People might not always be aware of how exercise, such as running, can fit in with their identity or values. Someone might value family, growth, or nature, but not realise how running can support those values, and that's where the value cards can be helpful. The idea is to allow runners to pick cards that represent their *existing* values (e.g., friendships) and then think about how running can support those values. For example, thinking about the friendship value, running might allow them to connect with others, make new friendships or to enable them to get fitter to join in on some group activities with their old friends. At the beginning, it can be helpful to clarify to runners why you're using the cards by explaining that we're more likely to keep going with running if we can see running as something that aligns with our existing values and things that are important to us. You could use the value cards in different ways depending on what works for you and what works in the session.

An **example** of how you could use the cards is:

- Ask runners to select a card that represents their existing value and then encourage them to think about (or discuss with someone else if they're comfortable) how running can fit into that existing value while they're running. Alternatively, they could reflect on it on their own after the session.

Note: We have included 20 value cards in the pack, but you could pick out the ones you feel are most relevant values and use only some of them in the session if that works better.

Additional resources

What are the “right” or “good” words to use with runners?

In the training development workshops coaches asked us how to motivate, how to do the “inspirational chat”, and what are the right or good words to use when encouraging people. We didn’t include this advice specifically in the workshops, as there are no specific words as such that we can recommend using. However, we have included some principles of communication, motivation, and encouragement within the Pillars themselves.

Examples:

Purpose - We discussed how you can support people’s sense of choice by giving runners a say in things or offering them a reasoning for why you are doing something/why they should do something. An example of giving a reason might be explaining to runners that people tend to get hotter when they run, so they could consider leaving their jacket at the start to avoid feeling uncomfortable later. The opposite would be to use more controlling language and say something like “you shouldn’t wear that” or “you’re wearing too many clothes”. Similarly, when advising on pacing, you can tell people to go at a pace that’s comfortable to them and explain that running too fast too soon can cause injuries for example, as opposed to just telling them “you’re running too fast”.

Progress – We discussed how more specific feedback that explains what the runners is doing well is more helpful than generic encouragement. An example of this could be: “Well done on getting up that hill this week without stopping”. We also explained how sharing your own or other runners’ stories about how you or they got into running and how you have (or they have) progressed since starting can be inspirational for runners.

People – We discussed the importance of showing runners you care about them by learning and using their names, as well as asking about their lives. This can support the runners’ sense of

belonging to the group and in turn support that better quality motivation. We also discussed that showing you understand how difficult running might be for them can be encouraging. For example, it can be helpful for runners if you share how you felt when you first started. Taking an individualised approach and tailoring the session to different abilities by giving options can also be encouraging for runners.

Planning – We discussed the importance of writing down specific plans and making if-then plans. You can encourage runners to write down where and when they will run, and to make those if-then plans for potential challenges. Following the earlier point about giving runners a reason, it can be helpful to first explain why it's helpful to write things down, as opposed to telling them that's what they should do. These action plans and if-then plans can then help runners by making their responses to those situations automatic, and therefore increase the likelihood of getting that run done.

Play - We discussed how using humour, being enthusiastic and including light-hearted activities can help with making running more fun and leave people with a pleasant feeling from the session, which can, in turn, encourage them to continue. We also discussed the importance of including more open and exploratory goals (e.g., let's see how far we can run) to reduce pressure with running.

Table of Pillars and example things to say

Pillar	Example things to say
Purpose	<p>“You can choose to either do a run/walk or jog at a slower pace.”</p> <p>“People tend to get much warmer once they start running, so you might want to consider leaving your jacket at the start to avoid getting uncomfortable later.”</p>
Progress	<p>“Well done on getting up that hill this week without stopping”.</p> <p>“I started C25K at this same club 2 years ago. I was unsure if I could run as I hadn’t been active before, but now I regularly run 3 times a week”.</p>
People	<p>“Go at a pace that’s comfortable for you.”</p> <p>“I understand this might feel difficult to begin with. I still remember how worried I was and how hard my first runs were when I first started.”</p>
Planning	<p>“We’re more likely to get our runs done if we write them down somewhere. The more specific you are the better, so try to write down when and where you’ll run this week”.</p> <p>“Lots of things can get in the way of our running so it’s helpful to plan for that beforehand. You could think about what might prevent you from running and then make a plan for how you’re going to counteract that by writing down ‘if-then’-plans”.</p>
Play	<p>“We’ve changed the route for today’s run to show you some new areas. I would encourage you to explore some new locations for your homework runs too”.</p> <p>“Let’s see how far we can run today”.</p>

The supporting videos for each Pillar:

The link to the Youtube channel with all the videos is here:

<https://www.youtube.com/@pillepedmanson/videos>

Alternatively, you can scan the QR code on your phone to access the videos.



Final thoughts

There are many things you can do across the five Pillars, but the aim is to try different things, perhaps one at a time, rather than trying to do it all at once. The Pillars allow you to add psychology into your coaching. The Pillars are therefore designed to **add** to your current sessions, or encourage you to modify things you've done before, as opposed to changing your whole session plan around. Using the Pillars doesn't rely on you having planned that session or you being the main leader. Even if your role is "just" to be there to facilitate and run with one group/at the back of the group, you can still try things from the Pillars. Regardless of the session you're doing (e.g., pyramids, hill reps, track session), you can still use principles from the Pillars.

Some examples are:

- You can try make running fun for your group by encouraging them to pay attention to the scenery around them, or try some games (i.e., Play)
- You can ask the runners you run next to about their reasons for running (i.e., Purpose)
- You can measure the distance covered by your group, and inform the runners afterwards (i.e., Progress).
- You could share with the runners how you got into running to inspire them (i.e., Progress)
- You can encourage the runners you're running with to be specific and write down their plans for when they run during the week (i.e., Planning)
- You can ask runners about their day/their week/their jobs to show interest, you can suggest low-cost options when recommending running kit, and you can encourage the runners to think about who could support their running (e.g., friends, family, colleagues) (i.e., People)

In short, you don't have to be the main leader of the session to add some of the principles from the Pillars into your coaching. You also don't need to change the whole session plan around to include the Pillars, the principles from the Pillars should slot into the existing running session.

Appendix Z: 1-Page Handout Summarising all the Pillars

KEEP ON RUNNING - THE 5 PILLARS OF SUPPORT

5 Pillars	Key messages	How to action	Practical tips
PURPOSE -help runners identify a meaningful and personal reason for running	1. It's helpful to know your why 2. It's helpful to own your why	-Give opportunities for runners to reflect on their why -Help runners link running with their other important roles/goals	-Ask questions that help runners reflect on what's important to them, and why running might help with that (e.g., "Could I ask how running relates to the things that are most important to you?") -Value cards activity (e.g., let runners identify their values during a running activity, and get them to discuss with each other how running can fit with those values)
PROGRESS -help runners believe they can run, progress, and succeed	1. Seeing yourself succeed can build confidence 2. Seeing similar others succeed can build confidence	-Give runners opportunities to see progress -Share stories about progress -Help runners notice benefits that relate to their "why"	-Measure running distance each week & share that on the FB page/in the emails -Include a case study of a runner's journey (on the FB/email) and share stories at the beginning of the sessions -Ask runners what improvements they have seen in their running and wider life since starting
PEOPLE -create an inclusive & supportive environment	1. Not everyone has equal opportunities 2. Coaches, runners, friends, and family are important sources of support	-Be aware of barriers & make adjustments -Give opportunities to build connections -Show interest and care in the runners -Build awareness of their support network	-Different pace groups -Paired or small group activities to help runners connect -Learn and use people's names -Ask runners to consider who is in their "running support network" – and how might different people be able to support their running
PLANNING -help runners plan and turn	1. Being specific makes it happen	-Help runners set specific action plans	-Help runners set specific plans (e.g., for homework runs) on how and when they will run

intentions into actions	2. Plan for life getting in the way	<ul style="list-style-type: none"> -Help runners plan for setbacks & for when club runs are inaccessible -Help runners understand it is ok if it doesn't always go to plan 	<ul style="list-style-type: none"> -Encourage the use of if-then plans to plan for setbacks (e.g., "If the club run is cancelled, <u>then</u> I will run on Sunday morning before lunch"). -Highlight the importance of flexibility with plans, explaining it's normal to miss the occasional session
PLAY -make running an enjoyable experience	1. If people enjoy something, they are more likely to continue 2. Enjoying the experience of running is important	<ul style="list-style-type: none"> -Help runners adjust their pace to keep it enjoyable -Help runners listen to their bodies -Set open goals (e.g., "let's see how far we go") -Help make running fun 	<ul style="list-style-type: none"> -Guide runners with pacing during the session & explain the reasoning behind why slowing down is important -Encourage rest days if people are feeling unwell or injured -Set goals that have a range and are flexible, encouraging people to see how well they can do -Vary the location & scenery of runs

Appendix AA: Session Plan Introductory Workshop

1 hour

Me presenting (10 mins)

- Share the aims of the training
- Include information on the research element (interviews, surveys etc) – like mini participant info sheet with bullet points & get verbal consent
- Share the structure for the session (background, 5 key pillars, reflections, action plan etc)
- Start with brief background into how the project came about
- Introduce the 5 Key Pillars of running

Task for the coaches (20 mins)

- Reflections from the coaches in pairs: ask them to reflect on those pillars:
 - As a coach, which Pillars resonate most with you?
 - As a coach, what do you think you are currently doing well in relation to these Pillars?
 - As a coach, where do you struggle, or think you could improve?

They can focus on specific Pillars in more detail, but I will encourage them to think about all 5.

Example activities (from me)

Set action plans: (20 mins)

- Offer some examples of actionable things to do in sessions - offer 1 example for each P
- Ask the coaches to discuss with each other and come up with more of their own ideas on how to action something from one of their chosen Pillars
- Get the coaches to write down an action plan for their chosen Pillar that they will take away from the session

Next steps: (5 min)

- Tell them this was a taster session into the Pillars, and they have only been covered briefly
- Next session on the 30th will focus on Purpose & will include more information, training, examples, reflections, and role play scenarios for how to action Purpose specifically.

Feedback:

- Ask the coaches to offer anonymous feedback on the workshop
- Give paper & online options

Resources:

- Printed slides
- Action plan handout
- One-pager on all key Pillars
- Anonymous feedback sheet (for me)

Appendix BB: Session Plan Purpose

1.5 hours

Me presenting (5 min)

- The aim of the 5 Pillars training
- Reminder about the research side of things
- Plan for today

Task 1 Ice breaker (5 mins):

- Get coaches to think about their purpose for running, what is their why and has it changed (in pairs & not sharing with everyone)

Short video (5 mins)

- Key messages about Purpose

Task 2 Reflections from coaches (everyone together) (10 mins):

- “Where do you think you currently are (in relation to identifying/helping runners identify their why)?”
- “As a coach, what do you think you are currently doing well in relation to Purpose?”
- “As a coach, where do you struggle, or think you could improve?”

Task 3 Examples scenario open discussion – me asking them (5 mins)

- A runner tells you that their only reason for running is to lose weight because their doctor said they have to. What could you as the leader ask the runner/say to the runner to help them identify a more personal reason?

Reminder from me on the “Practical tips” for supporting Purpose (2 mins)

Task 4 Practical examples from coaches (10 mins)

- What could you do in a running session that fall under the three practical tips?
- For example, how could you use the value cards? What kind of questions could you ask runners?

Task 5: Action plan (15 mins)

- Ask the coaches to write an action plan from the Purpose session

Time for questions

Summary & next steps

Feedback from the coaches (5 mins)

- Feedback form (printed & online)

Appendix CC: Session Plan Progress & Play

1 hour 45 minutes

Me presenting (5 min)

- The aim of the 5 Pillars training
- Reminder about the research side of things
- Plan for today

Task 1 Ice breaker (5 mins)

- At what point did you realise you can run? What did it mean to you?
(in pairs & not sharing with everyone to limit time)

Short video (5 mins)

- Key messages about Progress

Task 2 Reflections from coaches (10 mins + time to feedback)

- Where do you think you currently are in relation to helping runners believe that they can run and show they're progressing?
- As a coach, what do you think you are currently doing well in relation to Progress? (i.e., to help runners believe they can run).
- As a coach, where do you struggle, or think you could improve?

Reminder from me on the "Practical tips" for supporting Progress (2 mins)

Task 3 Practical examples from coaches (10 mins + time to feedback)

- What could you do in a running session that fall under some of those practical tips?
- For example, how could you provide opportunities to see progress? How could you share success stories?

Task 4 Action plan (5 mins)

- Ask the coaches to write an action plan from the Progress session

Time for questions

Move to Play

Task 1 Ice breaker (5 mins)

- Ask coaches what do they enjoy about running
(in pairs & not sharing with everyone to limit time)

Short video (5 mins)

- Key message about Play

Task 2 Reflections from coaches (10 mins + time to feedback)

- Where do you think you currently are in relation to making running enjoyable?
- As a coach, what do you think you are currently doing well in relation to Play (i.e., making running fun and enjoyable?).
- As a coach, where do you struggle, or think you could improve?

Reminder from me on the "Practical tips" for supporting Play (2 mins)

Task 3 Practical examples from coaches (10 mins + time to feedback)

- What could you do in a running session that fall under some of those practical tips?
- For example, how could you make running more fun?

Task 4 Action plan (5 mins)

- Ask the coaches to write an action plan from the Play session

Time for questions

Summary & next steps (5 mins – establish whether 1 or 2 more workshops)

Feedback from coaches (5 mins)

- Feedback form (printed & online)

Appendix DD: Session Plan Planning

1.5 hours

Me presenting (15 min)

- The aim of the 5 Pillars training
- Reminder about the research side of things
- Reminder of the previous Pillars & ask what they've actioned (if anything)
- Plan for today

Task 1 Ice breaker (5 mins)

- Get coaches to share how they plan for their runs and plan for barriers (in pairs & not sharing with everyone to limit time)

Short video (5 mins)

- Key messages about Planning

Task 2 Reflections from coaches (10 mins + time to feedback)

- Where do you think you currently are in relation to helping runners plan for their runs and prepare for barriers?
- As a coach, what do you think you are currently doing well in relation to Planning? (i.e., in relation to helping runners make specific plans and plan for barriers).
- As a coach, where do you struggle, or think you could improve?

Task 3 Scenario 1 (10 mins): I ask the question rather than independent discussion

A runner tells you that they're going to be away for 2 weeks. What could you say or do to support them in coming back after the 2 weeks?

Task 3 Scenario 2 (10 mins): A runner reports that their work or family demands have gone through the roof, meaning they've got less time during the week. What could you say or do to support them in keeping running?

Reminder from me on the "Practical tips" for supporting Planning (2 mins)

Task 4 Practical examples from coaches (10 mins + time to feedback)

- What could you do in a running session that falls under some of those practical tips?
For example, how could you help runners make more specific plans? How could you help runners prepare for setbacks?

Task 5 Action plan (5 mins)

- Ask the coaches to write an action plan from the Planning session

Time for questions

Summary & next steps (2 mins)

Feedback from coaches (5 mins)

Appendix EE: Session Plan People

1 hour 45 minutes

Me presenting (15 min)

- The aim of the 5 Pillars training
- Reminder about the research side of things
- Reminder of the previous Pillars & ask what they've actioned (if anything)
- Plan for today

Task 1 Ice breaker (5 mins)

- Get coaches to share how their individual circumstances have made running harder/easier for them, and how social support or their relationships have helped their running (in pairs & not sharing with everyone to limit time)

Short video (5 mins)

- Key messages about People

Task 2 Reflections from coaches (10 mins + time to feedback)

- Where do you think you currently are in relation to creating an inclusive and supportive environment?
- As a coach, what do you think you are currently doing well in relation to People? (i.e., in relation to tailoring to individual's circumstances and offering support).
- As a coach, where do you struggle, or think you could improve?

Reminder from me on the "Practical tips" for supporting People (2 mins)

Task 3 Practical examples from coaches (10 mins + time to feedback)

- What could you do in a running session that falls under some of those practical tips?
For example, how could you show interest and care in the runners? How could you give opportunities for runners to build connections?

Task 5 Action plan (5 mins)

- Ask the coaches to write an action plan from the People session

Time for questions

Summary of the 5 Pillars and their key messages overall (10 minutes)

Going forward – How can you keep using the Pillars? What can I do to support? (10 minutes)

Next steps – Discuss evaluation of the intervention (5 minutes)

Feedback from coaches (10 mins)

- Feedback form (printed & online)

Appendix FF: Focus Group Questions Study 3

Introduction to Focus Groups:

Just to reiterate, the focus group discussion is about you having a conversation about the training with each other. My role is to facilitate the conversation and I have a list of questions that I would like us to cover but I would encourage you to engage with each other, and comment on anything you agree with or disagree with. It would be great to hear different views, and experiences. As mentioned, there are no right or wrong answers, and you don't need to agree with others in the room.

The aim:

The aim is to find out what impact the training has had on you as the coaches and on the running club as a whole. I would like to understand your overall experience with applying the training content, how runners may have responded to the things you've started doing, and what could be improved in future.

To start us off:

- 1. What made you take part in this optional training?**
- 2. Three months after the last session, what are your reflections on the training overall?**

To what extent can others relate?

- 3. How (if in any way) has the training impacted you as coaches/leaders?**

Have you experienced or implemented any changes? Could you provide some examples of where you've done that? Have others done something similar/different? How did the runners respond to you doing that?

- 4. To what extent has the training impacted the running club?**

Have you experienced or implemented any changes as a club? Could you share a specific example of that? Does anyone else have other examples? How did the runners respond to that?

- 5. Since the training, have you experienced any challenges with implementing the learnings from the training?**

Can others relate to that? Has anyone felt differently about that?

- 6. Have you noticed any different responses from runners off the back of the things you've started doing?**

Are there any specific examples that you can share? To what extent can others relate?

7. Is there anything else that came off the back of this training that we haven't yet discussed?

Would anyone like to add to that point?

8. How could this training be improved for future coaches?

To what extent do others agree with the suggestions?

9. Is there anything else you'd like to add that you haven't had a chance to share?

