# A Sequential Mixed-Method Investigation of Coaches' Impact on Athletes' Fear of Failure and Achievement Goals.

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## Abstract

**Background**: Fear of failure can have wide ranging negative implications for individuals and has been considered an important social concern. Although coaches can impact athletes' fear of failure, research in this area remains limited. The aim of this thesis was to better understand the role of coaches in shaping athletes' fear of failure and their achievement goals.

**Method**: A sequential mixed-method investigation was conducted across three cross-sectional studies. The first study consisted of a moderated mediation analysis ($n$=251) examining relationships between athletes' fear of failure/temperament/achievement goals, and their perception of transformational leadership behaviours in their respective coaches. The second study consisted of a hierarchical mediation analysis ($n$=156 athletes; $n$=38 coaches) examining relationships between coaches' fear of failure, athletes' perception of controlling coach behaviours, and athletes' psychological needs frustration/fear of failure. The final study consisted of a thematic analysis ($n$=9) whereby athletes with fear of failure discussed the impact their coach's behaviours had on their own fear of failure.

**Findings**: Results from this thesis suggest fear of failure plays a significant role in predicting athletes' achievement goals, and that transformational coaches do not influence these achievement goals for athletes with fear of failure. Additionally, coach fear of failure does not predict controlling coach behaviours. Next, the impact of coach behaviours on athletes' fear of failure can vary. This impact, however, depends on how athletes' psychological needs are influenced following competitive failure. Specifically, psychological needs supportive/frustrating/dissatisfying coach behaviours following athletes' failure in competitions can reduce/increase/have no impact on athletes' fear of failure, respectively.

**Conclusion**: Results from my studies suggest that coaches can adopt multiple different behaviours, however, only the coach behaviours that occur following an athlete's competitive failure appear to influence an athlete's fear of failure. This highlights the need to consider different contexts when researching antecedents to athletes' fear of failure.

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# Chapter 1: Introduction

This chapter serves as an introduction to my thesis. It begins with the rationale (i.e. personal rationale and theoretical rationale) for my thesis, followed by a statement of the problem and an overview of my thesis.

## 1.1 Rationale for this Thesis

### *1.1.1 Personal Rationale for this Thesis*

Fear of failure is a topic near and dear to my heart. I grew up being a competitive junior golfer who eventually went on to play golf at a Division I NCAA university in the USA. As a junior golfer, I was also extremely fortunate to be able to play amateur events across the globe. Throughout this time, I was coached by a variety of different people, with my father being the most impactful one. He introduced me to golf when I could barely walk and supported me every step of the way. He sacrificed a lot of time, and money, to help me achieve my dreams of turning professional one day. My dream of turning professional was short-lived. Once I arrived in the US and started playing college golf, I quickly realised I was not cut out for this lifestyle. I recall constantly feeling pressure in having to shoot certain scores. While no one directly told me that I was not good enough, I could not shake the feeling that I was not good enough to be there. It reached a point where I did not want to play in competitive events because I worried so much about letting down my coach, my father, and my team. These feelings followed me, even when I was practising. My performance declined throughout my first two years, I lost my scholarship, and I was forced to transfer to another school, where I was able to complete my undergraduate degree.

Following this experience, I decided I wanted to obtain an MSc in sport psychology, to better understand not only myself but also to be able to provide other athletes with the support they might need in dealing with similar experiences. In 2015, after successfully completing my MSc in sport psychology at the university of Stirling, I decided to embark on the journey of completing a PhD, if I could find a topic that sparked my interest. After reading multiple sport psychology textbooks in hopes of finding a suitable topic, I came across fear of failure. Those three words immediately caught my attention. Everything I read on the subject matter felt relatable to my life as a golfer. I can vividly recall having worries about letting my coach/father/teammates down prior to each event. I also remember focusing solely on trying to avoid failure. It felt as if my self-worth was attached to each event: successful performance allowed it to

expand, whereas failure meant my it was diminished. I recently found a quote that seemingly fits with my experiences as a golfer: “Winning was not a victory, only a relief” (Holroyde, 2021, p. 87).

After briefly scanning existing research on fear of failure in sport, I quickly realised that although a reasonable amount of research exists, very little of this research focuses upon the coaches impact on the athletes’ fear of failure. As I reflected on my time as a competitive golfer, I could not help but wonder how much of a role my separate coaches had played in my experiences (merely out of curiosity). As a result, questions began to arise, such as how much of a role did my coaches play in shaping my thought processes around failure? Would I have achieved greater success if the coach had behaved differently? Would I have achieved greater success if I had had different coaches altogether? I recognize many of these questions relate to previous experiences and are therefore challenging to answer in a manner that might feel satisfactory. Nonetheless, I became compelled to investigate the dynamics between coaches and athletes further. I hope my research offers further insight into coaching dynamics so that coaches and other athletes who find themselves on a similar journey, may benefit.

### *1.1.2 Theoretical Rational for this Thesis*

Fear of failure, or the motive to avoid failure, is the dispositional tendency to associate failure with aversive consequences (Birney et al., 1969; Conroy et al., 2001; Sagar et al., 2007). Those with fear of failure are likely to experience it in different performance related situations [e.g., sport (Sagar et al., 2007), school (Caraway et al., 2003), business (Fried-Buchalter, 1997)]. Fear of failure has been associated with a variety of negative outcomes for individuals, such as antisocial behaviour in school and sport (Sagar et al., 2011), poorer performance (Sagar et al., 2009, 2010), psychological stress (Gould et al., 1983), and increased risk of burnout in sport (Gustafsson, Sagar, et al., 2017). Those with fear of failure are also more likely to set avoidance goals (Conroy & Elliot, 2004; Elliot & Church, 1997), which in turn can have a negative impact on individual well-being (Elliot et al., 1997), and intrinsic motivation (Elliot & Harackiewicz, 1996).

The fear of failure motive is developed during early childhood via socialisation practices (Atkinson, 1958; Conroy, 2003; McClelland et al., 1953; Sagar & Lavallee, 2010). Examples of these practices include parental punitive/controlling behaviours (Conroy, 2003; Sagar & Lavallee, 2010; Teevan, 1983), and high expectations (Schmalt, 1982). For instance, children who were punished by their mothers following

failure, but were treated neutrally following their successes, experienced higher fear of failure scores (Teevan, 1983). Over time, children become conditioned to learn that parental affection is dependent upon successful performances, thus, learning to fear failure.

Parents are not the only ones implicated in the development of fear of failure in children, coaches are also said to be able to play a role (Conroy, 2003). For instance, coaches who engage in blaming behaviours can increase fear of failure within athletes (Conroy & Coatsworth, 2007). Specifically, coaches who engaged in blaming behaviours, caused increased levels of self-blame within athletes, and this led to increased levels of fear of failure. Thus, it has been suggested fear of failure occurs via a process of internalisation, whereby the individual treats themselves in a fashion similar to the way they perceive themselves being treated by important others (Conroy, 2003, 2017). This raises the possibility that fear of failure might act in a self-perpetuating manner (McGregor & Elliot, 2005; Schmalt, 1982). Despite anecdotal knowledge (from my own experiences) and the work of Conroy, there is little other information, particularly from athletes' perspectives on the role coaches play in influencing their fear of failure and their subsequent experiences. Developing an understanding in this area (and fear of failure in general) is important because these experiences can have wide-ranging implications, extending beyond the sporting domain (Conroy et al., 2001; Sagar et al., 2011). Indeed, this messaging has been around for decades, with Conroy (2001) labelling fear of failure as an important social concern, based on problems associated with it. Thus, I hope to provide a valuable contribution to the field of fear of failure research, from a theoretical and practical standpoint.

## 1.2 Ontology, Epistemology, and Theoretical Framework

It is important to note my perception of reality (ontology), and how I go about attempting to understand reality (epistemology). In being transparent about my ontology and epistemology, readers are offered the opportunity to understand my approach to researching fear of failure, while I am able to ensure that my methodology and methods align with my ontology/epistemology. Thus, the following section will consist of my ontological/epistemological standpoint, and I will describe the theoretical framework that I will use throughout my thesis.

I adopt the standpoint of a critical realist (Bhaskar, 1978, 2008, 2011) which is a theoretical framework that emerged in the 1970's/1980's (Denzin & Lincoln, 2011). The ontological standpoint of critical realism is that it is "not reducible to

epistemology" (Fletcher, 2017, p.182). In other words, reality can exist beyond what is empirically known. Critical realism views the world as theory-laden, but not theory-determined, meaning that some of the knowledge we obtain can be closer to reality than other knowledge (Danermark et al., 2001). Thus, it is reasonable to assume that certain theories which are in current use, might be modified, or rejected in support of other theories.

To better understand how critical realists view ontology and epistemology, it is helpful to use Bhaskar's stratified ontology. According to Bhaskar (1978), world phenomena can be grouped into three overlapping domains: the empirical domain, the actual domain, and the real domain. Within the empirical domain, objects and events can be measured empirically by the researcher. However, these events are also mediated via the human interpretation and experience (Danermark et al., 2001). Within the actual domain, however, things and events occur whether or not we experience them. Thus, human interpretation and experience do not influence the events. The real domain is where causal structures exist—things that are not observable—however, these things are capable of producing events that can be observed within the empirical domain. Adopting a critical realist approach, the goal is to explain social events in reference to the three levels of reality (Fletcher, 2017)

Different metaphors can be used to better understand Bhaskar's stratified ontology, such as the iceberg metaphor (Fletcher, 2017), or the flower metaphor (Wiltshire & Ronkainen, 2021). Using the flower metaphor, one is asked to imagine looking down at a flower from above. The empirical domain represents the visible petals, whereas the actual domain represents the stem (not directly visible from above, however, one can infer its existence). The real domain represents the soil and nutrients in which the flower is growing and which are beyond our visual reach. To understand the soil (which is beyond our reach), one needs to understand the impact it has on the flower and as a result, create a theory about it. How critical realism is applied throughout my thesis is described in the following sections.

### 1.3 Research Design

This section consists of the research design of my thesis. Within this section, I explain my research design and how it aligns with critical realism. In doing so, I hope to provide readers with insight into how critical realism underpins my work throughout my thesis.

For my thesis, I implemented a sequential-explanatory mixed-methods research design (Ivankova et al., 2006). The general purpose of mixed-methods is to better understand the research problem by using a combination of both quantitative, and qualitative research methods, in hopes of providing a more robust analysis (Greene et al., 1989). Sequential-explanatory research is a specific type of mixed-methods research, where quantitative data is collected first, followed by the collection of qualitative data, or vice versa. It is a popular design amongst researchers, as it allows them to explore relationships/study findings more in-depth, in comparison to a singular type approach (Hanson et al., 2005). For my thesis, I first gathered quantitative data for study one and study two, and then I invited research participants from study two to speak about their experiences. This allowed me to understand the role of the coach on athletes' fear of failure in a more detailed manner.

As a framework, critical realism is not attached to any specific set of methods, and recognizes the inherent value in both quantitative and qualitative research designs (Fletcher, 2017; Ryba et al., 2020). This model is referred to as 'critical methodological pluralism'(Danermark et al., 2001). However, it should be noted that this approach goes against different ontological standpoints held by other researchers (e.g., positivist, subjectivist).

> Scientists advocating the quantitative view have criticized qualitative research. They consider it imprecise, affected by the scientist's subjective attitude and unfit for making predictions. The other side has retorted that quantitative research is based upon a naive theory of objectivity and that it can neither describe the complexity of social reality nor make it possible to understand agents' motives and efforts to create meaning. (Danermark, et al., 2001, p.151).

For the model of critical methodological pluralism to be 'fruitful', it is important that researchers adhere to certain requirements. First, it is crucial that researchers recognize that the purpose of the separate research methods (quantitative vs. qualitative) are to complement each other, instead of being viewed in dichotomous terms. From a critical realist perspective, quantitative research is used to generate (hypothetical) causal relationships between variables, whereas the goal of qualitative research is to expose those hypothetical relationships in hopes of being able to create more causal statements.

The second step in having a 'fruitful' model of critical methodological pluralism refers to having the same ontological approach (critical realism) underpinning the entire research project (Danermark et al., 2001). The first requirement of critical

methodological pluralism is met by using both quantitative, and qualitative research methods. Specifically, in studies one and two I examine hypothetical causal relationships (quantitative), and in study three I explore these hypothetical mechanisms more in-depth (qualitative). Throughout these separate studies, I use appropriate language to describe the meaning of the results, in line with critical realism. In doing so, I am adhering to the second requirement of critical methodological pluralism.

To summarize, the data (irrespective of qualitative/quantitative) collected throughout this thesis refers to the empirical domain from Bhaskar's stratified ontology. Specifically, these are the subjective viewpoints/responses from participants (Wiltshire & Ronkainen, 2021). Following this, the data were analysed using a variety of different approaches. Once data analyses had been completed, inferences could be made based upon existing results (e.g., higher scores in x are associated with higher scores in y). These inferences refer to the actual domain of Bhaskar's stratified ontology. It should be noted, however, that inferences are considered more or less causal, depending on whether the research was conducted via quantitative vs. qualitative approach [in line with critical methodological pluralism (Danermark et al., 2001)]. Finally, these results are then related to existing theories, thereby either providing further support, recommended modifications, or rejection for current theories, relating to the real domain of Bhaskar's stratified ontology (Wiltshire & Ronkainen, 2021).

## 1.4 Overview of Thesis

The purpose of this section is to provide readers with an overview of each chapter of my thesis. My thesis consists of six chapters in total, with this introduction being chapter one. The following sections contain a summary of chapters two to six.

### *1.4.1 Chapter 2: Fear of Failure in Sport, Exercise, and Physical Activity: A Scoping Review*

Chapter two consists of a scoping review of existing fear of failure literature in sport, exercise, and physical activity (SEPA). Although multiple book chapters exist on the subject of fear of failure, including (a) the development of achievement motives (Elliot et al., 2010); (b) theory and assessments of hope for success and fear of failure (Pang, 2010), and (c) a broad review into the separate achievement motives (Conroy, 2017), each of these chapters contain limitations, which encouraged me to conduct a scoping review of the literature. In doing so, I provided myself with an up-to-date understanding of the contemporary literature, and use this understanding to act as a my guide in search for causal relationships between coach behaviours, athletes' fear of

failure, and their subsequent experiences [in line with a critical realist approach (Danermark et al., 2001)].

My scoping review contains a chronological overview of the theory development on fear of failure, followed by a systematic search procedure, to ensure that all relevant studies are included (Tricco et al., 2018). Following this, results were grouped into four categories (i.e. measurement of fear of failure; antecedents of fear of failure; outcomes of fear of failure; fear of failure and gender/sex differences). Based on included studies, future recommendations for research are discussed.

It should be noted, however, that although this chapter has been updated throughout my thesis, each of the following studies was conducted based on the most up-to-date research available at that given time in my thesis. Thus, although my scoping review contains published research up to, and including 2020, the separate studies in my thesis will not necessarily have had that research available. I presented an earlier version (poster format) of this chapter at the 2017 Divison for Sport and Exercise Psychology (DSEP) conference in Glasgow. This chapter has also been published in the *International Review of Sport and Exercise Psychology* [Appendix A (Taylor et al., 2021)].

### *1.4.2 Chapter 3: Achievement Motivation and Transformational Leadership: A Moderated Mediation Analyses*

My first study is presented in chapter three, which was conducted in 2017. It consists of an introduction to my first study, a method section, results, and a discussion section. Based on results from my scoping review, I recognized that there are multiple areas of fear of failure which deserve future research attention. However, using my personal experiences as a golfer, I decided to focus on the impact coaches may have on athletes' fear of failure.

This study had two aims. Drawing upon the hierarchical model of achievement motivation (Elliot & Church, 1997), it was of interest to test the updated hypothesized hierarchical model of achievement motivation (Elliot, 2006). Specifically, it was of interest to examine whether fear of failure mediated the relationship between avoidance temperament and mastery-avoidance, performance-approach, and performance-avoidance goals (Elliot, 2006; Elliot & Thrash, 2002). Further, it was of interest to gather a deeper understanding of how transformational leaders (Bass, 1985; Bass & Riggio, 2006) might be able to influence the strength of achievement goals in athletes with fear of failure (Elliot & McGregor, 2001). In summary, I examined a hypothesized

moderated mediation analysis (Preacher et al., 2007), whereby it was of interest to examine the mediating effect of athletes' fear of failure on temperament and achievement goals, in addition to the moderating effect of transformational leadership on athletes' fear of failure and achievement goals. Results from this study informed the following study.

### *1.4.3 Chapter 4: Fear of Failure and Motivation: A Multilevel Examination of Coach and Athletes*

My second study is presented within chapter four, which was conducted in 2018-2019. Based on results from chapter three it was deemed appropriate to use a different framework to better examine coach behaviours, in addition to examining coach behaviours as an antecedent to athletes' fear of failure. This chapter contains a hypothesised multilevel mediational model (Bates et al., 2015; Tingley et al., 2014) of athletes' psychological needs frustration (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011) on athletes' fear of failure (Conroy et al., 2002), and their perception of controlling coach behaviours (Bartholomew et al., 2010). Finally, it was also of interest to examine whether coaches' fear of failure might act as an antecedent to athletes' perception of controlling coaching. Chapter four is structured similarly to chapter three (i.e. introduction; method; results; discussion). I delivered an oral presentation of this chapter at the 15$^{th}$ European Congress of Sport & Exercise Psychology in Münster, Germany. Results from this study informed my third and final study, which is summarised in the following section.

### *1.4.4 Chapter 5: Examining the Coach Impact on Athletes' Fear of Failure: A Qualitative Investigation into the Athlete Perspective*

The purpose of this study was to closely examine and expand upon the results presented in chapter four [using the circumplex model of coach behaviours derived from self-determination theory as a guide (Aelterman et al., 2019; Delrue et al., 2019)]. Specifically, the purpose of this study was to gain a better understanding of athletes' perceptions of the impact of coach behaviours on athletes' fear of failure. These athletes were chosen based on their fear of failure scores from the second study (experiencing fear of failure a minimum of 60% of the time). A total of nine athletes from that study took part in semi-structured interviews (Arksey & Knight, 1999). This chapter consists of an introduction section, a methodology section, a method section, a findings section, and finally, a discussion section.

### *1.4.5 Chapter 6: General Summary, Discussions, Limitations and Conclusions*

Chapter six consists of a general summary/discussion of my thesis, followed by a section focused on the limitations and conclusions of my research. The first section of this chapter consists of a summary of the research which was conducted throughout this thesis and the findings. Following this, I provide readers with a general discussion on my findings, followed by their implications. Next, I make future research recommendations and offer practitioners some recommendations on how they might be able to use findings from my thesis to guide their work. Finally, I highlight existing limitations of my thesis and provide a conclusion.

# Chapter 2: Fear of Failure in Sport, Exercise and Physical Activity: A Scoping Review

In this chapter, I provide a chronological overview of the theory development of fear of failure, which is followed by a section on the purpose of conducting the current scoping review. Next, the systematic steps of the methods are discussed (i.e. identification of relevant studies; study inclusion/exclusion criteria; charting the data; collating, summarising, and reporting of results). This is followed by the results section, whereby I start by describing the retrieved articles, and the sample characteristics. Next, based on the analytical approach of the included studies, they are placed and organized within appropriate categories (i.e. measurement of fear of failure; antecedents of fear of failure; outcomes of fear of failure; fear of failure and gender/sex differences). Data within these categories were then summarised and reported within the context of fear of failure in sport, exercise, and physical activity. These findings are then discussed and the chapter ends with a statement of the problem, whereby I highlight some of the largest research gaps during that time (the year 2017) and relate it to my personal experience as a golfer, therefore providing a rationale for conducting study 1.

## 2.1 Chronological Overview on the Theory Development of Fear of Failure

Fear of failure, or the motive to avoid failure, is the tendency to appraise threat in evaluative situations in which failure is a possibility. This motive is socialized in early childhood and is rooted in self-evaluation disposition (Atkinson, 1957; Conroy & Elliot, 2004; Sagar & Lavallee, 2010). It is a term that has been colloquially embraced in society as is evident in the assertions of famous individuals across a variety of different domains. As examples, Elon Musk, the famous entrepreneur, is quoted as saying “I certainly have fear of failure” (Ong, 2013, para 2), and Padraig Harrington, a well-known PGA Tour golfer, has asserted that fear of failure made him work harder (Garrod, 2011). It is a term that has even been highlighted in popular TV shows, such as the Simpsons where Bart is told he has fear of failure (Groening, 1990) and Grey’s Anatomy where Meredith Grey, the lead character in the series, talks about how procrastination might be caused by fear of failure (Rhimes, 2005). Although a popular catchphrase in colloquial usage, research interest in the fear of failure construct has been no less longstanding.

In Murray and McAdams' (1938) early stages of theorizing on achievement motivation, "infavoidance" (more commonly known as fear of failure) was considered to be a desire (or a need) "to avoid humiliation. To quit embarrassing situations or to avoid conditions which may lead to belittlement: the scorn, derision or indifference of others. To refrain from action because of the fear of failure" (p. 192). Since those early days, researchers have examined the construct extensively across an array of domains including business (Fried-Buchalter, 1997; Mitchell & Shepherd, 2010), education (Guyton et al., 1989; Martin & Marsh, 2003), and sport (Sagar et al., 2007). Achievement motivation theorists and researchers posit that fear of failure is learned between the ages of 5-9 through socialization practices (see Elliot, Conroy, Barron, & Murayama, 2010 for a review; McClelland, 1958; McClelland, Atkinson, Russell, & Lowell, 1953). Teevan (1983), for example, found higher levels of fear of failure among children whose mothers responded with punishment following their failures but neutrally following their successes. Fear of failure has also been positively associated with high expectations in early life (Schmalt, 1982), and evidence suggests that parents high in fear of failure tend to pass their fear of failure on to their children as well (Elliot & Thrash, 2004). It may be, as suggested by Heckhausen (1975), that fear of failure is a self-perpetuating process.

The fear of failure avoidance motive prompts the adoption of avoidance goals (Conroy & Elliot, 2004; Elliot & Church, 1997) which can have negative effects on the individuals, including lower levels of well-being (Elliot, Sheldon, & Church, 1997) and decreased intrinsic motivation (Elliot & Harackiewicz, 1996). In education, fear of failure has been associated with problems such as decreased interest in school (Caraway et al., 2003), and elevated anxiety and depression (Singh, 1992). In sport, fear of failure has been associated with heightened perceptions of stress (Gould et al., 1983), increased risk of burnout (Gustafsson, Sagar, et al., 2017), higher levels of worry and sport anxiety (Conroy, Willow, & Metzler, 2002), poorer performance (Sagar et al., 2009), and higher levels of dropout (Sagar, Lavallee, & Spray, 2007).

The achievement motivation framework has been developed over time and can generally be distinguished between classical early achievement motivation (Atkinson, 1958; McClelland et al., 1953; Murray & McAdams, 1938) and contemporary achievement motivation (Ames, 1984; Dweck, 1986; Nicholls, 1984). The classical focus was on the energization of achievement-related behaviour, via achievement motives conceptualized as dispositions (e.g., fear of failure) considered to be generally

stable throughout life (McClelland, 1958; McClelland et al., 1953). Contemporary achievement motivation shifted away from motives as the energizing force of behaviour towards achievement goals grounded in personal definitions of competence providing direction of this energized achievement-related behaviour (Elliot, 1999). Based on the definition of competence, two achievement goals were created: a performance goal, which is based on the demonstration of competence in relation to others, and a mastery goal, which is based on task mastery (Ames & Archer, 1987; Dweck, 1986; Nicholls, 1984).

Elliot and colleagues (1997) presented the hierarchical model of achievement motivation, which places the achievement goals as mediators between achievement motives and achievement-related behaviours. Linking achievement goals to respective achievement motives helped to address the "why" in individuals' pursuit of certain types of goals. Updating of the hierarchical model has resulted in achievement goals that not only differ how competence is defined (i.e., mastery vs. performance), but also on how they are valenced (i.e., approach vs. avoidance). These refinements are manifested in the 2x2 achievement goal framework which includes goals relating to mastery-approach (MAp), mastery-avoidance (MAv), performance-approach (PAp), performance-avoidance (PAv) (Elliot & McGregor, 2001).

The fear of failure construct has also been developed within achievement motivation perspectives. Initially, fear of failure was considered a need, which was inferred based on low achievement motive scores via Thematic Apperception assessment (Morgan & Murray, 1935). However, this measure was considered unreliable, and achievement motivation was reconceptualised as two separate motives: the motive to approach success and the motive to avoid failure (Atkinson, 1958; Atkinson & Feather, 1966; Atkinson & Litwin, 1960). The fear of failure construct implicated anticipatory shame aroused by situations involving evaluation of competence and was hence defined as the "motive to avoid failure and/or a capacity for experiencing shame and humiliation as a consequence of failure" (Atkinson, 1957, p. 360). Thus, fear of failure was initially considered a unidimensional construct. It was postulated that preferences to not take part in achievement-related tasks would manifest when the motive to avoid failure outweighs the motive to approach success. When engagement was obliged, however, it was expected that individuals would choose to engage either in the easiest task or the most difficult task, because engaging in the easiest task increases the likelihood of success, whereas engaging in the most difficult task makes failure the

normative expected outcome and hence minimize anxieties about being judged to be incompetent.

Birney, Burdick and Teevan (1969), however, contended that failure, in itself, is meaningless and instead that the fear experienced by individuals in achievement contexts is actually about the consequences of failure. This assertion was based on their psychological research, which led to the development of the first multidimensional model of fear of failure. It included fears relating to: a) a devalued self-estimate, b) non-ego punishment, and c) a reduction in social value. Using this model, Birney et al. (1969) suggested that individuals can use four different types of behaviours in attempts to reduce their fear of failure including avoidance, putting in maximum effort, reducing the achievement standard, or not trying. Despite having a solid theoretical foundation, this model has not been tested in many studies.

Researchers in sport, exercise, and physical activity (SEPA) have relied heavily on Conroy and colleagues (2002) multidimensional conceptualisation of fear of failure, which is grounded in evidence on the perceptions of athletes and performing artists about the consequences of failing (Conroy et al., 2001). Interviews conducted with elite adolescent athletes offered further support for this multidimensional conceptualization (Sagar et al., 2007). It shares commonalities with Birney et al.'s (1969) conceptualization wherein the individual associates failure with aversive consequences and, thus, fears it. Conroy's model is based on the cognitive-motivational-relational theory of emotion (Lazarus, 1991) in which emotions are posited to arise when two conditions are met, namely; 1) the individual perceives changes relating to their environment to impact one or more of their goals, and 2) these perceived changes must be interpreted as meaningful to their goals. For instance, the fear of failure motive can be activated by anticipation of failure as a possibility in a given evaluative situation, and that aversive consequences will accompany that failure. Each emotion can be represented by its own core relational theme (CRT). The CRT for *anxiety* is that one "is facing an uncertain, existential threat", whereas the CRT for *fear* is that one is "facing an immediate, concrete, physical danger" (Lazarus, 1991, p. 222). Fear and anxiety are closely related to fear of failure and both involve anticipation of a threatening outcome (Lazarus, 1991).

Five intrapersonal and interpersonal dimensions of threat appraisals associated with failure are encapsulated in Conroy et al.'s (2002) model. The intrapersonal dimensions include: 1) experiencing shame and embarrassment, which is related to self-

presentational failure and personal diminishment; 2) devaluing one's self-estimate, which is related to having to change one's beliefs about themselves; 3) having an uncertain future, which is related to beliefs of losing out on future possibilities. The interpersonal dimensions include: 4) having important others losing interest, which is related to beliefs of losing social value and influence in the performance domain; and, 5) upsetting important others, which is related to beliefs of other's disapproval and loss of affection following failure. This conceptualization has been relied upon heavily in SEPA research, in good measure, because of the availability of psychometrically sound instruments that can produce reliable and valid scores of the fear of failure constructs in the model.

Both the 25-item Performance Failure Appraisal Inventory (PFAI), and 5-item Performance Failure Appraisal Inventory-Short (PFAI-S) have been found to afford acquisition of data with sound psychometric properties relative to internal consistency, factorial validity, and temporal stability, with Cronbach's alpha coefficients ranging from .72 – .88 for the PFAI-S and .69 – .90 for the separate PFAI subdimensions, and test-retest validity range from .76 – 84 for the PFAI-S and .80 – .96 for the separate PFAI subdimensions (Conroy et al., 2002, 2005; Conroy, Coatsworth, et al., 2007; Conroy, Metzler, et al., 2003; Conroy & Coatsworth, 2004; Conroy & Metzler, 2003; Kaye et al., 2008; Sagar & Jowett, 2010). Research focussing on the lower-order meanings of the five dimensions has revealed that, when controlling for the other subscales, the dimensions varied in terms of their levels of maladaptiveness with fear of shame and embarrassment being the most dysfunctional dimension (Conroy, 2004). The PFAI has also been shown to produce valid and reliable scores across a variety of participant populations including children as young as eight years old (Conroy, Coatsworth, et al., 2007). The PFAI was created in the United States with college students but has also been subjected to confirmatory factor analyses with a British athletic sample (Sagar & Jowett, 2010). It has also been translated into Turkish (Kahraman & Sungur, 2016), Jordanian, (Alkhazaleh & Mahasneh, 2016), Portuguese, (M. Correia et al., 2016), Spanish (Moreno-Murcia & Conte Marín, 2011), Chinese, (Cho & Lu, 2005), and Swedish (Gustafsson, Sagar, et al., 2017) with internal consistency scores ranging from .69 – .79 for the PFAI-S and .67 – .90 for the separate PFAI subdimensions. It should be noted, however, that fear of uncertain future was removed from the Chinese PFAI, or PFAI-S due to low factor loading or cross-loading (Chen, Chen, et al., 2009; Cho & Lu, 2005; Tsai & Chen, 2009).

It is evident that Conroy's (2001a) insights on the development of fear of failure and its associated problems have sparked investigation in this area. Multiple book chapters have been produced that offer different aspects of fear of failure including: (a) the development of achievement motives (Elliot et al., 2010); (b) theory and assessments of hope for success and fear of failure (Pang, 2010), and (c) a broad review in achievement motives (Conroy, 2017). These chapters provide readers with deep insights into different aspects of fear of failure, but none of them focus exclusively on fear of failure in SEPA. In addition, their inclusion criteria are not always entirely clear and as a result, potential studies might have been missed. Further, these chapters exclusively focused on the higher-order factor—fear of failure—thereby ignoring potential insights that might be gleaned from consideration of the unique associations between the lower-order factors (i.e. fear of shame and embarrassment; fear of devaluing one's self-estimate; fear of uncertain future; fear of upsetting important others; fear of important others losing interest) and given variables. Finally, aside from Elliot and colleagues (2010), there is scant discussion in the extant literature surrounding potential gender/sex differences in fear of failure. A review examining fear of failure within SEPA with a systematic search procedure would provide researchers with an up-to-date commentary that encompasses all relevant work. As such, a scoping review was deemed appropriate.

### *2.1.1 Purpose of Scoping Review*

Scoping reviews are conducted to examine relevant literature within a certain area, regardless of the study design, with the aim to identify gaps in the literature (Arksey & O'Malley, 2005). Scoping reviews differ from systematic reviews or meta-analyses, in that their purpose is not to answer specific questions, but to answer a more general question (e.g., What research exists on a given topic?), which allows for a broader range of research to be included (Tricco et al., 2018). This type of review was deemed suitable for the present review as it can provide readers with a comprehensive overview of the fear of failure research exclusively within SEPA—something that has not been done previously.

The purpose of this scoping review, therefore, is threefold: (1) to examine research that has been conducted since Conroy's (2001a) review, (2) to consolidate the literature on fear of failure in SEPA, and (3) to lay the foundation for future work in this field. The PRISMA scoping-review checklist was employed to ensure adherence to best practice procedures in conducting this review (Tricco et al., 2018).

## 2.2 Method

Arksey and O'Malley (2005) created a six-step process to find an exhaustive list of published literature for scoping reviews. These steps include: (1) identifying the research question; (2) identifying relevant studies; (3) study selection; (4) charting the data; (5) collating, summarising and reporting the results; and (6) a consultation exercise. The sixth step is optional and involves meeting with stakeholders who might be able to offer additional resources and/or inform or validate findings from the review. Due to the broad inclusion criteria of articles discussed subsequently, and the development stage of current research, the consultation exercise was deemed premature for this effort. Thus, the five-step process was followed to find an exhaustive list of published literature relating to fear of failure in SEPA. The first step was described in the introduction; therefore, subsequent steps 2-5 are elaborated on below.

### *2.2.1 Identifying Relevant Studies*

Several literature searches were conducted to find as many relevant articles as possible (Arkey & O'Malley, 2005). First, searches of electronic databases were conducted. Fear of failure originated within achievement motivation research, which conceptualised it as an avoidance motive (McClelland et al., 1953). Accordingly, our database searches included the terms: "fear of failure", "avoidance motive", "avoidance motivation", and "achievement motivation". Five electronic databases commonly used within the field psychology were searched including: CINAHL complete, PsycInfo, PsycArticles, SportDiscus and ERIC. In order to compile a list of all articles for inspection, I used a host service that can search multiple databases simultaneously, namely, STIRGATE. Second, because searches of the electronic databases might have resulted in studies being excluded due to technical errors (Arksey & O'Malley, 2005), manual searches of key journals (i.e., *The Sport Psychologist*, the *Journal of Sport and Exercise Psychology*, *Psychology of Sport and Exercise, Journal of Applied Sport Psychology*, *Sport, Exercise and Performance Psychology*) were also conducted. Finally, the reference lists from all included studies were scanned in order to identify any additional articles for inclusion (Arksey & O'Malley, 2005). The inclusion criteria are discussed below.

### *2.2.2 Study Selection: Article Inclusion/Exclusion Criteria*

Articles included in this scoping review were focused on fear of failure within SEPA. To be selected, the articles also had to be in English, published in peer-reviewed journals, and published after 2001. Articles published in 2001 and prior were excluded

from this review because of the interest in examining research that followed from Conroy's (2001a) previously mentioned extensive review on fear of failure. Articles in foreign languages, unpublished articles, dissertations, or conference presentations were also excluded due to potential costs and time constraint difficulties that could arise from, as examples, tracking down and pursuing the translation of foreign articles (Arksey & O'Malley, 2005).

Figure 1 provides a flow diagram showing the number of studies excluded at each stage as commonly employed to depict PRISMA search processes for meta-analytic and systematic reviews (Liberati et al., 2009). These depictions are also useful for scoping reviews to keep track of each step of the inclusion/exclusion process.

### *2.2.3 Charting the Data*

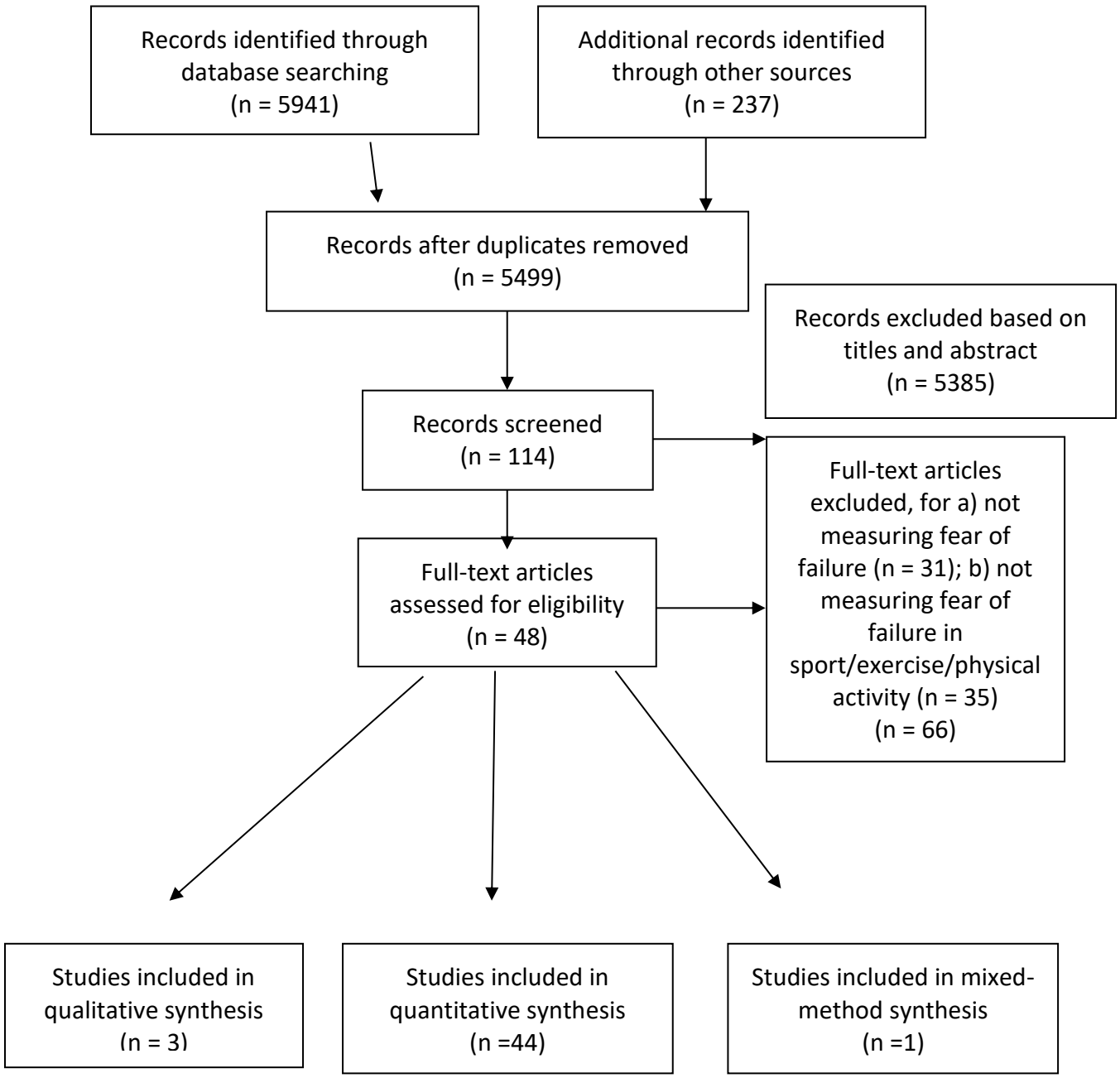
The charting process for this scoping review followed the guidelines provided by Peters et al. (2015). Specifically, I extracted and charted my data based on the following information: Topic, basic design, sample, variable of interest, measures used and main results (see Table 1).

### *2.2.4 Collating, Summarising, and Reporting the Results*

Conroy (2001a) investigated three areas in his review, namely, the literature surrounding fear of failure, the development of fear of failure, and future research ideas relating to prevention and treatment. To supplement towards those findings, similar headings were employed in this scoping review where possible, while new ones were created as needed to cover emergent avenues evident within research arising subsequent to Conroy's review. The findings are divided into four categories namely: (1) measurement of fear of failure, (2) antecedents of fear of failure, (3) outcomes of fear of failure, and (4) fear of failure and gender/sex differences. Studies were placed into categories based on their analytical approach. Following the charting process, data were summarized and reported to accommodate all the relevant information available in the resources surrounding fear of failure in SEPA.

**Figure 1.**

*Flow Diagram*

The article retrieval process can be seen in Figure 1. Initially, 6178 articles were identified. A total of 679 duplicates were removed, leaving 5499 articles for further inspection. After inspecting the titles and abstracts, another 5385 articles were removed, leaving a total of 114 articles of interest to be fully examined, of which 48 met the inclusion criteria. Of those that were excluded, 31 articles did not measure fear of failure, 35 articles did not measure fear of failure within SEPA. Among the remaining 48 articles, 44 involved a quantitative design, three employed a qualitative design, and one used a mixed-method design.

### *2.3.2 Sample Characteristics*

Of the 44 quantitative articles, 31 studies involved participants across a variety of sports or enrolled in physical activity/exercise classes. The remaining 13 studies involved participants exclusively from swimming, softball, football, aerobic dance, handball, tennis, or golf. The samples ranged from 25 to 544 participants. As indicated in Table 1, the designs employed were cross-sectional ($n$ = 31), naturalistic time series ($n$ = *1*), longitudinal ($n$ = 8), quasi-experimental ($n$ = 1), randomized/controlled trial ($n$ = 1), experimental ($n$ = 1), and intervention ($n$ = 1).

Of the three qualitative studies, two were focused on elite athletes and the other involved intact families. The mixed-methods study was focused on male football players. Amongst the qualitative studies, sample size ranged from nine participants to eleven participants. In the mixed-method study, quantitative data were obtained from 81 participants while qualitative data were subsequently obtained from four of those participants. The three qualitative studies consisted of collecting information at a single time-point with each participant, whereas the mixed method design obtained quantitative data from the participants at a single time-point, followed by a one-off interview (see Table 1).

### *2.3.3 Measurement of Fear of Failure*

The PFAI was the most widely used tool for assessing fear of failure. Of 45 studies of fear of failure employing a quantitative design or mixed methods design, 37 studies utilized the 25-item PFAI or the 5-item PFAI-S (Conroy et al., 2002), while one used the early stage 41-item PFAI (Conroy, 2001b). The 30-item Achievement Motive Scale for Sport (AMS-S) and the 10-item Achievement Scale for Sport-Short (AMS-S Short) (Elbe, 2003; Elbe & Wenhold, 2005) were used in six studies. One study employed the Willis Competition Related Motive Scale (WCRMS; Willis, 1982).

Kaye et al. (2008) conducted a cross-sectional study to examine similarities between perfectionistic concerns, the undesirable form of perfectionism, and fear of failure (using the 25-item PFAI; Conroy et al., 2002). Their structural equation modelling analyses of the cross-sectional data supported (albeit tentatively) the possibility that the two constructs might share a common temperamental antecedent, and result in the adoption of the same motivational tendencies. Regardless, the variables shared a large portion of common variance and hence Kaye et al. argued the possibility of them being merged into a single perfectionistic concern latent variable.

**Table 1.** *Charting Table*

| Study n | Topic | Basic Design | Sample | VOI | Measures | Main Results |
|---|---|---|---|---|---|---|
| 1 Conroy, Willow, and Metzler (2002) | 1 | Quantitative Cross-sectional | College students and varsity athletes | Fear of failure, fear of success, sport anxiety, sport competence, state/trait optimism, specific situational optimistic/pessimistic expectations | PFAI | PFAI 25-item and PFAI-S 5-item are reliable tools to assess fear of failure |
| 2 Conroy, Metzler (2003) | 1 | Quantitative Longitudinal | College students in physical activity classes | Fear of failure | PFAI, PFAI-S | PFAI, PFAI-S items exhibit acceptable levels of temporal stability |
| 3 Conroy, Metzler, Hofer (2003) | 1 | Quantitative Longitudinal | Recreational athletes | Fear of failure | PFAI, PFAI-S | PFAI, PFAI-S offered strong latent factorial invariance and a high degree of latent mean stability |
| 4 Conroy, Elliot, and Hofer (2003) | 3 | Quantitative Longitudinal | Recreational athletes | Fear of failure, achievement goals | PFAI-S | Fear of failure predicted MAv, PAp, PAv goals |
| 5 Conroy (2003) | 2, 3 | Quantitative Cross-sectional | Highschool students/athletes, college students/athletes | Fear of failure and representational models of self/others | PFAI | Individuals high in fear of failure (FF) had a high association with hostile representational models of self while failing, which coincided with how these individuals reported their parents and most significant instructors treated them. |

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| 6 Conroy (2004) | 1 | Quantitative Cross-sectional | Recreational athletes | Individual meaning of PFAI subscores | PFAI | The different types of FF vary in terms of maladaptiveness, however, fear of shame and embarrassment (FSE) was most dysfunctional, whereas fear of uncertain future (FUF) had some adaptive features. |
| 7 Conroy and Elliot, (2004) | 3 | Quantitative Quasi-experimental | College students enrolled in physical activity classes | Fear of failure, achievement goals | PFAI | FF antecedes avoidance achievement goals in sport |
| 8 Conroy and Metzler (2004) | 5 | Quantitative Cross-sectional | College students enrolled in physical activity classes | Fear of failure, fear of success, sport anxiety and self-talk | PFAI | Association between FF and self-talk had strongest effect size compared to sport anxiety and fear of success |
| 9 Conroy and Coatsworth (2004) | 2 | Quantitative Randomized, controlled trial | Youth and children summer swimming camp | Fear of failure, coach training, | PFAI-S | Psychosocial coach training did not significantly reduce levels of FF |
| 10 Conroy, Coatsworth and Fifer (2005) | 2 | Quantitative Longitudinal | Youth and children summer swimming camp | Fear of failure, perceived competence | PFAI-S | FF and perceived competence work independently |

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| 11 Elbe and Wenhold (2005) | 1, 3, 4 | Quantitative Longitudinal | College students/athletes | Fear of failure, hope for success, achievement orientation | AMS-S | AMS-S reliable tool to measure achievement motive.<br>People with FF avoided the intermediate risk range at handball, whereas people with hope for success (HS) chose this range. |
| 12 Aktop and Erman (2006) | 2 | Quantitative Cross-sectional | Recreational college male athletes | Achievement Motivation, trait-anxiety, self-esteem | WCRMS | Positive association between trait anxiety and FF when all levels of sport experienced was combined. When controlling for sport experience, FF and trait anxiety only had a significant association in high and moderate experienced athletes, but not low experienced athletes |
| 13 Sagar, Lavallee and Spray (2007) | 1 | Qualitative Cross-sectional | Elite youth athletes | Fear of failure | Semi-structured interviews | Young athletes perceived main consequences associated with failure to be diminished perception of self, no sense of achievement, emotional cost of failure. |
| 14 Conroy, Kaye and Fifer (2007) | 2, 3, 4 | Quantitative Cross-sectional | College students enrolled in physical activity classes | Fear of failure, perfectionism | PFAI | FF associated with socially prescribed perfectionism (SPP) better than other-oriented perfectionism (OOP) and self-oriented perfectionism (SOP), while controlling for other forms of perfectionism. |
| 15 Conroy, Coatsworth and Kaye (2007) | 1 | Quantitative Cross-sectional | Children and youth female softball players | Fear of failure, situational motivation, sport anxiety, self-esteem, physical self-concept, social competence | PFAI-S | PFAI can be applied to children as young as 8. Associations between FF and higher levels of sport anxiety, and lower levels of self-determined motivation, self-esteem, skill related physical self-concept, and social competence. |

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| 16 Conroy and Coatsworth (2007) | 2 | Quantitative Longitudinal | Children and youth swimmers | Fear of failure and coach behaviours | PFAI-S | Youth perception of coaches has an impact on the increase and/or decrease of FF. Both models (cognitive-interpersonal/motivational mechanisms) contributed to this socialization process. |
| 17 Kaye, Conroy and Fifer (2008) | 1, 2, 3 | Quantitative Cross-sectional | College students enrolled in physical activity classes | Fear of failure, perfectionism, temperament, achievement goals | PFAI | FF and perfectionistic concern (PC) share a large portion of variance and can be combined into latent variable PC. Avoidance temperament predicted PC and PC predicted the adoption of avoidance goals |
| 18 Stoeber and Becker (2008) | 2 | Quantitative Cross-sectional | Female football players | Fear of failure, perfectionism, attributions | AMS-S (Short) | Negative reactions to imperfection positively associated with FF. Striving for perfection had a negative association with fear of failure |
| 19 Nien and Duda (2008) | 3, 4 | Quantitative Cross-sectional | College and sport club athletes | Fear of failure, achievement goals, sport competence, motivation | PFAI-S | Validation for the AGQ-S across gender. FF associated with the adoption of MAv, PAv, PAp goals. Males had a weaker path from FF to MAv goals in comparison to females. |
| 20 Chen, Wu, Kee, Lin and Shui (2009) | 3 | Quantitative Cross-sectional | College students enrolled in physical exercise classes | Fear of failure, Achievement goals, Self-handicapping | PFAI-S (Chinese version) | Positive correlation between FF and MAv, PAv, making excuses (ME), reduced efforts (RE). PAv had mediation effects on FF and RE |
| 21 Chen, Chen, Lin, Kee and Shui (2009) | 3 | Quantitative Cross-sectional | Female college students enrolled in | Fear of failure and self-handicapping | PFAI-S (Chinese version) | FF positively associated with ME, RE |

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| | | | aerobic dance classes | | | |
| 22 Tsai and Chen (2009) | 2 | Quantitative Cross-sectional | High school athletes | Fear of failure, Motivational climate | PFAI-S (Chinese version) | Performance climate positively correlated with all 4 subscales of FF, and general FF. Fear of devaluing one's self-estimate (FDSE) also correlated with mastery climate. |
| 23 Sagar and Stoeber (2009) | 2, 3 | Quantitative Cross-sectional | College athletes | Fear of failure, perfectionism, affective responses to success and failure | PFAI | FF had a positive correlation with all types of perfectionism and negative affect after failure. Personal standards negatively predicted FSE. Perfectionistic concerns predicted FF. FSE predicted negative affect after failure. FSE also mediated the relationship between perfectionistic concern and negative affect |
| 24 Sagar, Lavallee, and Spray (2009) | 3 | Qualitative Cross-sectional | Youth high school elite athletes | Fear of failure, coping | Semi-structured interviews | FF affects athletes' subjective well-being, interpersonal behaviour, sports performance and school. All three coping strategies were employed by individuals with fear of failure, with avoidance focused coping being the main one |
| 25 Schantz and Conroy (2009) | 3 | Quantitative Naturalistic time series | College golfers | Achievement motives, achievement goals, affect, performance | PFAI | low FF, pre-hole MAv unassociated with dominance. High FF, pre-hole MAv goals negatively associated with dominance. Low FF, performance not associated with post-hole arousal. High FF, performance negatively associated with post-hole arousal. Low FF, MAp goals negatively associated with arousal changes. High FF MAp goals positively associated with arousal change |

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| 26 Sagar and Jowett (2010) | 1 | Quantitative Cross-sectional | Club level athletes | Fear of failure | PFAI/PFAI-S | PFAI, PFAI-S are psychometrically sound measures to assess FF with British individuals, however, it is recommended that item 12 be reworded, due to it being the only negatively worded item. |
| 27 Sagar, Busch and Jowett (2010) | 2,3 | Mixed-methods Cross-sectional | Male elite football | Fear of failure, coping | PFAI, Semi-structured interviews | Four situational factors contributed to players FF; pressure to succeed, bad performance, score of the match, opponent's good reputation. Players state FF effects their well-being, interpersonal behaviour and performance. Athletes engaged in a combination of avoidance-focused, emotion-focused, and problem-focused coping to deal with FF |
| 28 Sagar and Lavallee (2010) | 2 | Qualitative Cross-sectional | 3 intact families | Development of fear of failure | Semi-structured interviews | 3 main parental behaviours can contribute to the development of FF: punitive behaviour, controlling behaviour, and high expectations for achievement |
| 29 Ntoumanis, Taylor and Standage (2010) | 3 | Quantitative Cross-sectional | Youth high school students | Antecedents and consequences of self-handicapping/defensive pessimism | PFAI-S | Self-handicapping (SH), defensive pessimism (DP), and competence valuation correlated positively with FF, while physical self-concept negatively correlated with FF. FF predicted both SH and DP |
| 30 Sagar, Boardley and Kavussanu (2011) | 3, 4 | Quantitative Cross-sectional | College athletes | Fear of failure, antisocial behaviour, sport experience, sex differences | PFAI | Males FF correlated significantly with both antisocial school/sport behaviour. Females only FSE, FDSE, fear of important others losing interest (FIOLI) correlated sig. with antisocial behaviour in sport. FF predicted antisocial behaviour in both school and sport. |

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| 31 Mosewich, Kowalski, Sabiston, Sedwick and Tracy (2011) | 2 | Quantitative Cross-sectional | Female high school athletes | Fear of failure, self-compassion | PFAI-S | Self-compassion negatively correlated with FF, self-compassion accounted for significant variance in FF |
| 32 Elison and Partridge (2012) | 2, 4 | Quantitative Cross-sectional | College athletes | Fear of failure, shame-coping, perfectionism | PFAI (41-item) | All 4 styles of shame-coping have a significant correlation with FF except for fear of upsetting important others (FUIO). Small difference regarding gender, sport type, and FF |
| 33 Sagar and Jowett (2012) | 2, 4 | Quantitative Cross-sectional | British athletes | Age, gender, sports type/level, fear of failure | PFAI | Females had higher levels of FDSE than males and the female FDSE scores were moderated by age suggesting that junior females had higher FDSE than senior females. This moderation was reversed for males. Lower level team athletes had lower FDSE than high level team athletes. This was reversed for individual athletes. High level team athletes had higher FSE than lower level team athletes, and this was reversed for individual athletes. Team athletes reported more FF and higher levels than individual athletes (except for FDSE). |
| 34 Gucciardi, Mahoney, Jalleh, Donovan and Parkes (2012) | 2 | Quantitative Cross-sectional | Elite athletes | Fear of failure, perfectionism, achievement goals | PFAI-S | Analyses revealed 3 types of perfectionism. Maladaptive perfectionists have higher levels of FF and MAv, PAp, PAv, compared to adaptive perfectionists and non-perfectionists |
| 35 Wikman, Stelter, Melzer, | 2 | Quantitative Intervention | Elite athletes | Fear of failure, goal-setting | AMS-S (Danish version) | Fear of failure decreased significantly during 12-week intervention, but an increase was found during follow-up |

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| Hauge, Elbe (2014) | | | | | | |
| 36 Pitt Wolfson and Moss (2014) | 3 | Quantitative Cross-sectional | Elite youth male football players | Fear of failure, self-talk, winning and losing | PFAI | Higher levels of FDSE alongside FIOLI was associated with lower levels in the frequency of self-talk. Higher levels of fear of uncertain future (FUF) was associated with higher levels of valence of negative of self-talk. |
| 37 Zuber and Conzelmann (2014) | 3 | Quantitative Longitudinal | Elite youth male football players | Achievement motives, performance | AMS-S (Short) (German) | Negative relationship between hope for success and FF. FF did not predict performance 6 months later |
| 38 Wegner and Teubel (2014) | 3 | Quantitative Cross-sectional | College athletes | Implicit achievement motive, explicit achievement motive, | AMS-S (German) | Target distance significant predicted by explicit achievement motive, Repeated performance significantly predicted by implicit motive |
| 39 Sagar and Jowett (2015) | 2 | Quantitative Cross-sectional | British elite athletes | Fear of failure, self-control, coach-athlete relationship | PFAI | Self-control and empathy negatively predicted both FDSE and FUIO. Athletes' perception of commitment negatively predicted FIOLI and perception of closeness positively predicted FIOLI. Coach empathy negatively predicted FIOLI, FUIO and FSE. |
| 40 Correia, Rosado and Serpa (2016) | 1 | Quantitative Cross-sectional | Youth athletes | Fear of failure | PFAI (Portuguese version) | Results from PFAI-P provided good internal consistency, convergent and discriminant validity All dimensions had expected significant correlation with SAS-2-P |
| 41 Gustafsson, Sagar and Stenling (2016) | 3 | Quantitative Cross-sectional | Elite adolescent academy athletes | Fear of failure, psychological stress, burnout | PFAI (Swedish version) | Using variable centred approach, FSE had significant association with psychological stress and reduced sense of accomplishment. Using person-oriented analysis, medium to high, and high FF positively associated with psychological |

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| | | | | | | stress, reduced sense of accomplishment, sport devaluation, and emotional/physical exhaustion |
| 42<br>Correia, Rosado, Serpa, Ferreira (2017) | 1, 4 | Quantitative Cross-sectional | Athletes | Fear of failure, gender/ age/sport differences | PFAI (Portuguese version) | Measurement invariance is consistent across both genders, individual and team sports, and preadolescent and adolescent. No significant differences between gender, type of sport, and ages when examining general fear of failure. Females had significantly higher levels of FSE, FDSE and FUF than males. Athletes in teams had significantly higher levels of FIOLI and FUIO. Adolescent athletes had significantly higher levels of FIOLI than preadolescent athletes. |
| 43<br>Bartholomew, Ntoumanis, Mouratidis, Katartzi Thøgersen-Ntoumani, Vlachopoulos (2018) | 2 | Quantitative, longitudinal | Physical education adolescent students | Controlling teaching, needs frustration, Fear of failure, motivation, contingent self-worth, challenge avoidance | PFAI | Over the span of a school year perception of controlling coaching positively impacted individuals needs frustration scores, which positively impacted fear of failure scores. The relationship between fear of failure and controlling coaching was mediated via individuals' needs frustration. |
| 44<br>Correia, Rosado (2018) | 3 | Quantitative, Cross-sectional | Athletes | Fear of failure, sport anxiety | PFAI (Portuguese version) | Fear of failure acted as a significant predictor of sport anxiety. In addition, fear of failure also acted as a significant predictor of all three subscales of sport anxiety: worry, cognitive disruption and somatic anxiety. |

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| 45 Moreno-Murcia, Huéscar Hernández, Conte Marín, Nuñez (2019) | 2 | Quantitative, Cross-sectional | Elite athletes | Autonomy supportive coaching, controlling coaching, fear of failure | PFAI (Spanish version) | Two groups were created with a cluster analyses. Group one consisted of moderate fear of failure scores and group two consisted of low fear of failure scores. Significant differences were found between the two groups in relation to their perception of autonomy supportive coaching, suggesting that those with low fear of failure had higher perceptions of autonomy supportive coaching in comparison to those with moderate levels of fear of failure. Significant differences were also found between the two groups in relation to their perception of controlling coaching suggesting that those with moderate levels of fear of failure had higher perceptions of controlling coaching in comparison to those low in fear of failure. |
| 46 Gómez-López, Ruiz-Sánchez, Granero-Gallegos (2019) | 2, 4 | Quantitative, Cross-sectional | Elite youth handball players | Motivational climate, peer motivational climate, fear of failure | PFAI (Spanish version) | Males reported significantly higher levels of FIOLI than females. Players with more than 5 years of sport experience displayed significantly higher levels of FSE, FDSE and FIOLI, in comparison to those with less than 5 years of sport experience. Coach ego climate was the strongest predictor of FDSE, FUF, FIOLI, FUIO, while peer ego climate was the strongest predictor of FSE. Coach task climate only acted as a significant negative predictor of FIOLI. |
| 47 Gómez-López, Borrego, da | 2 | Quantitative, Cross-sectional | Elite youth handball players | Motivational climate, fear of failure, precompetitive anxiety | PFAI (Spanish version) | Ego involving climate significantly predicted FF. FF significantly predicted somatic and cognitive anxiety. Fear of failure negatively and |

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| Silva, Granero-Gallegos, González-Hernández (2020) | | | | | | significantly predicted self-confidence. A significant indirect was found between ego climate and cognitive/somatic anxiety through fear of failure. A significant negative indirect effect was observed between ego climate and self-confidence via fear of failure. |
| 48<br>De Muynck, Soenens, Delrue, Comoutos, Vansteenkiste (2020) | 3 | Quantitative, experimental | Competitive tennis players | Fear of failure, self-reported self-talk, coded self-talk, perceived tension | AMS-S (Short) | Fear of failure significantly predicted both positive and negative self-talk. A significant indirect effect was found between fear of failure and perceived tension through negative self-talk. |

**Notes:** VOI= Variable of Interest; PFAI= Performance Failure Appraisal Inventory; PFAI-S= Performance Failure Appraisal Inventory-Short; AMS-S= Achievement Motive Scale-Sport

### *2.3.4 Antecedents of Fear of Failure*

Variables that might serve as potential antecedents of fear of failure were examined in a total of 22 studies. The designs employed include cross-sectional ($n$ = 17), longitudinal ($n$ = 3), randomized-controlled trial ($n$ = 1), and intervention ($n$ = 1). Results from cross-sectional data suggest that parents play a key role in the development of fear of failure within athletes (Conroy, 2003; Sagar & Lavallee, 2010). Further results from cross-sectional and longitudinal research suggest that coach behaviours, coach created motivational climate, and peer created motivational climate can be positively and/or negatively predictive of fear of failure scores (Bartholomew et al., 2018; Conroy, 2003; Conroy & Coatsworth, 2007; Gómez-López et al., 2019, 2020; Moreno-Murcia et al., 2019; Sagar & Jowett, 2012, 2015; Tsai & Chen, 2009). However, Conroy and Coatsworth (2004) did not find evidence that a psychosocial coach training significantly reduced fear of failure across a seven-week season in a randomized-controlled trial.

Further results from cross-sectional research suggest that personality factors (e.g., avoidance temperament, negative aspect of perfectionism) could serve as antecedents to fear of failure (Conroy, Kaye, et al., 2007; Gucciardi et al., 2012; Kaye et al., 2008; Sagar & Stoeber, 2009; Stoeber & Becker, 2008). Results suggest that maladaptive perfectionists were more likely than adaptive and non-perfectionists to have higher levels of fear of failure (Gucciardi et al., 2012). Sagar and Stoeber (2009) found that fear of shame and embarrassment fully mediated the relationship between perfectionistic concern over mistakes and negative affect following failure, alongside perceived coach pressure and negative affect following failure.

Additional cross-sectional results suggest that individual/social contextual factors (e.g., achievement goals, age, sport type, perceived competence, self-compassion, shame-coping, self-control) may also be potential antecedents to fear of failure (Conroy et al., 2005; Elison & Partridge, 2012; Mosewich et al., 2011; Sagar et al., 2010; Sagar & Jowett, 2012, 2015; Wikman et al., 2014). However, research conducted over a six-week season did not support the relationship between perceived competence and fear of failure longitudinally (Conroy et al., 2005). While fear of failure declined throughout a six-week season, it did so irrespective of variation in perceived competence.

Wikman and colleagues (2014) attempted to reduce fear of failure via a twelve-week goal-setting intervention grounded in Elliot and McGregor's (2001) 2x2 achievement

motivation framework. Specifically, twelve weekly meetings were held for the experimental group wherein the focus was placed on teaching elite swimmers and track and field athletes (mean age = 15.70 years, SD = 1.78) how to set mastery-approach goals. In doing so, the focus is placed on the individual's task mastery, which removes the focus from competition result. As a result, failure is not followed by any consequences. While a significant reduction in fear of failure was observed in the experimental group relative to the control group at the intervention end, a twelve-week follow-up showed increases in fear of failure wherein the scores reverted to a level between baseline and intervention endpoint.

### *2.3.5 Outcomes of Fear of Failure*

Potential outcomes associated with fear of failure were examined in 22 studies. These studies involved designs that were cross-sectional ($n$ = 14), naturalistic time series ($n$ = *1*), quasi-experimental ($n$ = 1), experimental ($n$ = 1), longitudinal ($n$ = 3), qualitative ($n$ = 1), and mixed-methods ($n$ = 1). Results suggest that fear of failure has a negative association with individuals' levels of dominance (Schantz & Conroy, 2009) , well-being (Sagar et al., 2009, 2010), risk-taking behaviour (Elbe & Wenhold, 2005; Wegner & Teubel, 2014), desirable interpersonal behaviour (Conroy, 2003; Sagar et al., 2009, 2010), and sporting performance and schoolwork (Sagar et al., 2009, 2010). Further, research has found that individuals fearing of failure suffer from a heightened risk of psychological stress, with greater potential of burnout (Gustafsson, Sagar, et al., 2017; Sagar et al., 2010), and that fear of failure is associated with more hostile interpersonal and antisocial behaviours (Conroy, 2003; Sagar et al., 2011). Results also suggest that fear of failure is associated with increased levels of worry, cognitive disruption, somatic anxiety (M. E. Correia & Rosado, 2018) and perceived tension (De Muynck et al., 2020). While some qualitative data suggest that fear of failure indirectly affects athletes' performance negatively (Sagar et al., 2009, 2010), longitudinal and naturalistic time series research investigating the association between fear of failure and performance did not offer support for this claim (Schantz & Conroy, 2009; Zuber & Conzelmann, 2014).

The majority of studies have examined perfectionism as a predictor of fear of failure, but Conroy et al. (2007) has also examined fear of failure as a predictor of perfectionism. A series of three separate hierarchical multiple regressions were run to examine unique contributions of the five fear of failure dimensions to the prediction of each of the separate perfectionism dimensions (socially prescribed perfectionism [SPP], other-orientated

perfectionism [OOP], self-orientated perfectionism [SOP]). After controlling for OOP and SOP, the fear of failure constructs collectively accounted for 24% of the variance in the prediction of SPP (with fear of important others losing interest and fear of upsetting important others losing interest making significant unique contributions in the final prediction model). After controlling for SPP and SOP, the fear of failure constructs collectively accounted for an additional 4% of the variance in the prediction of OOP (with only fear of devaluing one's self-estimate making a significant unique contribution in the final prediction model). Finally, after controlling for SPP and OOP, the fear of failure constructs collectively accounted for an additional 2% of the variance in the prediction of SOP (with none of the fear of failure constructs making a significant unique contribution in the final predication model). Supplemental analyses were also reported in the Conroy et al. (2007) article, wherein scores on the three perfectionism constructs and their interactions were modelled as predictors of each of the five fear of failure belief constructs. In these models, SPP made a unique positive contribution to the prediction of all five subdimensions of fear of failure. OOP made a unique negative contribution only to fear of devaluing one's self-estimate. The only significant interaction observed across models indicated that individuals high in both SOP and OPP had the highest scores on fear of shame and embarrassment.

A total of fifteen studies examined the association between fear of failure and individuals' self-regulation strategies. While there was some variation in design across the studies, the results consistently suggested that individuals high in fear of failure tend to adopt avoidance goals and/or performance-approach goals (Chen, Wu, et al., 2009; Conroy, 2004; Conroy et al., 2005; Conroy, Elliot, et al., 2003; Conroy & Elliot, 2004; Nien & Duda, 2008). In controlling for the separate dimensions of fear of failure, however, Conroy (2004) found that only the fear of shame and embarrassment subconstruct was associated with the adoption of avoidance goals, performance-approach goals were unrelated to any of the dimensions of fear of failure. Other results suggest that fear of failure and separate achievement goals interact to predict changes in an individual's affect scores (Schantz & Conroy, 2009).

Results from cross-sectional ($n$ = 4) and longitudinal ($n$ = 1) studies unsurprisingly suggest that fear of failure is negatively associated with adaptive self-talk and positively associated with maladaptive self-talk (Conroy, 2003, 2004; Conroy & Coatsworth, 2007; Conroy & Metzler, 2004; Pitt et al., 2014), and that the strength of associations can vary across subdimensions of fear of failure (Conroy, 2004), and under failing, succeeding, wished

for, and feared conditions (Conroy & Metzler, 2004; Pitt et al., 2014). A two-phase experimental research study was conducted to examine associations between self-reported self-talk, coded self-talk, fear of failure and perceived tension over the span of two days (De Muynck et al., 2020). The primary focus of this research was to examine whether there was sufficient overlap between coded/self-reported self-talk to create a latent variable, while also examining whether fear of failure and perceived tension might act as an antecedent/consequence, respectively to the latent variable. Contrary to previous research examining fear of failure and self-talk, results suggest that fear of failure is positively associated with both positive and negative self-talk. However, only negative self-talk acted as a mediator between fear of failure and perceived tension.

Self-handicapping, defensive pessimism, and coping self-regulation strategies have also been examined cross-sectionally relative to fear of failure (Chen, Chen, et al., 2009; Chen, Wu, et al., 2009; Ntoumanis et al., 2010; Sagar et al., 2009, 2010). In two instances, fear of failure was associated with the self-handicapping strategies of reduced effort and making excuses (Chen, Chen et al., 2009; Chen, Wu et al., 2009). In another study, fear of failure was associated with both self-handicapping and defensive pessimism (Ntoumanis et al., 2010). Sagar et al. (2009, 2010) found that, although individuals with fear of failure engaged in all three broad types of coping, the most frequently employed strategy was avoidance-focused coping, followed by emotion-focused coping, and problem-focused coping.

### *2.3.6 Fear of Failure and Gender/Sex Differences*

A total of eight studies have been conducted to cross-sectionally examine the possibility of gender/sex differences being implicated in the experience of fear of failure in SEPA settings (Conroy, Kaye, et al., 2007; M. Correia et al., 2017; Elbe & Wenhold, 2005; Elison & Partridge, 2012; Gómez-López et al., 2019; Nien & Duda, 2008; Sagar et al., 2011; Sagar & Jowett, 2012). Judging on how these studies reported gender/sex differences, it appears that authors used gender/sex as synonymous terms rather than making finer terminological distinctions. The results presented in this section are, therefore, reported in the same manner.

Using the AMS-S, Elbe and Wenhold (2005) found significant gender differences in the overall fear of failure score with men having lower fear of failure scores than women. Results from other research examining the subdimensions of the PFAI have suggested that

gender/sex differences exist, specifically, that males reported higher levels of fear of important others losing interest than females (Gómez-López et al., 2019; Sagar et al., 2011) and lower levels of fear of devaluing one's self-estimate (M. Correia et al., 2017; Elison & Partridge, 2012; Sagar et al., 2011; Sagar & Jowett, 2012). Further, Elison and Partridge (2012) and Correia et al. (2017) found males to have lower levels of fear of shame and embarrassment in comparison to females. Correia et al. (2017) also found females to have higher levels of fear of uncertain future than males. Interestingly, however, Sagar and Jowett (2012) also found age to be a moderating variable in the levels reported on fear of devaluing one's self-estimate with junior (16-18 year old) females reporting higher levels of this fear than senior (19-27 year old) females. This moderating effect was reversed for males, with junior (16-18 year old) males reporting lower levels of fear of devaluing one's self-estimate in comparison to senior (19-27 year old) males.

Conroy et al. (2007) examined sex-stratified bivariate correlations in their cross-sectional research on fear of failure and perfectionism and compared males to females. All fear of failure subdimensions were positively and significantly associated with socially prescribed perfectionism for both females and males, whereas other-oriented perfectionism only had a significant positive associations with fear of shame and embarrassment, fear of important others losing interest, and fear of upsetting important others among males. Self-orientated perfectionism only had a positive and significant association with fear of shame and embarrassment among females, whereas it was positively and significantly associated with fear of shame and embarrassment, fear of devaluing one's self-estimate fear of important others losing interest and fear of upsetting important others among males.

Nien and Duda (2008) conducted cross-sectional research to examine gender differences within the 2x2 achievement model (Elliot & McGregor, 2001), alongside the antecedents and outcomes of achievement goals. While the majority of findings were invariant across gender, the path between fear of failure and mastery-avoidance goals was significantly weaker for males than for females. Research examining the separate paths between fear of failure, defensive pessimism and self-handicapping found that the path between fear of failure and defensive pessimism was significantly stronger (albeit only slightly) in males than in females (Ntoumanis et al., 2010). Sagar et al. (2011) found that fear of failure and sport experience had a significant positive correlation in males while being nonsignificant in females.

## 2.4 Discussion

Research on fear of failure within the SEPA following Conroy's (2001a) publication was summarized in this scoping review. Findings studies appearing after Conroy's review were grouped into four different categories, namely; (1) measurement of fear of failure, (2) antecedents of fear of failure, (3) outcomes of fear of failure, and (4) fear of failure and gender/sex differences. Overall, it has been found that fear of failure in SEPA manifests itself similarly to areas outside of SEPA, as previously asserted in Conroy's (2001a) review. These 48 studies advance understanding of the development and problems associated with fear of failure among SEPA participants. In this section, the main findings of this review are consolidated and discussed, and suggestions for future research are offered.

With regard to measurement, the PFAI/PFAI-S measures were found to be most frequently employed in this scoping review. The PFAI is a reliable tool to measure either general fear of failure or specific lower-level dimensions, whereas the AMS-S only offers a single general fear of failure score, alongside a single general score for hope for success. Use of the AMS-S limits researchers to considering the degree that participants have fear of failure, whereas by employment of the PFAI/PFAI-S affords insight into the potential consequences that might be feared about failing (Conroy et al., 2002). That being said, AMS-S scores can be transformed for use in the classic achievement motivation approach by estimation of individuals' achievement motive scores by subtracting total fear of failure scores from hope for success scores (Elbe, 2003; Elbe & Wenhold, 2005). With that in mind, it should be noted throughout the seminal work of Atkinson and McClelland (1953) the relationship between fear of failure and hope for success was never stated. More contemporary results suggest that hope for success and fear of failure might have more in common than previously assumed (see Pang, 2010 for a review). The distinction between these two achievement motives warrants further investigation. The WCRMS has been deemed less reliable in comparison to the PFAI, due to the PFAI having a more substantive theoretical foundation (Conroy et al., 2003).

The majority of studies included in this review examined associations between the general fear of failure scores and given variables. While beneficial, potentially revealing insights from the separate specific fear of failure subscales of the 25-item PFAI (Conroy et al., 2002) might have been missed by researchers and should be considered in future research studies. Based on included studies, and in line with predictions from classic achievement

motivation theorists (Atkinson, 1957), anticipatory shame appears to be at the centre of fear of failure (Conroy, 2004; Sagar & Stoeber, 2009). The other subdimensions vary in terms of their maladaptiveness, with fear of uncertain future even showcasing some positive features—a positive association with intrinsic motivation for knowledge/accomplishment and negative association with amotivation (Conroy, 2004). Nonetheless, more research is necessary to further our understanding of the unique contributions of the subdimensions of the multidimensional conceptualisation of fear of failure.

While the PFAI/PFAI-S are more commonly used, concerns have been raised about Item-12 (i.e., "When I am failing, I am not worried about it affecting my future plans") from the fear of uncertain future subdimension. It is a reverse-scored item that has exhibited low squared multiple correlations and factor loadings, alongside high error variances (Conroy et al., 2002; Conroy, Metzler, et al., 2003; Conroy & Metzler, 2003; Sagar & Jowett, 2010). Removal of Item-12, however, has been reported to result in a nonsignificant change in model fit (Conroy et al., 2002). The majority of included studies employed Item-12 in its unadjusted form, but its entire subdimension was excluded in two studies using the Chinese form of the PFAI after consideration of confirmatory factor analyses of the scale data (see Chen, Chen, et al., 2009; Tsai & Chen, 2009). Future researchers should, therefore, consider following recommendations on the rephrasing of item-12 in a positive manner to see if it might improve the overall fit of the PFAI (Conroy & Metzler, 2003; Conroy, Metzler, et al., 2003; Sagar, 2010).

This scoping review extends Conroy's (2001a) earlier review observations on antecedents of fear of failure because of several additional studies that have been conducted in SEPA. Based on results from studies included in this review (Conroy, 2003; Conroy & Coatsworth, 2007) it seems that children may internalise how they were treated from parents and coaches following failure and success, and as a result treat themselves in a similar manner (Conroy, 2017). However, other results included in this review may offer an alternative pathway to the development of fear of failure. From a self-determination theory perspective, fear of failure might also be developed through the frustration of psychological needs occurring through exposure to controlling coaching behaviours (Bartholomew et al., 2018). Conroy and colleagues (2007), for example, examined changes in self-talk and psychological need satisfaction as mechanisms for changes in fear of failure. The model examining self-talk was found to be substantially stronger than the model examining

satisfaction of psychological needs. Nonetheless, it should be noted measures of frustration of psychological needs were not published until 2011 (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011); and that the relative absence of psychological need satisfaction is not synonymous with, indeed meaningfully different from, the frustration of psychological needs. It may, therefore, be fruitful for researchers to consider, for example, whether changes in self-talk are more reliable than changes in psychological needs frustration in predicting fear of failure scores.

Wikman et al.'s (2014) intervention study focused on reducing fear of failure among athletes throughout a 12-week program provided some indications of potential benefit even though the follow-up data revealed that the levels of athletes' fear of failure had increased again to a level between baseline and the intervention endpoint. More research is necessary to examine whether interventions to reduce fear of failure can have longer-lasting impacts. The length of the intervention may be crucial if only in terms of providing athletes with sufficient time to fully adapt to the new way of thinking. Nonetheless, fear of failure and mastery-approach goals usually exhibit a null association (Conroy et al., 2005; Conroy, Elliot, et al., 2003; Conroy & Elliot, 2004; Elliot & McGregor, 2001); thus, it might be more beneficial to conduct an intervention study that attempts to address the "root cause" of fear of failure, namely, dysfunctional important interpersonal relationships.

Individuals with fear of failure are acutely sensitive to the threat of rejection (Conroy, 2003). Interventions involving parents/coaches may be of interest because their theorized contributions to the development of fear of failure in children in their care (Conroy, 2003; Elliot & Thrash, 2004; McGregor & Elliot, 2005; Sagar & Lavallee, 2010). While results from the randomized-controlled trial study suggest that the psychosocial coach intervention did not have a significant impact on athletes' fear of failure (Conroy & Coatsworth, 2004), it was suggested that this could be due to the nature of the sport, the small sample size, and/or the examination of general fear of failure scores instead of the subdimension scores. Additionally, fear of failure is said to be learned between the ages of 5- 9, after which it tends to be generally stable throughout life (McClelland, 1958; McClelland et al., 1953). With this in mind, the age group of participants could be an important factor to consider while doing intervention work. Depending on the age of participants, the motive might already be well established, making it harder to adjust.

Therefore, it might be revealing to conduct research informed by the findings reported by Sagar and Lavallee (2010) with parents of young athletes who are exhibiting signs of fear of failure. This could provide researchers with the opportunity to engage in psychoeducational work with the parents relative to how their behaviours can impact their child's fear of failure. By speaking to the "root cause" of fear of failure and providing parents with alternative ways of dealing with children's performances, researchers might be able to help prevent, or minimize fear of failure from properly developing in the first place. Overall, more research is necessary to further our understanding about the etiology of fear of failure.

Self-blame, as a specific type of self-talk, appears to be a key variable for individuals higher in fear of failure (Conroy, 2003, 2004; Conroy & Coatsworth, 2007; Conroy & Metzler, 2004). These findings are in line with the assumption that fear of failure is developed via an internalization process (Conroy, 2017), perhaps particularly if fear of failure and self-talk act in a self-reinforcing manner. Evidence indicating that higher levels of fear of failure are associated with increased negative self-talk (Pitt et al., 2014) and that higher levels of negative self-talk are also associated with increased levels of fear of failure (Conroy & Coatsworth, 2007) may support that possibility. The majority of these studies were cross-sectional, however, so research involving experimental designs or acquisition of process data is needed to better understand the relationship between fear of failure and self-talk.

Experimental research indicates that fear of failure is not only associated with increased use of negative self-talk, but also positive self-talk (De Muynck et al., 2020). These results, combined with findings that fear of uncertain future is associated with intrinsic motivation for knowledge/accomplishment and negatively associated with amotivation (Conroy, 2004), suggest the possibility that fear of failure might also involve some more positive aspects. For example, there is an abundance of anecdotal evidence in which performers mention a positive impact of their fears about failure—a matter previously broached by Conroy (2008). Although that possibility may exist, the studies included in this review also suggest the caveat that the downside of fear of failure is arguably far greater than its potential benefits. Research into fear of failure on this account is particularly limited but the possibility may warrant further investigation. Our understanding is still limited at present; thus, empirical examination of the possibility could be revealing.

With regard to perfectionism, the studies discussed in this scoping review consistently indicate that, regardless of measurement tool used, fear of failure is positively and quite

strongly associated with the maladaptive aspect of perfectionism (Conroy, Kaye, et al., 2007; Gucciardi et al., 2012; Kaye et al., 2008; Sagar & Stoeber, 2009; Stoeber & Becker, 2008). Some disagreement is evident, however, as to the meaning of that consistent finding. Kaye et al. (2008) suggest merging of the fear of failure and perfectionistic concerns into a single perfectionistic concern latent variable. Sagar and Stoeber (2009), however, have suggested that the fear of shame and embarrassment element of fear of failure acts as a mediator of the relationship between perfectionism and negative affect following failure. It would, therefore, be premature to make assumptions about common variance shared by perfectionist concerns and fear of failure, and whether they can be collapsed into one. This is an area where conceptual refinement supported by future empirical work is required to advance our understandings in the area.

Lastly, one of the categories of research arising in this scoping review was focused on fear of failure and gender/sex differences. Results from four studies which investigated the separate dimensions of fear of failure and gender/sex variance suggest that females were significantly higher in fear of devaluing one's self-estimate than males (M. Correia et al., 2017; Elison & Partridge, 2012; Sagar et al., 2011; Sagar & Jowett, 2012). Fear of devaluing one's self-estimate involves lowering one's view about personal ability following failure (Birney et al., 1969; Conroy et al., 2001). Research on gender and motivation has indicated that females typically view themselves as less competent in sport than males (see Meece, Glienke, & Burg, 2006 for a review). These lower levels of perceived competence may explain why females have higher levels of fear of having to lower their views about personal ability following failure. That being said, this is an area that would require future research that focuses on perceived competence, fear of failure and gender/sex differences.

Our understanding on gender/sex differences and fear of failure is limited to date, and more research is required to further our understanding on this subject. However, based on research included in this review it appeared that gender/sex were used synonymously, thus, it is important for future researchers to not only be clear and consistent in their usage of appropriate terms, but to also implement a more sophisticated consideration of gender, as warranted by the complexity of the construct.

### *2.4.1 Limitations and Conclusions*

While this review provides an extensive list of research, which is aimed at sparking further interest in fear of failure, it comes with limitations. Firstly, only studies conducted within SEPA were included in this study, and fear of failure influences individuals similarly across different achievement contexts, because it is a disposition (Conroy, 2003; Conroy & Elliot, 2004; Sagar et al., 2011). The purpose of this scoping review was to gather an understanding of fear of failure within the SEPA, but further insights might have been missed by the exclusion of research from other achievement domains or that remains unpublished even if presented at conferences.

It is important to note that all studies included in this review used self-report measures of fear of failure and/or examined fear of failure via interviews. Achievement motives can differ between implicit and explicit motives, and self-report measures assess the explicit motive, whereas projective (fantasy-based) measures assess the implicit motive (McClelland et al., 1989). It was initially assumed that both implicit and explicit measures assessed the same type of fear of failure, however, based on poor convergence scores it was postulated that the same motive was being assessed, just on different motive systems. Implicit motives are said to be developed via affective experiences, whereas explicit motives are said to be language-based schemas. Based on results from the current review, it appears that the included studies did not make a distinction between implicit and explicit fear of failure and this is something that should be addressed within SEPA-related fear of failure research. This is especially important when doing developmental research into fear of failure. A significant amount of developmental research into fear of failure has made use of implicit measures of fear of failure and treating those results as synonymous to data gathered from explicit measures of fear of failure can be problematic. Indeed, it has been recommended that results from implicit measures of fear of failure should be treated with caution (Pang, 2010) and that implicit and explicit fear of failure should not be treated interchangeably, and I recommend reading Conroy (2017) for a review of explicit/implicit achievement motives.

Further, all research was examined, regardless of study quality. While this method allows for a broad scope of data to be delineated, it runs the risk of people treating high and low study quality equally. Most studies were of cross-sectional nature, thus preventing researchers from making claims regarding causality. To better understand the causal relationship between fear of failure and other variables, longitudinal and experimental

research is necessary. Lastly, some of the studies included which compared fear of failure to other variables were of preliminary nature–-more research is needed, which will offer further insight into their associations.

While reviewing these 48 studies helped to provide insights potentially useful for scientists interested in the topic, it is apparent that advancing knowledge on fear of failure in SEPA requires further research. The examination of fear of failure should not be limited solely to athletes in SEPA. It should also involve parents, teammates and coaches to provide researchers and practitioners with a better understanding of the impact of significant others on individuals' fear of failure as well as the impact of those individuals' fear of failure on important people in their social networks. In doing so, researchers can obtain a better understanding of how best to develop interventions aimed at reducing fear of failure within individuals and better understand the mutual impacts and influences within their social networks.

## 2.5 Statement of Problem

Based on my rationales and a review of the existing literature, several issues (i.e. problems associated with fear of failure, lack of research examining coach impact on athletes' fear of failure) led to the development of my research. Those with fear of failure tend to perceive performance-related situations (e.g., sport), where failure is a possibility, as threatening (Conroy & Elliot, 2004). In other words, individuals with fear of failure are less likely to view sport as an opportunity to develop competence and experience a sense of enjoyment. Instead, they are likely to view these situations as threatening to their sense of self, to the point where they will either attempt to avoid these situations altogether or focus on not losing or being perceived as worse than others (Conroy & Elliot, 2004; McGregor & Elliot, 2005). As a result, fear of failure can have wide-reaching negative implications for individuals and has been considered an important social concern (Conroy, 2001a). Thus, it is important to further examine fear of failure within sport, particularly since research in this area is scant (Sagar & Jowett, 2012).

Elite athletes spend a significant amount of time working with their coaches (Ericsson et al., 1993), thereby placing coaches in a position to significantly impact athletes' fear of failure (Conroy, 2003; Conroy & Coatsworth, 2007; Sagar & Jowett, 2015). Indeed, research suggests that coaches are in a position to both positively, and or negatively impact athletes' fear of failure (Conroy & Coatsworth, 2007). However, no research has examined whether

coaches might be in a position to influence how athletes with fear of failure approach performance-related situations. These are both areas that require research attention. Thus, the aim of this thesis is to better understand how coaches might impact athletes fear of failure, and their subsequent experiences—from the perspective of the athlete—by using multiple theories and frameworks. In turn, I hope to provide researchers with results, that can ultimately aid in creating future interventions based on the reduction of fear of failure.

# Chapter 3: Achievement Motivation and Transformational Leadership: A Moderated Mediation

Based on findings from the scoping review that athletes are at an increased risk of setting avoidance goals (Conroy & Elliot, 2004), and my personal experiences as an athlete who has been coached, the aim of this chapter is to examine how coaches influence athletes with fear of failure. Specifically, this chapter aims to examine a) the updated hypothesized hierarchical model of achievement motivation (Elliot, 2006), and b) the interaction of perceived coach behaviours and athletes' fear of failure on athlete achievement goals. I begin by introducing both the original and the updated hierarchical model of achievement motivation. Following this, I discuss how individuals' achievement goals can be influenced by environmental factors (e.g., coach behaviours), using transformational leadership as a framework. Next, I describe the current study hypotheses and the research design. This is followed by the method section, wherein I describe participants involved in this study, the instruments involved to test my hypotheses, and the procedures in place to gather my data. The method section ends with my planned data analyses. The results section is divided into preliminary analyses, mediation analyses, moderated mediation analyses, and post-hoc analyses. Following this, I discuss my results in depth, and end this chapter with a limitations and conclusions section, in which lay down my plans for the subsequent chapter.

## 3.1 Introduction

Fear of failure, or the avoidance motive, is the dispositional tendency to appraise threat in evalutive situations, because the individual has learned that failure is associated with aversive consequences (Atkinson & Litwin, 1960; Birney et al., 1969; Conroy et al., 2001; Sagar & Lavallee, 2010). Researchers posit that fear of failure is developed between the ages of 5—9 via socialisation techniques (see Elliot et al., 2010, for a review; McClelland, 1958; McClelland et al., 1953). Examples of these behaviours include high expectations during early childhood (Schmalt, 1982), and mothers reacting neutrally to success but punishing failure (Teevan, 1983). Similar results have been found within a sporting context. Specifically, after interviewing children and their parents, Sagar and Lavallee (2010) found three types of parental behaviours that could contribute to the development of the child's fear of failure: high expectations for achievement, controlling behaviours and punitive behaviours. By experiencing these types of behaviours over time, children become conditioned to learn that failure is met with aversive consequences and thus fear it.

Fear of failure has been considered an important social concern (Conroy et al., 2001), as it is frequently associated with a wide variety of negative outcomes (see Taylor et al., 2021 for a review). Some examples include heightened levels of stress (Gould et al., 1983), increased levels of worry and anxiety (Conroy et al., 2002), increased risk of burnout (Gustafsson, Sagar, et al., 2017), and higher levels of dropout (Sagar et al., 2007). A reason why fear of failure is associated with a wide range of negative outcomes could be due to those with fear of failure being at increased risk of setting avoidance achievement goals (Conroy & Elliot, 2004; Elliot & Sheldon, 1997), which, in turn, are associated with a wide range of negative outcomes (Elliot et al., 2006; Elliot & McGregor, 2001).

### *3.1.1 The Hierarchical Model of Achievement Motivation*

The achievement goal framework has been developed over time, and these goals have commonly been defined as the purpose for engaging in a specific behaviour (Maehr, 1989). Initially, two separate achievement goals were created grounded in an individual's definition of competence, namely, mastery goals and performance goal (Ames & Archer, 1987; Dweck, 1986; Nicholls, 1984). Mastery goals are defined in relation to oneself (e.g., focused on task mastery), whereas performance goals are defined in relation to others (e.g., beating opponents). In 1997, however, Elliot and colleagues updated the achievement goal framework by creating goals not only based on one's definition of competence but also based on how competence is valenced (i.e. approach/avoidance). This resulted in the popular 2 x 2 achievement goal framework, which includes four distinct empirical goals (varying in their levels of mal/adaptiveness) relating to mastery-approach (MAp), mastery-avoidance (MAv), performance-approach (PAp), and performance-avoidance (PAv), (Elliot & McGregor, 2001). It should be noted that the 2 x 2 framework has recently been extended to the 3 x 2 framework (Elliot et al., 2011). Within the 3 x 2 model, competence is defined in three different ways, [absolute (task-related), intrapersonal (self-related), and interpersonal (related to others)]. Although evidence supports defining competence in three separate ways (Elliot et al., 2011), I decided to use the 2 x 2 achievement goal framework for this study, as I would be able to compare my results to a larger amount of existing literature [starting in the late 90's (Elliot & Sheldon, 1997)].

PAv goals are considered the most maladaptive achievement goals and have been linked with problems such as decreased intrinsic motivation (Elliot & Harackiewicz, 1996), lower levels of well-being (Elliot et al., 1997), and worse performance (Elliot et al., 2006).

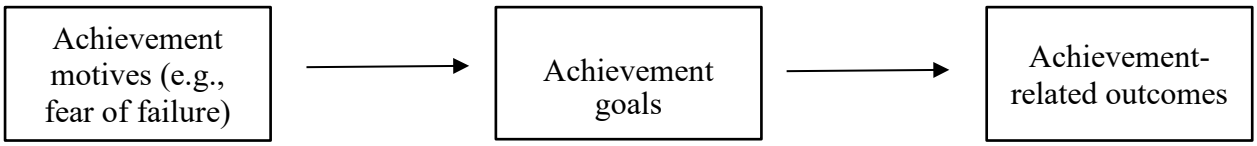
MAv goals are also considered to be maladaptive, although, less so in comparison to PAv goals. For instance, MAv goals have been associated with increased levels of disorganization, worry, (Elliot & McGregor, 2001), and increased levels of negative affect (Sideridis, 2008), to name a few. Whereas PAv goals have been associated with a decrease in performance, the same results have not been found for MAv goals (Elliot & McGregor, 2001). PAp goals, on the other hand, are associated with both positive, and negative outcomes [e.g., increased performance (Elliot & McGregor, 2001), increased self-efficacy (Elliot & Church, 1997), increased procrastination (Wolters, 2003), and increased disorganization (Al-Emadi, 2001)]. Mastery-approach goals—the most adaptive type of achievement goal—and fear of failure consistently exhibit non-significant correlations (see Taylor et al., 2021).

Fear of failure and achievement goals have a longstanding relationship, as they are both an integral part of the hierarchical model of achievement motivation (Elliot & Church, 1997). Specifically, achievement motives (e.g., fear of failure) are considered to act as antecedents to specific goals, which, in turn, predict specific achievement-related outcomes (Figure 2). A multitude of studies exist (Chen, Wu, et al., 2009; Conroy, 2004; Conroy & Elliot, 2004; Elliot & Church, 1997; Elliot & McGregor, 2001; Nien & Duda, 2008), which highlight strong associations between fear of failure and performance-avoidance, and mastery-avoidance goals, goals that are associated with predominantly negative outcomes. Further, these studies also suggest that those with fear of failure might adopt performance-approach goals, goals which are associated with a mixture of positive, and negative outcomes (see Elliot & Moller, 2003).

The relationship between fear of failure and both avoidance goals is straightforward. Both goals represent avoidance tendencies and are congruent with fear of failure, as they share the same valence. Although performance-approach goals, on their own, represent approach tendencies, when underpinned by an individuals' fear of failure, they undoubtedly represent an avoidance tendency (Elliot & Church, 1997). That is, the failure fearing individual adopting performance-approach goals will try to succeed, in hopes of avoiding failure.

**Figure 2.**

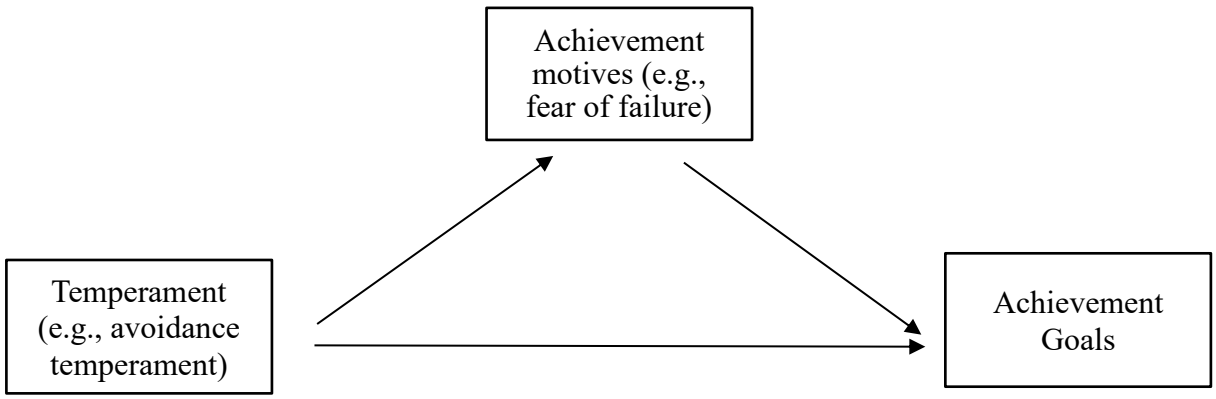
*Hierarchical Model of Achievement Motivation (Elliot & Church, 1997)*




While the original hierarchical model of achievement motivation placed achievement motives as antecedents to achievement goals (Figure 2), the updated model has introduced temperaments as antecedents (Figure 3). In line with the approach/avoidance distinction used throughout the hierarchical model of achievement motivation, Elliot and Thrash (2002) suggested that trait adjective (extraversion, neuroticism; McCrae & Costa, 1987), affective dispositions (positive/negative emotionality; Tellegen, 1985), and motivational systems (behavioural activation system (BAS), behavioural inhibition system (BIS; Gray, 1970), could be combined into two latent variables, namely approach and avoidance temperament.

**Figure 3**.

*Hierarchical Model of Achievement Motivation (Elliot, 2006)*




Approach temperament is defined as "a general neurobiological sensitivity to positive/desirable stimuli (present or imagined) that is accompanied by perceptual vigilance for, affective reactivity to, and a behavioural predisposition toward such stimuli" which consists of extraversion, positive emotionality, and BAS (Elliot & Thrash, 2002 p.805).

Avoidance temperament is defined as "a general neurobiological sensitivity to negative/undesirable stimuli (present or imagined) that is accompanied by perceptual vigilance for, affective reactivity to, and a behavioural predisposition away from such stimuli" and consists of neuroticism, negative emotionality and BIS (Elliot & Thrash, 2002 p.805). Current research has shown approach temperament to be associated with MAp, and PAp goals and avoidance temperament to positively associated with MAv and PAv goals (Elliot & Thrash, 2010).

Temperaments and achievement motives are different constructs; however, they nonetheless share some similarities (Elliot, 2006). While temperaments are general neurobiological sensitivities that orient individuals towards positive/negative stimuli across domains/situations (Elliot & Thrash, 2002), achievement motives are socialized and only activated in specific contexts [i.e. achievement-related situations (McClleland, 1958)]. As such, research has suggested that achievement motives should mediate the relationship between temperaments and achievement goals (Elliot & Thrash, 2002). However, this mediational model has not yet been examined.

### *3.1.2 Transformational Leadership and Achievement Goals*

Motive dispositions (e.g., fear of failure) and temperaments are not the only factors that can influence the choice of achievement goals. Other variables can also have an impact, such as demographic variables (e.g., sex) and environmental factors (e.g., coach behaviours) (Elliot, 2006; Elliot & Church, 1997). While different theoretical frameworks have been used to examine the coach impact on athlete achievement goals [e.g., motivational climate (Ames & Archer, 1988)], one that has shown some promising results is transformational leadership. Transformational leadership has only recently become a popular area of interest within the sporting domain, with prior research focusing almost exclusively on organizational psychology (Arthur et al., 2017). It consists of four separate dimensions [i.e. idealised influence; inspirational motivation; intellectual stimulation; and individualised consideration (Bass, 1985; Bass & Riggio, 2006)]. A transformational leader exhibits behaviours that are admirable and encourage followers to identify with the leader (idealised influence). A transformational leader also shares a vision of high expectations while inspiring and energizing their followers to achieve their goals (inspirational motivation). Intellectual stimulation occurs when the leader can encourage their followers to have a broader, yet more critical view of situations. Finally, individualised consideration occurs when the leader treats

each follower individually, regardless of their personal/psychological needs, alongside demonstrating genuine care for them.

Research within organisational psychology has examined the impact of transactional and transformational leadership behaviours on followers achievement goals (Hamstra et al., 2014). While transactional leaders provide individual support, based on the premise they receive something of value in return (Kuhnert & Lewis, 1987), transformational leaders, on the other hand, provide followers with an outlook, that extends beyond a short-term vision (Bass, 1985). Here it was found that those who perceived their leaders to be more transformational, were more likely to adopt mastery goals in comparison to those who perceived their leaders to be transactional (Hamstra et al., 2014). By considering individuals' needs and promoting their intellectual development, transformational leaders might be well-suited for encouraging their followers to focus on self-development, as opposed to comparing themselves to others. It should be noted, however, that this study used achievement goals solely based on the definition of competence, in line with earlier research into achievement goals (Dweck, 1986; Nicholls, 1984). Transformational leadership has also been associated with other desirable outcomes, such as improved team cohesion (Callow et al., 2009), improved team performance (Charbonneau et al., 2001), and increased athlete well-being (Stenling & Tafvelin, 2014). To date, it remains unclear whether coaches might be able to impact achievement goals within failure-fearing individuals. However, based on existing results, transformational leadership could be considered a viable framework when exploring these questions.

### *3.1.3 Current study*

The current study provides an opportunity to better understand why specific achievement goals are adopted, and how coaches might be able to influence them. Thus, by conducting the present study, I am examining the relationship between avoidance temperament, fear of failure, and MAv, PAp, PAv goals. Further, I am examining whether a coach can influence the choice/strength in these goals, irrespective of their antecedents.

This study hypothesises that fear of failure will mediate the relationship between avoidance temperament and PAp, PAv, MAv goals. Specifically, the paths between avoidance temperament and PAp, PAv, MAv goals will no longer be significant with fear of failure present. Further, this research proposes that transformational leadership may buffer the relationship between fear of failure and these goals, such that the positive relationship

between these variables will be reduced or disappear under conditions of high transformational leadership. Research has suggested that individuals with transformational leaders adopt mastery goals (Hamstra et al., 2014); however, based on the characteristics of those with fear of failure (Conroy & Elliot, 2004), I focused on the examination of transformational leadership on MAv goals, PAp goals and PAv goals. By having a transformational coach who takes individuals' needs and abilities into consideration, and promotes individual development as opposed to interpersonal comparisons, the failure-fearing individual might be less inclined to adopt MAv, PAp, and PAv goals.

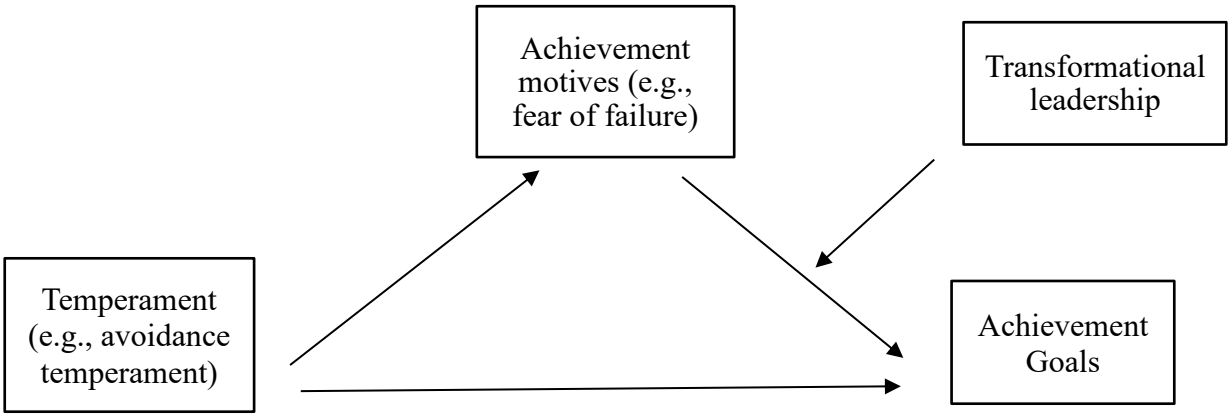
The aims of the present study are twofold – to examine whether fear of failure mediates the relationship between avoidance temperament and achievement goals and to examine whether perceived transformational coaches influence the goals that these athletes set. Based on these aims, multiple hypotheses can be created:

- Fear of failure will mediate the relationship between avoidance temperament and MAv goals (H1a)
- Fear of failure will mediate the relationship between avoidance temperament and PAv goals (H1b)
- Fear of failure will mediate the relationship between avoidance temperament and PAp goals (H1c)
- Transformational leadership will moderate the relationship between fear of failure and MAv goals (H2a)
- Transformational leadership will moderate the relationship between fear of failure and PAp goals (H2b)
- Transformational leadership will moderate the relationship between fear of failure and PAv goals. (H2c)

A total of three separate moderated mediation models (Preacher et al., 2007) were examined (Figure 4), to test whether the mediational model was contingent upon the moderator.

**Figure 4.**

*Conceptual Moderated Mediation Model*




## 3.2 Method

### *3.2.1 Participants*

A total of 369 people participated in the study. However, the Likert scale for one of the online measures was initially set up incorrectly: the correct scale is 1-7, whereas the online version was 0-6. Consequently, 108 participants were omitted. As a result, responses from a total of 251 participants were used: 118 female, 131 male, 2 unreported. Based on the recommendations from Schönbrodt and Perugini (2013), a minimum of 250 participants are required for stable estimates. As such, my sample size was deemed sufficient. The aim of this study was to test and examine the relationship between previously unexplored variables and, as such, a convenience sample of undergraduate student athletes was used. Participants were enrolled in an undergraduate program at the University of Stirling and were members of a university sports team. The participants' age ranged from 18 to 43 years old (M = 20.88, SD = 2.68), and their time spent being coached by their current coach (or previous coach, if they had no coach at the time of completing the questionnaire) ranged from 0 to 15 years (M = 3.57, SD = 3.12). The participants come from a variety of different sporting backgrounds, such as football (18.3%), rugby, (13.9%), cheerleading (10.4%), tennis (7.6%), volleyball (6.8%), basketball (6%), judo (5.6%), water polo (5.2%), swimming (4.8%), golf (3.2%), gymnastics (3.2%), hockey, (2.4%), netball (2%) dance (1.6%), athletics, (1.2%). Other sports included wrestling, wheelchair basketball, triathlon/distance runners, sailing, rowing, futsal, GAA, fencing, dancing, cross-fit, and baseball, which summed up the remaining 7.8%.

Within the 251 participants, all levels of experience were present, namely, international (17.1%), national (25.9%), and regional (46.2%), and the remaining participants did not provide their level of experience (10.8%).

### *3.2.2 Instruments*

***Fear of Failure.*** Fear of failure was assessed using the Performance Failure Appraisal Inventory (PFAI; Conroy, Willow & Metzler, 2002). The PFAI utilises a 5-point Likert-type scale ranging from -2 (do not believe at all) and 0 (believe 50% of the time) to +2 (believe 100% of the time). The 25-item PFAI measures 5 lower-order factors of fear of failing, namely, a) fear of shame and embarrassment (e.g., "When I am not succeeding, I am less valuable than when I succeed"), b) fear of devaluing one's self-estimate (e.g., "When I am failing, it is often because I am not smart enough to perform successfully"), c) fear of uncertain future (e.g., "When I am failing, my future seems uncertain"), d) fear of important other's losing interest (e.g., "When I am not succeeding, people are less interested in me"), and e) fear of upsetting important others (e.g., "When I am failing, it upsets important others"). While the scale contains lower-order factors, researchers typically collapse the five sub-dimensions to create a general score for fear of failure (Conroy et al., 2005; Conroy, Coatsworth, et al., 2007; Conroy, Metzler, et al., 2003; Conroy & Coatsworth, 2004; Gucciardi et al., 2012). Despite the recommendations from my scoping review, I have opted to use the general score for this study, in part, due to the size of my sample. Cronbach alpha for the general fear of failure score was .89. Previous research has shown acceptable levels of internal consistency, factorial validity alongside temporal stability (Conroy, 2004; Conroy et al., 2002; Conroy, Metzler, et al., 2003; Conroy & Coatsworth, 2007; Conroy & Metzler, 2003; see Taylor et al., 2021).

***Achievement Goals.*** Achievement goals were measured using the Achievement Goal Questionnaire in Sport (AGQ-S; Conroy, Elliot, & Hofer, 2003). This questionnaire uses a 7-point Likert-type scale ranging from 1 (not at all like me) to 7 (completely like me). The 12-item AGQ-S consists of 4 sub-scales, mastery-approach ("It is important for me to perform as well as I possibly can"), mastery-avoidance ("I worry that I may not perform as well as I possibly can"), performance-approach ("it is important to me to do well compared to others"), and performance-avoidance ("I just want to avoid performing worse than others"). Cronbach alphas for the separate goals were .80, .87, .86, .89, respectively, with an overall

score of .79. Previous research has shown factorial invariance, temporal stability, and external validity (Conroy et al., 2006; Conroy, Elliot, et al., 2003).

***Transformational Leadership.*** Transformational leadership was assessed using the Stenling and Tafvelin (2014) modified version of the 16-item transformational teaching questionnaire [the wording was altered to fit the sporting environment (TTQ; Beauchamp et al., 2010)], on a 5-point Likert-type scale varying from 0 ("not at all"), 1 ("once in a while"), 2 ("sometimes), 3 ("fairly often) and 4 ("frequently"). The 16 items assess four different aspects of transformational leadership, namely, a) idealised influence ("acts as a person that I look up to"), b) inspirational motivation ("demonstrates that he/she believes in me"), c) intellectual stimulation ("creates lessons that encourage me to think"), and d) individualized consideration ("shows that he/she cares about me"), with a combination of the four dimensions creating a latent factor transformational leadership. For this project, the overall score of transformational leadership, which had a Cronbach alpha of .93 was used. Previous research conducted confirmatory factor analyses, which provided factorial validity for this scale (Stenling & Tafvelin, 2014).

### *3.2.3 Procedures*

Ethical approval was sought and granted by the Stirling University General Research Ethics committee (see Appendix B). Participants were recruited through letters of invitation (see Appendix C). Specifically, emails were sent to coaches from the university sports teams, inviting them to participate in my research project. Once coaches agreed to take part, I attended one of their training sessions and handed out research questionnaire packets to individual participants at the end of their training session (see Appendix D). I introduced participants to the aims of the study, the voluntary nature of this research project, and I explained their right to withdraw at any point during the completion of the questionnaires. Before data collection, participants were required to sign a consent form. After signing the consent sheet, participants completed a two-section questionnaire with a demographics section and the survey section, which took approximately 15-minutes to complete. The respective coach was not in the vicinity of those completing their questionnaires. Upon completion, participants returned the questionnaire packets to me and were thanked for their time.

### *3.2.4 Data Analysis*

***Preliminary analyses.*** Preliminary analyses were conducted using SPSS version 25. Descriptive statistics and intercorrelations between all variables can be found in Table 2. Based on previous studies (see Taylor et al., 2021), there have been significant gender differences in fear of failure scores. Thus, I explored these potential gender differences in fear of failure scores by using independent sampled t-tests.

***Mediation Analyses.*** To test the three mediation hypotheses, PROCESS, an SPSS macro was used (Hayes, 2009). By default, PROCESS deals with missing data via listwise deletion (Hayes, 2013). For each analysis, the effect of avoidance temperament on MAv, PAp, PAv, (total effect, path c), and the effect of avoidance temperament on MAv, PAp, PAv, controlling for fear of failure (direct effect, path c') was tested. Furthermore, the bootstrapping method was employed to test whether the difference between the total effect (c) and the direct effect (c') was significantly different from zero, which allows us to examine whether a mediation occurred. Bootstrapping estimates can be presented based on different sample sizes, however, for this test I used 5,000 (see Hayes, 2013). By using bootstrapping, confidence intervals are created, which allow for inference of the data. For the indirect effect to be deemed statistically significant, the confidence interval is not allowed to contain zero. The variables are presented in the unstandardized form. To calculate the effect sizes for the indirect effect, I followed the guidelines from Preacher and Kelley (2011), who recommend reporting the completely standardized effect of X on Y in addition to the 95% confidence interval. In doing so, this would provide me with an index of the mediation (Preacher & Hayes, 2008a).

***Moderated Mediation Analyses.*** To test for the moderated mediation, I followed the guidelines from Preacher, Rucker, & Hayes (2007). This allowed me to examine whether the strength of the mediation would be contingent on perceived levels of transformational leadership (see Figure 4). Similar to the mediation analyses, all variables are presented in an unstandardized form. In the case of significant indirect effects, the Johnson-Neyman (J-N) technique would reveal where the effect of the predictor variable on the outcome variable is no longer statistically significant, by finding the value of the moderator variable with a t-score of $t$=1.97 (Hayes & Matthes, 2009).

## 3.3 Results

### *3.3.1 Preliminary Analyses*

Descriptive statistics and bivariate correlations are displayed in Table 2. There were significant differences reported in athletes' fear of failure scores for male ($M$ = -.26, $SD$ = .63) and female ($M$ = .04, $SD$ = .58); $t(245) = 3.87$, p = .00) suggesting that female athletes experienced significantly higher levels of fear of failure, compared to male athletes.

**Table 2.** *Descriptive Statistics and Correlations*

| | M | SD | Mo | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | 20.88 | 2.68 | - | - | | | | | | | | | | | | |
| 2. Gender | - | - | - | .14* | - | | | | | | | | | | | |
| 3, Exp | - | - | 3 | - | - | - | | | | | | | | | | |
| 4. Part | 8.86 | 4.98 | - | .04 | .17** | - | - | | | | | | | | | |
| 5. Coach | 3.57 | 3.12 | - | -.14* | -.20** | - | .25** | - | | | | | | | | |
| 6. APT | 5.28 | .87 | - | .04 | -.02 | - | -.01 | .01 | - | | | | | | | |
| 7. AVT | 3.92 | 1.12 | - | -.05 | -.26** | - | -.18** | .04 | .01 | - | | | | | | |
| 8. FF | -.12 | .63 | - | -.13* | -.24** | - | -.04 | .05 | -.04 | .47** | - | | | | | |
| 9. MAp | 6.24 | .86 | - | -.02 | -.07 | - | .02 | .03 | .48** | -.02 | -.04 | - | | | | |
| 10. MAv | 5.12 | 1.27 | - | -.08 | -.21** | - | -.10 | -.05 | .12 | .34** | .41** | .25** | - | | | |
| 11. PAp | 4.77 | 1.59 | - | .10 | .24** | - | .07 | -.02 | .15* | .01 | .14* | .22** | .16* | - | | |
| 12. PAv | 4.23 | 1.87 | - | -.08 | -.19** | - | -.16* | .14* | .13* | .18** | .28** | .04 | .24** | .26** | - | |
| 13. TL | 2.92 | .71 | - | -.14* | -.24** | - | -.06 | .23** | .10 | -.09 | -.13* | .11 | .08 | -.11 | .03 | - |

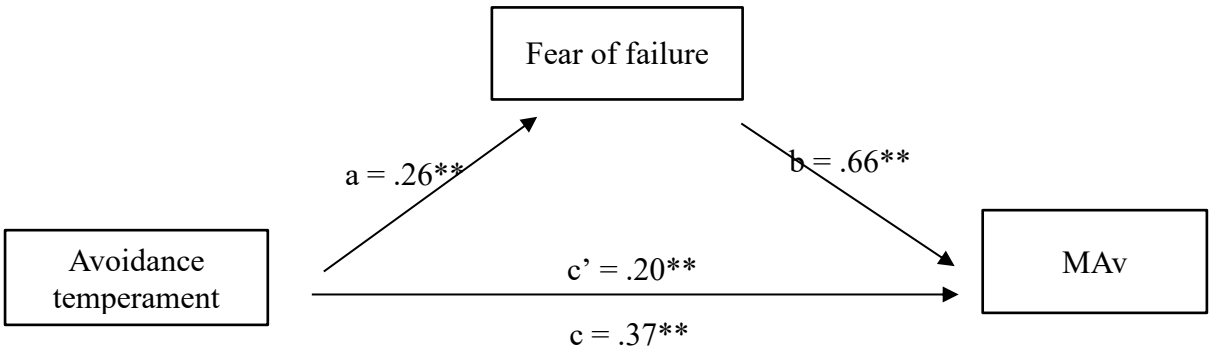
Notes: M = mean; SD = standard deviation; Mo = mode; Exp = experience (1 = international, 2 = national, 3 = regional); Part = years of participation; Coach = years of coaching; APT = approach temperament; AVT = avoidance temperament; FF = fear of failure; MAp = mastery-approach goals; MAv = mastery-avoidance goals; PAp = performance-approach goals; PAv = performance-avoidance goals; TL = transformational leadership; *p < 0.05, **p < 0.01

### *3.3.2 Mediation Analyses*

The results of the first mediation analysis can be found in Figure 5. The path between avoidance temperament and fear of failure was significant (a = .26, *SE* = .03, 95% CI [.20, .33]), and the path between fear of failure and MAv goals was also significant (b = .66, *SE* = .13, CI [.40, .92]). The bias-corrected interval for the indirect effect did not include zero (*B* = .17, *SE* = .04, CI [.09, .27]). The effect size for the indirect effect was .15 (CI [.08, .23]). The test of the direct effect, namely, that avoidance temperament and MAv was also significant independent of fear of failure (c' = .20, *SE* = .07, CI [.06, .35]).

**Figure 5**.

*Mediational Analyses Between Avoidance Temperament, Fear of Failure, MAv Goals*

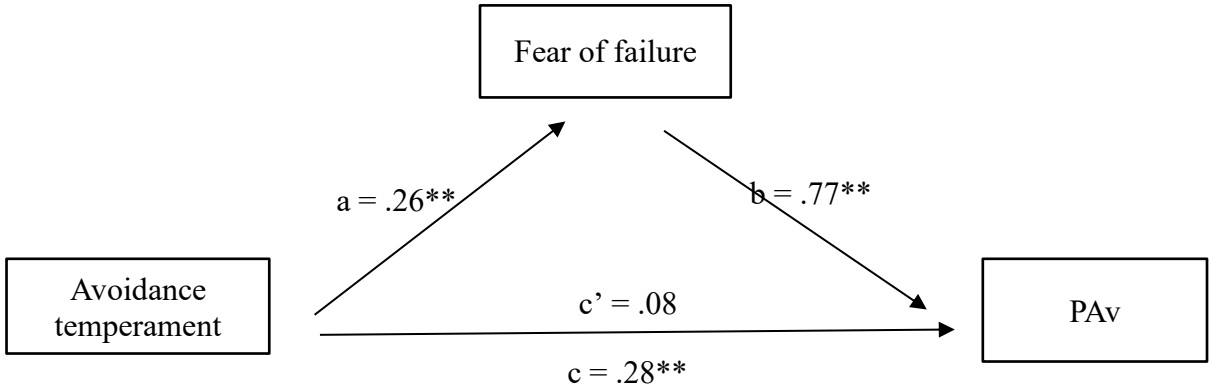



*Note.* Path c represents the total effect. ** p < .01

The results of the second mediation analysis can be found in Figure 6. In the second mediation analysis, the path between avoidance temperament and fear of failure was significant (a = .26, *SE* = .03, CI [.20, .32]), as was the path between fear of failure and PAv (b = .77, *SE* = .20, CI [.36, .18]). The biased-corrected interval was above zero (*B* = .20, *SE* = .06, CI [.10, .32]). The effect size for the indirect effect was .12 (CI [.05, .19]). However, there was no significant direct effect from avoidance temperament to PAv goals independent of failure of failure (c' = .08, *SE* = .12, CI [-.15, .30]).

**Figure 6.**

*Mediational Analyses Between Avoidance Temperament, Fear of Failure, PAv goals*

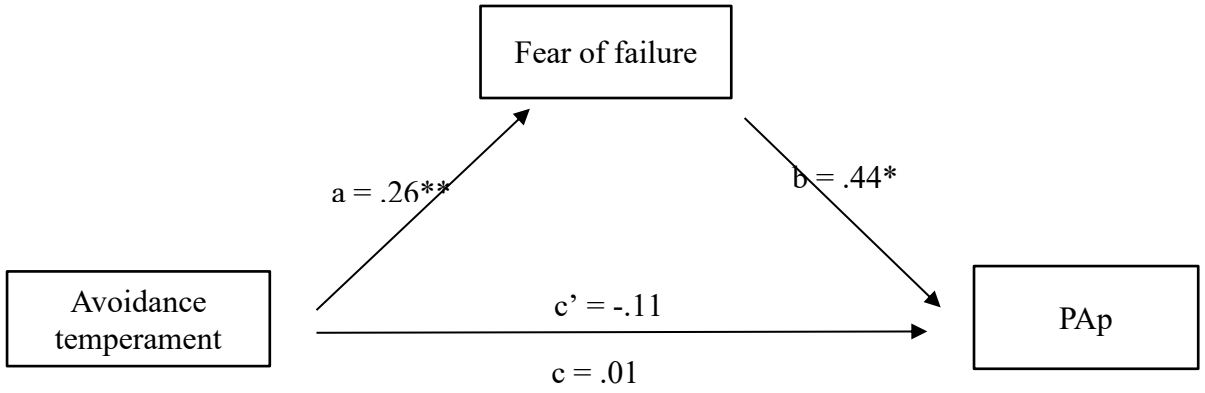



*Note.* Path c represents the total effect. **

The results of the third mediation analysis can be found in Figure 7. In the third mediation analysis, the path between avoidance temperament and fear of failure was significant (a=.26, *SE* = .03, CI [.20, .32]), alongside the path between fear of failure and PAp goals (b=.44, *SE* = .18, CI [.09, .80]). The biased-corrected interval was entirely above zero (*B* = .12, *SE* = .05, CI [.02, .23]). The effect size for the indirect effect was .08 (CI [.01, .16]). There was no significant direct effect from avoidance temperament effects upon PAp goals independent of fear of failure (c'=-.11, *SE* = .10, CI [-.31, .09]).

**Figure 7.**

*Mediational Analyses Between Avoidance Temperament, Fear of Failure, PAp goals*




*Note.* Path c represents the total effect. * p < .05, ** p < .01

### *3.3.3 Moderated Mediation Analyses*

To test for a moderated mediation, a total of three models were tested, whereby the predictor variable, and the mediator variable remained constant. Transformational leadership was entered as a moderator, for each of the three potential outcome variables (MAv, PAp, PAv). However, contrary to my hypothesis, I found no evidence for transformational leadership acting as a significant moderator between fear of failure and separate achievement goals. A description of these models can be found in Tables 3, 4, 5.

In the first analysis, I examined the relationship between avoidance temperament and MAv goals using fear of failure as a mediator, and transformational leadership as a moderator. Here, the interaction between transformational leadership and fear of failure regressed on MAv goals was non-significant ($B$ = -.05, $SE$ = .15, p > .05), thus there was no need to further examine these results (Table 3).

**Table 3.** *Moderated Mediation Results with MAv as Dependent Variable*

| Mediator Variable Model: DV= FF | | | | |
|---|---|---|---|---|
| Predictor | B | SE | T | p |
| Constant | -1.16 | .13 | -8.96 | .00 |
| AvT | .26 | .03 | 8.35 | .00 |
| **Dependant Variable Model: DV= MAv** | | | | |
| Predictor | B | SE | T | p |
| Constant | 3.73 | .44 | 8.54 | .00 |
| FF | .83 | .47 | 1.78 | .07 |
| Avt | .21 | .07 | 2.91 | .00 |
| TL | .24 | .11 | 2.27 | .02 |
| FF x TL | -.05 | .15 | -.35 | .72 |
| **Conditional effects at specific values of TL: DV= MAv** | | | | |
| TL | Effect | Boot SE | Boot LLCI | Boot ULCI |
| -1 SD (-.71) | .19 | .05 | .10 | .31 |
| M (.00) | .18 | .05 | .10 | .28 |
| +1 SD (.71) | .17 | .06 | .08 | .30 |

Notes. Unstandardized Regression Coefficients are reported. Bootstrap Sample Size= 5000. DV= Dependent Variable; M= Mean; AvT= Avoidance Temperament; MAv= Mastery-Avoidance Goals FF= Fear of Failure; TL= Transformational Leadership; Boot LLCI= Lower level confidence interval; Boot ULCI= Upper level confidence interval

In the second analysis, I examined the relationship between avoidance temperament and PAp goals using fear of failure as a mediator, and transformational leadership as a moderator. Like the first analysis, the interaction between transformational leadership and fear of failure regressed on PAp goals was non-significant ($B$ = -.35, $SE$ = .21, p >.05), therefore, the need to further examine these results was unnecessary (Table 4).

**Table 4.** *Moderated Mediation Results with PAp as Dependent Variable*

| Mediator Variable Model: DV= FF | | | | |
|---|---|---|---|---|
| Predictor | B | SE | T | p |
| Constant | -1.16 | .13 | -8.96 | .00 |
| AvT | .26 | .03 | 8.35 | .00 |
| **Dependant Variable Model: DV= PAp** | | | | |
| Predictor | B | SE | T | p |
| Constant | 5.92 | .60 | 9.82 | .00 |
| FF | 1.45 | .65 | 2.24 | .03 |
| Avt | -.10 | .10 | -1.04 | .30 |
| TL | -.25 | .15 | -1.72 | .09 |
| FF x TL | -.35 | .21 | -1.69 | .09 |
| **Conditional effects at specific values of TL: DV= PAp** | | | | |
| TL | Effect | Boot SE | Boot LLCI | Boot ULCI |
| -1 SD (-.71) | .18 | .06 | .07 | .29 |
| M (.00) | .11 | .05 | .02 | .22 |
| +1 SD (.71) | .04 | .07 | -.08 | .18 |

Notes. Unstandardized Regression Coefficients are reported. Bootstrap Sample Size= 5000. DV= Dependent Variable; M= Mean; AvT= Avoidance Temperament; PAp= Performance-Approach Goals FF= Fear of Failure; TL= Transformational Leadership; Boot LLCI= Lower level confidence interval; Boot ULCI= Upper level confidence interval

In the third and final analysis, I examined the relationship between avoidance temperament and PAv goals using fear of failure as a mediator, and transformational leadership as a moderator. Here, the interaction between transformational leadership and fear of failure regressed on PAv goals was non-significant ($B$ = .33, $SE$ = .24, p >.05), thus, there was no need to further examine the interaction effect (Table 5).

**Table 5.** *Moderated Mediation Results with PAv as Dependent Variable*

| Mediator Variable Model: DV= FF | | | | |
|---|---|---|---|---|
| Predictor | B | SE | T | p |
| Constant | -1.16 | .13 | -8.96 | .00 |
| AvT | .26 | .03 | 8.32 | .00 |
| Dependant Variable Model: DV= PAv | | | | |
| Predictor | B | SE | T | p |
| Constant | 3.28 | .69 | 4.76 | .00 |
| FF | -.19 | .74 | -.26 | .78 |
| Avt | .10 | .12 | .86 | .39 |
| TL | .23 | .17 | 1.37 | .17 |
| FF x TL | .33 | .24 | 1.37 | .17 |
| Conditional effects at specific values of TL: DV= PAv | | | | |
| TL | Effect | Boot SE | Boot LLCI | Boot ULCI |
| -1 SD (-.71) | .14 | .07 | .01 | .28 |
| M (.00) | .20 | .06 | .10 | .33 |
| +1 SD (.71) | .27 | .07 | .13 | .42 |

Notes. Unstandardized Regression Coefficients are reported. Bootstrap Sample Size= 5000. DV= Dependent Variable; M= Mean; AvT= Avoidance Temperament; PAp= Performance-Avoidance Goals FF= Fear of Failure; TL= Transformational Leadership; Boot LLCI= Lower level confidence interval; Boot ULCI= Upper level confidence interval

### *3.3.4 Post-Hoc Analyses*

Based on the correlations table, and non-significant findings between transformational leadership, fear of failure, and achievement goals, I ran multiple post-hoc analyses, whereby I tested whether years of being coached could have an impact on the relationship between fear of failure, transformational leadership, and the separate achievement goals. Specifically, I controlled for years of being coached while running the three separate moderated mediation analyses. Moderation effects of transformational leadership on fear of failure and achievement goals remained non-significant within each of the separate analyses: when using MAv as an outcome variable (*B* = -.02, *SE* = .16, CI [-.33, .29]); when using PAp as an outcome variable (*B* = -.33, *SE* = .22, CI [-.76, .09]); when using PAv as an outcome variable (*B* = .29, *SE* = .25, CI [-.20, .77]).

## 3.4 Discussion

This research adds valuable information to the achievement motivation literature. To my knowledge, this is the first study to examine the hypothesized updated hierarchical model of achievement motivation in sport (Elliot, 2006; Elliot & Thrash, 2002, 2010). Additionally, this is the first piece of research that has examined whether coaches' transformational leadership might moderate the relationship between fear of failure and separate achievement goals, using transformational leadership as a framework. The findings provide some valuable information, irrespective of significance, and the most prominent findings are discussed below.

Results relating to the mediational model were significant, thereby developing our understanding of the hierarchical model of achievement motivation. This is the first piece of empirical evidence to demonstrate that fear of failure mediates the relationship between avoidance temperament and MAv, PAp, PAv goals, in line with Elliot's (2006) predictions. It was interesting to discover that the relationship between avoidance temperament and MAv goals remained significant while holding fear of failure constant, whereas these relationships where no longer significant for both performance goals. Considering that many individuals with fear of failure define failure in interpersonal terms [e.g., being worse than others (Conroy et al., 2001; Sagar et al., 2010) ], and that performance goals, by definition, are in relation to others (Dweck, 1986; Elliot & Church, 1997; Nicholls, 1984) this might explain why fear of failure fully mediated the relationship between avoidance temperament and performance goals. However, since this is the first research to examine this mediational model, more research is necessary to strengthen this finding

Further, findings relating to this mediational model provide some insight into why transformational leadership might have been a non-significant moderator between fear of failure and achievement goals. A coach who attempts to bring about positive change in the way an athlete approaches an achievement-related situation is not only going against how an athlete was potentially raised to view these types of situations (e.g., fear of failure) but also goes against a biologically based, inherited temperament (Elliot & Thrash, 2002, 2010). Having to deal with an athlete's fear of failure, in addition to their avoidance temperament, could create a more challenging scenario in which a coach attempts to help the athlete adopt more desirable achievement goals.

Although existing research suggests that coaches can indeed impact the choice of achievement goals athletes set [i.e. using motivational climate as a framework (Conroy et al., 2006; Smith et al., 2009)], none of the existing studies to my knowledge have included individual differences, such as fear of failure, or avoidance temperament in their analyses. Thus, it is unclear at this point whether non-significant findings are related to the framework of transformational leadership itself, or whether there is limited ability to significantly impact the choice of achievement goals within failure fearing individuals. More research is necessary to further our understanding in this area.

It should be noted, however, that although initial achievement goal adoptions are heavily influenced by antecedents (e.g., fear of failure, avoidance temperament), research has shown that goal changes, over time, can be impacted by external factors (e.g., coaches)(Fryer & Elliot, 2007). Based on this current study, however, it is unclear to what extent and whether achievement goals adopted were initial goals, or whether these goals had already been influenced by the coach. It would be of interest to conduct future research within this area. Specifically, it would be interesting to conduct a longitudinal examination whereby initial goals are measured, and compared to goal changes over time, in addition to perceived transformational leadership behaviours. This would provide researchers with an opportunity to better understand whether transformational leaders are indeed capable of influencing achievement goals within individuals who fear failure, in addition to having an avoidance temperament.

Of course, there is also the possibility that transformational leaders might not be appropriate in helping athletes with fear of failure adopt more adaptive achievement goals. For instance, transformational leaders are said to be capable of inspiring optimism in their followers, in part by setting high expectations (Bass, 1985; Bass & Riggio, 2006). This could be problematic for individuals with fear of failure for two reasons. Firstly, by expressing their high expectations, coaches are presenting scenarios in which the likelihood for failure is increased, something that athletes with fear of failure are desperate to avoid (McGregor & Elliot, 2005). Although well-intentioned, increasing the likelihood of failure might inadvertently increase the likelihood of individuals setting avoidance goals, in hopes to avoid failure.

Secondly, individuals high in fear of failure are likely to have grown up in homes where high expectations were the norm, (Sagar & Lavallee, 2010; Schmalt, 1982), and failure

was met with aversive consequences (Conroy, 2003, 2017). Thus, a coach who simply expresses high expectations (again, with the best intentions at heart) could trigger an emotional rollercoaster for athletes as this could bring back previous memories, and indeed increase fear of failure. In this second scenario, instead of directly impacting an individual's achievement goals, high expectations might indeed increase levels of fear of failure, which in turn impacts the choice of achievement goals. However, these are statements that would essentially require further research attention.

It should be noted that the construct of transformational leadership has been criticised over previous years (Arthur et al., 2017; van Knippenberg & Sitkin, 2013). One of the more concerning issues relates to the definitions of the separate dimensions. Transformational leadership uses tautological definitions to describe its construct, in other words, transformational leaders are described in relation to their outcomes, as opposed to their behaviours (Arthur et al., 2017). This can create confounding issues when examining transformational leadership as an independent variable. As a result, it has been recommended that the theory itself needs to be developed further in order to understand transformational leadership more clearly. Thus, it might be useful for future research to consider using other theories when examining the potential moderating role of coaches on athletes' fear of failure and their choice of achievement goals.

Fortunately, alternative theories exist which might be more useful in examining how coaches could impact athlete achievement goals within failure fearing individuals. One of these theories is Self-Determination Theory, which consists of six mini-theories (see Bhavsar et al., 2020, for a review; Deci & Ryan, 1985; Ryan & Deci, 2002). One of those six mini-theories is basic psychological needs theory (Ryan & Deci, 2000), in which the focus is placed on the individuals' psychological needs, and how the social environment can satisfy, or frustrate, these needs. As such, this allows for the examination of specific coach behaviours (Mageau & Vallerand, 2003), as opposed to coach outcomes, thereby avoiding any potential confounding issues (van Knippenberg & Sitkin, 2013).

Specifically, Self-Determination Theory proposes two different types of coaching behaviours, autonomy-supportive coaching behaviours (optimal), and controlling coach behaviours (suboptimal) (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011; Mageau & Vallerand, 2003; Van den Berghe et al., 2013). Although there is growing evidence suggesting how autonomy-supportive coaching is desirable, and controlling

coaching is undesirable (see Bhavsar et al., 2020), more importantly, these relationships all typically occur via the satisfaction/frustration of psychological needs, respectively (Ryan & Deci, 2000). This is important, as having clear mediators in place allows for researchers to be able to draw more causal conclusions, something that is noticeably absent from transformational leadership research (van Knippenberg & Sitkin, 2013).

Contemporary research using basic psychological needs theory (Ryan & Deci, 2000) has found that coach behaviours can have a positive and/or negative impact on athletes' fear of failure, via the satisfaction/frustration of psychological needs, respectively (Bartholomew et al., 2018; Conroy & Coatsworth, 2007). Although these studies did not consider coach behaviours as a moderator between fear of failure and achievement goals, and instead examined coach behaviours as an antecedent to athletes' fear of failure, the implications of these results are far-reaching. For instance, if a coach is capable of significantly reducing fear of failure within an athlete, then this could indirectly lead to changes in achievement goal adoption. However, these ideas require future research attention.

Nonetheless, it might also be useful to consider contextual factors when conducting coach/athlete research. One of these factors could be the amount of time participants have spent with their coach, prior to investigation. Considering athletes with fear of failure are predisposed to set certain achievement goals (Conroy & Elliot, 2004), it might be important to include participants that meet a certain threshold in time spent with their current coach. Considering this, it is unlikely that a coach who has only just begun working with an athlete can have a significant impact on their choice of achievement goals (Conroy & Coatsworth, 2004). That said, post-hoc analyses in this study revealed that controlling for time spent with their coach made no significant difference in transformational leadership moderating the relationship between athletes' fear of failure and their achievement goals. It should be noted, however, that this question could have been phrased differently. Specifically, I asked athletes how many years they had spent being coached by their current/former coach, as opposed to how frequent their training with their coach is. This distinction might be important as years being coached does not indicate frequent face-to-face time with their coach. This is something to consider for future research, based on results from existing research (Conroy et al., 2006; Smith et al., 2009) and recommendations from previous intervention research (Conroy & Coatsworth, 2004) that exposure time to coaches could play an important role when examining coach influence on athletes.

### *3.4.1 Limitations and Conclusions*

As with each study, there are limitations worth mentioning. Firstly, this study consisted of a cross-sectional research design, thereby removing the potential for making inferential statements. To better understand the potential causal relationships within this study, experimental research is necessary. However, the relationship between fear of failure and achievement goals has been examined within quasi/experimental research designs, thereby allowing me to assume that the relationship between fear of failure is indeed causal. (Conroy & Elliot, 2004; Elliot & Church, 1997). Another limitation relates to using general scores for fear of failure and transformational leadership. Using general scores, instead of subdimension scores, has been criticised (Arthur et al., 2017; Taylor et al., 2021). However, due the sample size of participants in this study it was not possible for me to explore those relationships more in-depth, due to me having to delete 108 responses as a result of incorrect scaling. Additionally, by using the general score for fear of failure, gender differences could not be explored in more detail (see Taylor et al., 2021).

## 3.5 Statement of Problem

In line with the study results and discussion, I decided to shift my focus from using transformational leadership (Bass, 1985; Bass & Riggio, 2006), to using controlling coaching behaviours (Bartholomew et al., 2009, 2010) as a framework for examining the coach impact in my following study. This provided me with an opportunity to examine specific coach behaviours. Further, a critique of transformational leadership has been that no mediating processes have been established, thereby making potential causal implications impossible (Arthur et al., 2017). Fortunately, as part of Self-Determination Theory (see Bhavsar et al., 2020, for a review), psychological needs frustration is included, offering researchers the opportunity to gain some insight into hypothetical causal processes between controlling coaching and specific outcomes variables (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011).

Finally, considering those with an avoidance temperament and fear of failure are predisposed to setting specific achievement goals (Conroy & Elliot, 2004; Elliot, 2006; Elliot & Church, 1997; Elliot & Thrash, 2010), it might be a challenge for coach behaviours to moderate this relationship. Therefore, it may be more beneficial to examine fear of failure as an outcome variable, as research has provided evidence that coaches can indeed influence athlete levels of fear of failure (Bartholomew et al., 2018; Conroy & Coatsworth, 2007).

Thus, my next study will examine the role of controlling coach behaviours on athletes' psychological needs frustration and fear of failure.

# Chapter 4: Fear of Failure and Motivation: A Multilevel Examination of Coaches and Athletes

Based on findings from chapter 3, the aim of this chapter is to examine how controlling coach behaviours influence athletes fear of failure. Secondly, it is of interest to examine whether coach fear of failure acts as a hypothetical antecedent to controlling coach behaviours. I begin by introducing Self-Determination Theory, and more specifically, Basic Psychological Needs Theory. Following this, I discuss the relationship between needs frustration, controlling coaching, and fear of failure. I then describe the antecedents of controlling coaching, followed by coach fear of failure and how coach fear of failure might act as an antecedent to controlling coaching. Next, I describe the current study hypotheses and the research design. This is followed by the method section, whereby I describe participants involved in this study, the instruments involved to test my hypotheses, and the procedures in place to gather my data. The method section ends with my proposed data analyses, where I describe how I intend on analysing my data, both the preliminary analyses and the multilevel analyses. The results section is divided into preliminary analyses and multilevel analyses. Following this, I discuss my results in depth, and end this chapter with a limitations and conclusions section, in which I discuss my plans for the chapter five.

## 4.1 Introduction

Fear of failure, or the avoidance motive, represents a dispositional tendency to experience anxiety and apprehension in evaluative situations because the individual has learned that failure is associated with negative consequences (Conroy & Elliot, 2004). This avoidance motive can impact an individual's affect, cognitions, and behaviours (see Taylor et al., 2021). For instance, fear of failure is associated with burnout (Gustafsson, Sagar, et al., 2017), antisocial behaviour (Sagar et al., 2011), and aggression/appeasement (Conroy & Pincus, 2011). A reason why fear of failure is associated with such a wide range of undesirable outcome variables could be due to those with fear of failure being at increased risk of adopting avoidance achievement goals (Conroy & Elliot, 2004), which have been linked with lower levels of well-being (Elliot et al., 1997), and decreased intrinsic motivation (Elliot & Harackiewicz, 1996).

Research suggests that fear of failure is developed during the early stages of childhood (i.e. between the ages of 5—9), via socialisation techniques (see Elliot et al., 2010; McClelland, 1958; McClelland et al., 1953). Examples of these socialisation techniques

include: early demands for task-mastery (Teevan & McGhee, 1972); mothers responding neutrally to success, but punishing failure (Teevan, 1983); high parental expectations (Sagar & Lavallee, 2010; Schmalt, 1982); punitive and controlling parental behaviours following a child's failure (Sagar & Lavallee, 2010). Further results suggest that fear of failure is developed via a process of internalisation, whereby individuals internalise how they were treated by important others (i.e. parents/coaches) and treat themselves in a similar fashion. For instance, results from Conroy (2003), suggest that individuals high in fear of failure perceived important others (i.e. parents/instructors) to behave in a hostile manner, and in turn treat themselves in a hostile manner. Further, Conroy and Coatsworth (2007) found that—over a 6-week period—coaches who engaged in blaming behaviours, increased levels of self-blame within athletes, which subsequently increased their levels of fear of failure. Existing evidence is in support of the process of internalisation (Conroy, 2003, 2017; Conroy et al., 2006; Conroy & Coatsworth, 2007; Conroy & Metzler, 2004). However, more recent evidence is offering a potential alternative approach into the development of fear of failure (see Taylor et al., 2021).

### *4.1.1 Self-Determination Theory*

***Basic Psychological Needs Theory.*** Self-Determination Theory (SDT; Ryan & Deci, 2000, 2002) consists of a broad framework for understanding human motivation. Basic Psychological Needs Theory (BPNT), a sub-theory of SDT posits that individuals possess three psychological needs—need for autonomy, competence, and relatedness, which must be satisfied for optimal human functioning (Ryan & Deci, 2000). Autonomy refers to the individual's need to feel responsible for their behaviour; competence refers to the individual's need to feel effective and able when engaging in a task; relatedness refers to the individual's need to feel connected with and accepted by others important to them. These needs, when met, are linked with a variety of different positive outcomes, such as positive affect, well-being, and autonomous motivation (Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011; Ryan & Deci, 2000). However, when these needs are frustrated, they are linked with negative outcomes, such as negative affect, ill-being, and fear of failure (Bartholomew et al., 2018; Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011).

BPNT also differentiates between autonomy-supportive (optimal) and controlling (suboptimal) coaching behaviours (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011; Mageau & Vallerand, 2003; Van den Berghe et al., 2013). An autonomy-supportive

coach creates opportunities for their followers to experience a sense of autonomy (Grolnick et al., 1991), competence and relatedness (Baard et al., 2004). The individual in a leadership position who behaves in a controlling manner, however, attempts to coerce their followers to think, feel and behave in a certain way (Bartholomew et al., 2009). The framework of controlling coaching consists of four specific behaviours: controlling use of rewards; negative conditional regard; intimidation; and excessive personal control. (Bartholomew et al., 2010). These controlling behaviours can be demonstrated in either an internal or external manner (De Meyer et al., 2016). For instance, intimidation can serve as an external coaching strategy as the coach is using behaviours such as yelling to get the individual to behave in a certain manner (Bartholomew et al., 2010). The use of negative conditional regard (e.g., withholding attention and affection when the individual fails to act in a certain manner) is an example of internal controlling coaching strategy. Controlling coaching has been associated with undesirable outcomes, such as the frustration of one's psychological needs, disordered eating, exhaustion (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011), burnout (Balaguer et al., 2012), and increased levels of fear of failure (Moreno-Murcia et al., 2019).

### *4.1.2 The Relationship between Needs Frustration, Controlling Coaching and Fear of Failure*

In sport, one study exists to date that has examined the impact of coach behaviours on athletes' fear of failure using BPNT (Moreno-Murcia et al., 2019). Specifically, the associations between both autonomy-supportive coaching and controlling coaching and fear of failure were examined within athletes who ranged in age from 13-59 years old ($M$ = 18.96, $SD$ = 5.69), and participated in a variety of different team and individual sports. Results from a cluster analysis revealed two profiles. One profile contained higher levels of perceptions of autonomy-supportive coaching, alongside lower levels of fear of failure, whereas the other profile consisted of higher levels of perceptions of controlling coach behaviours, alongside higher levels of fear of failure. While these results provide evidence that controlling coaching is associated with higher fear of failure scores, it is unclear how individuals' psychological needs were impacted since measures of needs satisfaction, and/or needs frustration were excluded in that study.

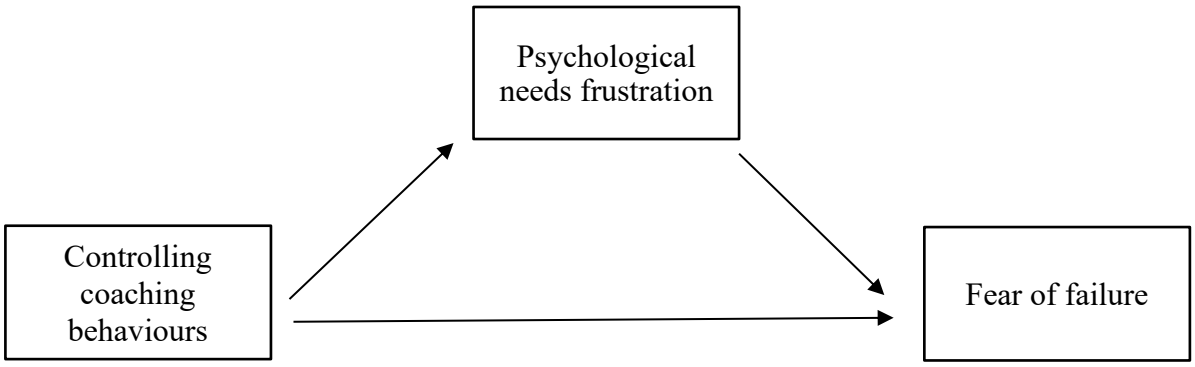
Within the physical education domain, Bartholomew and colleagues (2018) examined controlling teaching, psychological needs frustration, and a variety of different motivational outcomes including fear of failure. Specifically, longitudinal research was conducted over an

academic year to examine whether students who perceived their teachers to be controlling and who also experienced needs frustration, would also experience higher levels of fear of failure as a result. They reasoned that the frustration of one's need for competence could lead to students experiencing higher levels of shame, as a result of not being able to successfully interact with their immediate environment (fear of shame and embarrassment is considered the main component of the fear of failure construct). Further, the frustration of one's need for autonomy could contribute to students taking part in tasks for extrinsic reasons, such as the avoidance of punishments, which in turn could contribute to students' fear of failure. Finally, it was postulated that the frustration of one's need for relatedness could also contribute to students' fear of failure, because the students would fear being criticized by their teachers in front of their peers.

Results suggest that students who perceived their teachers to be controlling experienced higher levels of fear of failure as a result of their psychological needs being frustrated. In other words, psychological needs frustration mediated the relationship between controlling teaching behaviours and student fear of failure (Figure 8). Although those with fear of failure experience it across different achievement-related domains (Conroy & Elliot, 2004; Sagar et al., 2011), it is nonetheless important to test this model within a sporting context.

**Figure 8.**

*Proposed Mediational Model*

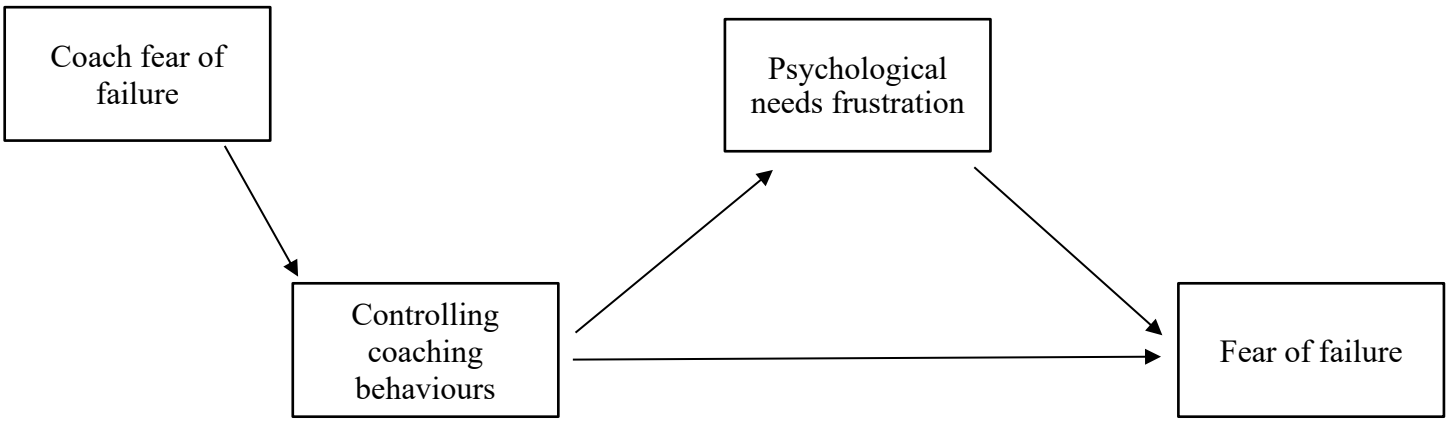


### *4.1.3 Antecedents of Controlling Coaching*

It is important not only to understand how coaches can influence athletes' experiences but also why a coach might act in a controlling manner (Occhino et al., 2014). Thus, in addition to the mediational model (Figure 8), it is also of interest to examine coach fear of failure as a potential antecedent to controlling coaching (Figure 9). To date, research on potential antecedents of controlling coaching is scant, however, three categories were mentioned during a review (Matosic, Ntoumanis, & Quested, 2016). These categories can be divided into contextual; perception of others' motivation; and personal. One example of contextual factors could be job security/insecurity (Stebbings et al., 2012). Here, the association between job security and controlling coaching was nonsignificant, although it was suggested that measurement of job insecurity might provide different results. To my knowledge, the only personality characteristic that has been considered as an antecedent to controlling coaching is coach narcissism (Matosic, Ntoumanis, Boardley, et al., 2016). Results suggested that self-reported behaviours of coach narcissism were associated with athletes' perception of controlling coaching behaviours.

**Figure 9.**

*Coach Fear of Failure as an Antecedent to the Mediational Model*




### *4.1.4 Coach Fear of Failure*

To be able to experience fear of failure, one needs to be immersed in a situation in which failure is a possibility, and be conditioned to believe that aversive consequences occur as a result of failure (Birney et al., 1969; Conroy et al., 2001). Similar to athletes, coaches are

considered performers (Gould et al., 2002), and are thus capable of also experiencing failure and success within a sporting context. The criteria by which the coach's performance is judged is oftentimes reduced to outcomes of their athletes/teams in sporting events (Nissen, 2014). In other words, when the coach's athletes/team win, the coach is considered successful, whereas when the individual athletes/team lose, the coach is considered to have failed. This environment has the potential to induce/increase levels of fear of failure within coaches.

While investigating stressors in coaches, Olusoga and colleagues (2009) uncovered that self-imposed pressures and outcome pressure led to stress in coaches. Examples of these pressures include: not wanting to let down the athletes, pressures from governing bodies to get results, expectations from supporters, and job security being threatened dependent on results. Further, oftentimes when the athletes/team fail to perform, a solution is to hire a new coach, and these decisions are made by stakeholders and agents (Bentzen et al., 2020). Taken together, some of these examples appear to align with worries expressed by individuals from Conroy's et al (2001) conceptualisation of fear of failure. For instance, experiencing perceived pressures from governing bodies and not wanting to let down athletes, could be related to 'fear of upsetting important others' and 'fear of letting important others down (Conroy et al., 2002). Further, the risk of being fired for the athletes'/teams' performance is in line with 'fear of an uncertain future'.

### *4.1.5 Coach Fear of Failure as an Antecedent to Controlling Coaching*

Considering results from potential antecedents into controlling coaching, there is a possibility that the relationship between coach fear of failure and controlling coaching could be significant. For instance, as suggested within the review by Matosic and colleagues (2016), personality characteristics can act as antecedents to controlling coaching. Fear of failure is considered a personality disposition (Atkinson, 1957; McClelland et al., 1953), which predisposes individuals to seek to avoid failure in achievement-related situations, as these situations are perceived as potentially shameful events (McGregor & Elliot, 2005). Controlling coaches attempt to coerce athletes' to think, feel, and behave in a manner that corresponds with a specific way of thinking and behaving (Bartholomew et al., 2010). Coaches with fear of failure might choose to behave in a controlling manner, in hopes that this approach will reduce the likelihood of failure, and thus, the aversive consequences associated with it.

Going further, drawing upon research from parental influence on child fear of failure, results suggest that parents with fear of failure are capable of passing it on to their children (Elliot & Thrash, 2004). Within this study, it was found that this occurred through the mothers' use of love withdrawal. This type of behaviour aligns with 'negative conditional regard', which is part of the controlling coaching framework (Bartholomew et al., 2010). Depending on the relationship between the athlete and the coach, love withdrawal might be perceived as more or less appropriate (e.g., if the coach is a parent). However, love withdrawal only makes up a part of negative conditional regard, other behaviours include withholding attention (Bartholomew et al., 2010). Nonetheless, the use of negative conditional regard in hopes of coercing athletes to think, feel, and behave in a certain manner could occur as a result of coaches own personal fear of failure. However, the link between coaches' fear of failure and athletes' fear of failure has not been established to date.

### *4.1.6 Current Study*

Building on the work from the physical education context (Bartholomew et al., 2018), the study aim is to advance our understanding of the impact of controlling coaching on the frustration of athletes needs and their fear of failure in sport, using athletes from sports commonly defined as individual sports (i.e. golf, tennis, cycling). Results from previous research suggest that coaches in individuals sports are typically more needs supportive, in comparison to team sports (Delrue et al., 2019), thus, it was of interest to explore whether the mediational model would hold up when examining participation within these sports. It was of interest to examine whether coaches' fear of failure might act as a potential antecedent to controlling coaching behaviours. Finally, results from a scoping review (Taylor et al., 2021) and my first study (chapter 3) suggest that gender differences exist in fear of failure scores, and therefore it was also of interest to explore whether gender differences were apparent in this current sample.

First, it is hypothesized that coaches' fear of failure will significantly predict athletes' perceptions of controlling coaching behaviours (H1). Next, it is hypothesized that the athletes' perception of controlling coaching behaviours will significantly predict athletes' needs frustration (H2). In turn, the athletes' needs frustration will significantly predict athletes' fear of failure (H3). Additionally, athletes' perception of controlling coaching will significantly predict athletes' fear of failure (H4). Next, the relationship between athletes'

perception of controlling coaching and athletes' fear of failure will be fully mediated by athletes' needs frustration (H5; Figure 9). Finally, female participants (coaches/athletes) will have significantly higher levels of fear of failure than their male counterparts (H6).

## 4.2 Method

### *4.2.1 Participants*

Power estimates were calculated with the Optimal Design software, designed to determine sufficient sample size in multilevel research (Raudenbush, 2001). Setting power to 0.8, to detect a medium effect size of 0.5, required a minimum of 35 groups with an average of four athletes per group. A total of 38 coaches—who worked with the below-mentioned athletes—participated (34 male, 4 female) ranging from 27- 65 years of age ($M$ = 41.27 months; $SD$ = 10.31). Coaches reported coaching their current team in years, ranging from five months to 37 years ($M$ = 7.2 years; $SD$ = 8.03). A total of 156 athletes (92 male, 63 female, 1 unknown) took part in this study ranging in age from 18 - 43 years ($M$ = 20.91, $SD$ = 3.75). Participants reported their nationalities from countries including: UK ($n$ =69), USA ($n$ =19), Germany ($n$ =17), and Canada ($n$ = 6). A total of 24 were collectively from Australia ($n$ = 1), Belgium ($n$ = 2), China ($n$ = 1), Czech Republic ($n$ = 1), Denmark ($n$ = 1), France ($n$ = 1), Hungary ($n$ = 1), Ireland ($n$ = 2), Italy ($n$ = 1), Mexico ($n$ = 2), Philippines ($n$ = 4), New Zealand ($n$ = 1), Romania ($n$ = 3), South Korea ($n$ = 1), Sweden ($n$ = 1) and Trinidad and Tobago ($n$ = 1). A total of 21 individuals did not report their country of origin. The sample consisted of 98 golfers, 25 swimmers, 20 tennis players, and 13 cyclists. Although these sports are generally considered individual sports, instances exist in which athletes in these sports compete within a team setting (e.g., when athletes individual performances are accumulated for a team score). Thus, when describing where the separate athletes competed, I use the term 'team' to describe the location, rather than the designation of the sport. The majority of participants competed at university level in either the UK (BUCS league; $n$ = 10), or the USA (NCAA Division I $n$ = 10; Division II $n$ = 5; NAIA $n$ = 1). A total of 8 teams competed at performance centres, which consisted of elite amateur and professional athletes. Finally, three teams competed in the first division of the German national golf league, while one team competed in the second division of the German national golf league. Athletes reported their time with their current coach in months, ranging from one month up to 216 months ($M$ = 21.08, $SD$ = 28.26).

### *4.2.2 Measures*

***Coaches' and Athletes' Fear of Failure.*** The five-item short form of the Performance Failure Appraisal Inventory was used to assess general levels of fear of failure for athletes and coaches (PFAI-S; Conroy, Willow, & Metzler, 2002). This measure was developed with interview data from performers across different domains (i.e. athletes and performing artists) (Conroy et al., 2001). Considering that coaches are also performers (Gould et al., 2002), this measure should also, therefore, apply to them. Participants rated their responses on a 5-point Likert scale ranging from -2 (*do not believe at all*) to +2 (*believe 100% of the time*). An example item is "When I am failing, important others are disappointed". Evidence of temporal stability, internal consistency and factorial validity for the PFAI-S have been provided (Conroy et al., 2002; Conroy, Metzler, et al., 2003; Conroy & Metzler, 2003). Scores for this scale provided acceptable fit ($\alpha = .76$), both for coaches and athletes.

***Athletes' Perceptions of Controlling Coaching Behaviours.*** The 15-item Controlling Coach Behaviour Scale was used to assess athletes' perception of their coach's controlling behaviours (CCBS; Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2010). Participants were asked to rate their responses on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). An example item is "My coach tries to motivate me by promising to reward me if I do well". The CCBS consists of four subscales: reward; negative conditional regard; intimidation; excessive personal control, which can be represented by a higher-order factor, controlling coaching. For this study, the higher-order factor was used. Researchers have confirmed the factorial validity and internal consistency of the CCBS and its subscales (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011). Internal consistency for this study was good ($\alpha = .80$).

***Athletes' Psychological Needs Frustration.*** Needs frustration was assessed using the 12-item Psychological Needs Thwarting Scale (PNTS; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). Participants were asked to rate their responses on a scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). An example item of the questionnaire is "In my sport, I feel pushed to behave in certain ways". The PNTS consists of three subscales, namely, autonomy, competence and relatedness which can be represented by a higher-order factor, needs frustration. For this study, the higher-order factor was used. Previous research has demonstrated factorial validity and internal consistency for the PNTS

and its subscales (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011). Internal consistency for this study was good (α = .81).

### *4.2.3 Procedures*

Ethical approval for the study was provided by a university research committee in the United Kingdom (see Appendix E). Over 1000 email invitations (see Appendix F) were sent to eligible coaches (e.g., working with athletes from individual sports either in full-time employment by a university, or within performance centres). Only athletes from individual sports (i.e. tennis, golf, swimming) were considered, as there is evidence to suggest that the psychological needs satisfaction/frustration can fluctuate dependent on the type of sport (Delrue et al., 2019). The response rate among the coaches was approximately 3.8%. To ensure that the athlete was familiar with the coach's behaviours, only athletes and coaches who had been working together for over 1 month were recruited for the study. Coaches who agreed to take part in the study were asked to complete an online survey (see Appendix G). Coaches were additionally asked to forward a link to their athletes, which contained the survey, along with the participant information sheet (see Appendix H). Athletes were informed that irrespective of the coach's consent, their participation was voluntary, and their responses would remain confidential and would not be shared with their respective coach. Athletes first completed the controlling coach behaviour scale, followed by the psychological needs thwarting scale, and finally the fear of failure measure. Based on responses to demographic questions, I was able to link athletes' responses with their respective coaches.

### *4.2.4 Data Analyses*

***Preliminary Analyses.*** Preliminary analyses were conducted using SPSS version 25. Descriptive statistics and bivariate correlations were first calculated (Table 6). Next, gender differences in both athlete and coach fear of failure scores were explored using independent sampled t-tests.

***Multilevel Analyses.*** Data were analysed using R Studio version 1.1.463. To account for the nested nature of the data (i.e., individuals were nested within teams), multilevel linear models were analysed using the lme4 package in R (Bates et al., 2015), which deals with missing data via listwise deletion. As such, the participant team was included as a random effect. However, analyses were conducted at the individual level and as such, a random intercept fixed slope design was used (Field, 2009). Four separate linear regressions corresponding with each hypothesis were run: First, athletes' perception of controlling coach

behaviour was regressed on their respective coach's fear of failure (H1). Second, athlete's needs frustration was regressed on their perception of controlling coaching (H2). Third, athletes' fear of failure was regressed on athlete needs frustration (H3). Fourth, athletes' fear of failure was regressed on athlete perception of controlling coaching (H4). To gather p-values for the separate regressions the lmerTest package was used (Kuznetsova et al., 2017).

To examine the total, direct and indirect effects of the proposed mediation model, the R package mediation (Tingley et al., 2014) was used. To test for statistical significance 95% confidence intervals (Cis) were used. A 95% CI that does not contain the value zero is indicative of a significant indirect effect (Preacher & Hayes, 2008). A total of $n$ = 5000 simulations were conducted using the quasi-Bayesian Monte Carlo method (Tingley et al., 2014). To calculate the effect size for the indirect effect, I used the R package "MBESS" (Kelley, 2007).

## 4.3 Results

### *4.3.1 Preliminary Analyses*

Descriptive statistics and bivariate correlations are displayed in Table 6. Coaches typically reported lower fear of failure ($M$ = -.58 $SD$ =.80), which roughly translates to experiencing fear of failure 35% of the time compared to athletes ($M$ = -.31 $SD$ =.85) experiencing fear of failure 42.5% of the time. There was a significant difference in the coach fear of failure scores between males ($M$ = -.71, $SD$ = .73), and females ($M$ = .55 $SD$ = .44); $t$(36) = -3.36, p = .002. Significant differences emerged in athletes' fear of failure scores for male ($M$ = -.43, $SD$ = .80) and female ($M$ = -.10, $SD$ = .88); $t$(153)= -2.5, p = .013, suggesting that female coaches and athletes had significantly higher scores of fear of failure (H6). However, due to the small sample size of female coaches ($N$ = 4), I was unable to examine these differences in more detail.

**Table 6.** *Descriptive Statistics and Correlations*

| | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | 20.91 | 3.75 | - | | | | | | | |
| 2. Gender | | | -.14 | - | | | | | | |
| 3. Months of Received Coaching | 21.08 | 28.26 | .25** | -.03 | - | | | | | |
| 4. Years coaching team | 7.2 | 8.03 | .01 | -.11 | .15 | - | | | | |
| 5. Coach fear of Failure | -.56 | .84 | .00 | .29** | -.12 | .07 | - | | | |
| 6. Athlete Perception of Controlling Coaching | 2.60 | 1.10 | .03 | .07 | -.06 | .10 | .03 | - | | |
| 7. Athlete Needs Frustration | 2.63 | 1.18 | -.01 | .09 | -.05 | -.06 | .00 | .60** | - | |
| 8. Athlete Fear of Failure | -.31 | .85 | -.03 | .20* | -.09 | -.04 | -.00 | .28** | .45** | - |

Notes: *p < 0.05, **p < 0.01

### *4.3.2 Multilevel Analyses*

The results of the multilevel analyses can be found in Tables 7 and 8. Contrary to Hypotheses 1, coach fear of failure did not significantly predict athletes' perceptions of controlling coaching (β = .02, *SE* = .15, *p* = .88, CI [-.28, .32]).

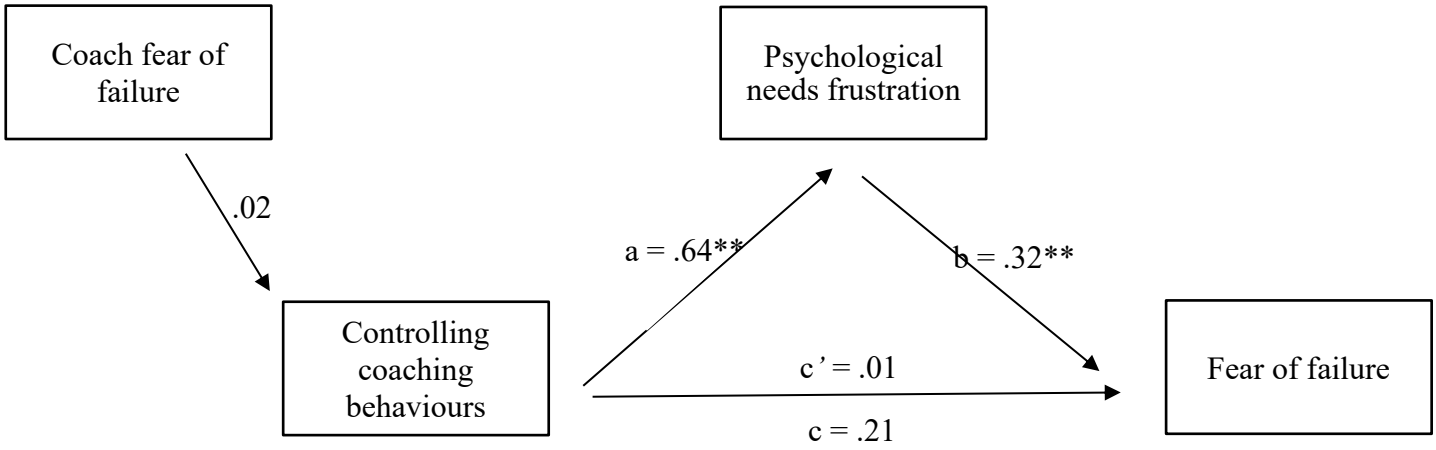
**Table 7**. *Coach Fear of Failure Predicting Athlete's Perception of Controlling Coaching with Team as Random Intercept*

| **Fixed effects** | | | | | | | |
|---|---|---|---|---|---|---|---|
| | B | SE | p | Variance | Std. Dev. | Boot LLCI | Boot ULCI |
| Intercept | 2.65 | .14 | < .001 | | | | |
| Coach fear of failure | .02 | .15 | .88 | | | -.28 | .32 |
| **Random effects** | | | | | | | |
| Intercept (team) | | | | .31 | .57 | | |
| Residual | | | | .94 | .97 | | |

The *a* path was significant (H2), whereby athlete perception of controlling coach behaviour significantly predicted athlete needs frustration (β = .64, *SE* = .07, *p* < *.01*, CI [.49, .78]*)*. Within path *b* (H3), athlete needs frustration acted as a significant predictor of athletes' fear of failure (β = .32, *SE* = .05, *p* < *.01*, CI [.22, .33]). Path c*'* consisted of the direct effect (H4), in which athlete perception of controlling coaching significantly predicted athletes' fear of failure (β = .21, *SE* = .06, *p* < .01, CI [.09, .34]). However, while examining the mediational model, the direct effect was no longer significant (β = .01, *p* < *.92*, CI [.-13, .14]). Thus, the effect of athlete's perception of controlling coaching on athletes' fear of failure was mediated via the frustration of athletes' psychological needs (β = .20, *p* <.01), with the CI ranging from .11 to .29 (H5; Figure 10). The effect size for the indirect effect was .26 (CI [.15, .39]).

**Figure 10.**

*Mediation Results with Coach Fear of Failure as an Antecedent to Controlling Coaching*




*Note.* Path c represents the total effect. ** p < .01

**Table 8.** *Multilevel Regressions Between Controlling Coaching, Needs Frustration, and Fear of Failure with Team as a Random Intercept*

| ***a* path** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Fixed effects** | B | SE | p | Variance | Std. Dev. | Boot LLCI | Boot ULCI |
| Intercept | .97 | .20 | < .001 | | | | |
| Controlling coach behaviour | .64** | .07 | < .001 | | | .49 | .78 |
| **Random effects** | | | | | | | |
| Intercept (team) | | | | .01 | .12 | | |
| residual | | | | .88 | .94 | | |

| ***b* path** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Fixed effects** | B | SE | p | Variance | Std. Dev. | Boot LLCI | Boot ULCI |
| Intercept | -1.13 | .15 | < .001 | | | | |
| Needs frustration | .32** | .05 | < .001 | | | .22 | .33 |
| **Random effects** | | | | | | | |
| Intercept (team) | | | | .00 | .00 | | |
| residual | | | | .57 | .75 | | |

| ***c'* path** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Fixed effects** | B | SE | p | Variance | Std. Dev. | Boot LLCI | Boot ULCI |
| Intercept | -.85 | .17 | < .001 | | | | |
| Controlling coach behaviour | .21** | .06 | < .001 | | | .09 | .34 |
| **Random effects** | | | | | | | |
| Intercept (team) | | | | .002 | .05 | | |
| Residual | | | | .67 | .81 | | |

## 4.4 Discussion

This study examined a mediational model of controlling coaching, needs frustration and fear of failure to further our understanding of potential antecedents of fear of failure in athletes. In line with the hypotheses, results suggest that needs frustration acted as a mediator between athlete perception of controlling behaviour and athletes' fear of failure. In addition, this study also examined fear of failure within coaches and whether it might act as a potential antecedent to athlete perceptions of controlling coaching. Results suggest that coach fear of failure did not act as an antecedent to athlete perception of controlling coaching. Lastly, preliminary analyses consisted of testing for gender differences in both coach fear of failure scores, and athletes' fear of failure scores. Results suggest that both female coaches and female athletes experienced higher levels of fear of failure in comparison to their male counterparts. These findings add some valuable information, and the most prominent ones are discussed below.

Results from the mediational model align with research from the physical education domain (Bartholomew et al., 2018), thereby extending it to a sporting context and offering further support that fear of failure can be experienced across a variety of different performance-related domains (Sagar et al., 2011). Further, current results add to the findings from Moreno-Murcia et al., (2019), suggesting that controlling coaching, by itself, is not associated with an increase in athletes' fear of failure, but rather, that it occurs via the frustration of athletes' psychological needs. These results also provide evidence that coaches from individual sports are capable of frustrating athletes' psychological needs, despite being considered to be more needs supportive, in comparison to team coaches (Delrue et al., 2019). Overall, these results add to the growing list of studies demonstrating the mediating role of psychological needs frustration between controlling coaching and undesirable outcomes (Bartholomew et al., 2018; Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011; Matosic, Ntoumanis, Boardley, et al., 2016).

Further, this research adds a potential alternative pathway to the development of fear of failure. Previous research suggests that fear of failure is developed via a process of internalisation, whereby children internalise how they were treated by important others following success/failure, and treat themselves in a similar manner as a result (see Conroy, 2017). However, based on current results, fear of failure could also be developed via the frustration of psychological needs, as a result of being exposed to controlling coaching

behaviours. For instance, athletes might experience shame for not being able to successfully interact with their immediate environment (competence frustration). Further, these athletes might participate purely for extrinsic reasons, such as in hopes to avoid mistakes (autonomy frustration) and out of worry that their coach will be upset if they fail to behave in a specific manner (relatedness frustration). However, this assertion requires further research, conducted in a manner that allows researchers to imply causality. Specifically, research would need to be conducted over an extended period, in which scenarios of failure and success are introduced as well.

Nonetheless, in 2007, Conroy and colleagues conducted longitudinal research and examined whether changes in self-talk or changes in psychological needs satisfaction would serve as mechanisms for change in fear of failure scores. Based on the results, the authors concluded that the model examining self-talk was substantially stronger than the model examining psychological needs satisfaction. However, it should be noted that measures of psychological needs frustration were non-existent until 2011 (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011), and the absence of psychological needs satisfaction is different from the frustration of psychological needs. Thus, it would be of interest to compare whether changes in self-talk, or whether changes in psychological needs frustration are more reliable in predicting changes in fear of failure.

Results from the current study also provide support for future intervention research. Understanding potential antecedents are crucial when trying to develop interventions to help those with fear of failure. Previous (successful) intervention research focused on reducing athletes' fear of failure by addressing their achievement goals, grounded in Elliot and McGregor's (2001) 2x2 achievement goal framework (Wikman et al., 2014). Specifically, elite youth athletes were taught how to set mastery-approach goals, placing one's focus on task-mastery as opposed to the competition result, thereby removing the consequences of failure. A significant reduction in fear of failure was found in the experimental group in comparison to the control group, however, a twelve-week follow-up showed increases in fear of failure, whereby scores increased to levels between baseline and intervention endpoint. Thus, in line with recommendations from Taylor et al., (2021), it might be more fruitful to incorporate coaches when attempting to reduce athletes' fear of failure.

One approach to help reduce athletes' fear of failure could be by addressing a coach's behaviours. Research focusing on coach education workshops from a BPNT perspective has

provided some promising results in modifying coach behaviours (Cheon et al., 2015; Reynders et al., 2019). For instance, over the span of 12 weeks, four workshops on need-supportive coaching were held. Results suggest that coaches from the experimental group and their respective athletes reported an increase in autonomy-supportive coaching behaviours, in comparison to coaches in the control group. Further, coaches in the experimental group also reported a significant decrease in controlling coach behaviours. Thus, it might be of interest to consider similar research with athletes presenting with high levels of fear of failure.

Within BPNT, more autonomy-supportive behaviours are seen as a more viable coaching alternative to controlling coaching, as autonomy-supportive coaching has been linked with the satisfaction of psychological needs, along with a wide range of desirable student/athlete outcomes, such as positive affect and healthier motivation (Amorose & Anderson-Butcher, 2007; Balaguer et al., 2012). However, it should be noted that only one study exists to date linking autonomy-supportive coaching with low levels of fear of failure (Moreno-Murcia et al., 2019), but this study did not include a measure of one's psychological needs satisfaction. Thus, before engaging in intervention research, it would be useful to conduct research examining autonomy-supportive coaching, needs satisfaction, and fear of failure more in-depth, to ensure that this type of coaching not only satisfies their psychological needs but also is associated with lower levels of fear of failure.

It is important to note, however, that autonomy-supportive and controlling coaching are not considered to fall on opposite ends of a spectrum, but rather that they represent different coaching behaviours altogether (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011; Carroll & Allen, 2021; Haerens et al., 2018; Vansteenkiste & Ryan, 2013). Thus, coaches might make use of a mixture of controlling and autonomy-supportive coaching behaviours, rather than adopt a single strategy. Indeed, recent evidence supports a circumplex model, which consists of a variety of different coaching behaviours, with autonomy-supportive, and controlling making up two out of a potential four groups [autonomy-support, structure, control, chaos (Aelterman et al., 2019; Delrue et al., 2019)]. Thus, it might also be fruitful to consider research where all types of coaching behaviours are considered and their relation to athletes' fear of failure, in hopes of gathering a more complete picture.

To my knowledge, this is the first study to examine fear of failure within coaches. The overall mean score for coaches' fear of failure was lower in comparison to the athletes' fear of failure. However, when dividing them based on gender, a different picture emerged. While

male coaches reported experiencing fear of failure approximately 30% of the time, female coaches reported experiencing fear of failure approximately 63.75% of the time. It should be noted, however, that a total of 34 male coaches participated in this study, whereas only four female coaches participated in this study. Nonetheless, the differences in scores could be reflective of the realities that female coaches face. Overall, the vast majority of head coach/assistant coach positions in collegiate sports are occupied by men (Norman, 2012), and when women are given the opportunity to coach, they are oftentimes held to a different—more strict—standard than their male counterparts (Burton, LaVoi, 2019). As such, females in coaching positions might have higher levels of fear of failure than their male counterparts. To date, no research has examined gender differences in coach fear of failure, thus, further investigation is warranted, in particular with a more balanced number of female and male coaches to help us better understand these results.

Coach fear of failure did not significantly predict controlling coaching behaviours. Nonetheless, there is reason to believe that coach fear of failure is an area worthy of investigation. Coaches are subjected to a variety of regular stressors [e.g., not wanting to let athletes down, pressures from governing bodies, at risk of losing their jobs if their teams fail to perform (Bentzen et al., 2020; Olusoga et al., 2009)], many of which are at risk of coming to fruition as a result of failure. Thus, although no research has explicitly examined fear of failure within coaches, these results offer some insights and indeed align with Conroy and colleagues (2002) conceptualisation of aversive consequences associated with failure.

Nonetheless, it might be of interest to interview coaches and gather insight into their perceived aversive consequences of failure and compare them with aversive consequences mentioned by performers who were interviewed in a previous study (Conroy et al., 2001). In doing so, it would provide researchers with an opportunity to examine whether coaches a) share fears similar to those of athletes concerning failure or b) experience different fears surrounding failure. Most importantly, it would provide researchers with an opportunity to examine whether the PFAI/PFAI-S (Conroy et al., 2002) is a suitable measure for coaches. However, considering that different groups of performers (athletes and performing artists) described similar aversive consequences following failure in Conroy and colleagues (2001) study, and coaches are also performers (Gould et al., 2002), it would reasonable to assume that the perceived consequences of failure described by coaches could align with those described earlier (Conroy et al., 2001). Nonetheless, it would be presumptuous to make any

conclusive assumptions about coach fear of failure at this point, and more research is needed to further our understanding in this area.

Preliminary analyses also found that gender differences existed in athletes fear of failure, in that females reported higher level of fear of failure in comparison to their male counterparts. These results align with results from chapter three and results from Elbe and Wenhold (2005). Multiple research papers using the 25-item PFAI (Conroy et al., 2002) have suggested that gender differences are more complex. However, there appears to be a shared commonality amongst them—females showcase higher levels of fear of devaluing one's self-estimate (fears of having to lower one's view about their personal ability following failure) than their male counterparts (see Taylor et al., 2021, for a review). Drawing upon research conducted within gender and motivation, results suggest that males typically view themselves as more competent than females (see Meece et al., 2006, for a review), which might explain why females could have higher levels of fear of having to reduce their views about personal ability following failure. Nonetheless, this is an area that requires further research attention.

### *4.4.1 Limitations*

Each study contains limitations, and this one is no exception. Firstly, this research was cross-sectional—causation cannot be implied based on these results. The purpose of this study was to provide researchers with an understanding of the relationship between the different variables. To better understand the causal directions between variables, experimental research is necessary. Another limitation is the use of higher-order factor scores for fear of failure, controlling coaching, and needs frustration. Each of these frameworks contains lower-order factors, which might have offered further insight. By limiting myself to the higher-order factors, specific interactions between subdimensions of the different variables might have been missed. Future research would do well to examine the relationship between these variables using the lower-order factors.

A further limitation relates to not including the different types of sport as potential covariates. Although each sport in this study is an individual sport, they still differ in some noticeable ways. For instance, a tournament round of golf can take upwards of five hours, and coaches are allowed to be by their players side throughout this whole time (though not in junior events). A swim meet, on the other hand, is significantly shorter in time and the coach does not stand by the pool talking to the swimmer throughout this time. As such, a golf coach might be able to have a larger impact on their athlete's psychological needs/fear of failure

during a competition, in comparison to the impact a swim coach might have on their athlete's. By not including sport types of covariates, further insight might have been missed.

Additionally, it should be noted that subtle differences exist between psychological needs frustration and psychological needs thwarting (see Vansteenkiste et al., 2020). Within this study, I used the psychological needs thwarting scale (Bartholomew et al., 2011) when it might have been more appropriate to use a psychological needs frustrating scale (Delrue et al., 2019). This can be considered a further limitation of this study.

Finally, only a subjective measure of controlling coaching was used for this study. This creates the potential for shared method variance (De Meyer et al., 2014). Individuals with fear of failure are sensitive to the threat of rejection (Conroy, 2003), and have relationships rooted in insecurity (Elliot & Reis, 2003), thus their interpretation of controlling coaching might be biased. Researching with a group of athletes' low in fear of failure and with a group high in fear of failure would allow for a comparison to see whether those with fear of failure are more likely to interpret coach behaviours as controlling. In addition, objective measures of controlling coaching could be introduced to compare and contrast perceptions of controlling coaching from an independent reviewer, alongside results from those low/high in fear of failure.

### 4.5 Conclusions and Statement of Problem

Based on findings from this study, my discussion points, and the overall research design of my thesis, I shifted my focus for the final study. First, in line with my sequential-explanatory research design (Ivankova et al., 2006), I conducted interviews for the next study, in hopes of providing myself with an opportunity to better understand how coaches can impact athletes' fear of failure. This also provides athletes with an opportunity to speak freely, without being restricted to responding to survey questions. Further, by using a qualitative approach for my final study, I might gain some insight into potential causal relationships between coach behaviours and athletes' fear of failure, something that has been absent in my previous chapters (Danermark et al., 2001).

Additionally, recent research suggests that coaches adopt a variety of different behaviours, rather than one type (e.g., controlling/autonomy-supportive). Thus, I decided to use the circumplex model (Aelterman et al., 2019) as guidance for my next study. This is in line with a critical realist approach, which suggests relating data to existing theories, in hopes of providing support, modifications, or rejections of current theories (Wiltshire & Ronkainen,

2021). In using the circumplex model, some behaviours are considered more needs-supportive in comparison to others (Delrue et al., 2019; Reynders et al., 2020), and this would allow me to examine how coach behaviours might impact athletes' fear of failure in a variety of different manners (positive/negative/neither/both). In doing so, I hoped to gather a more complete understanding of the impact coaches have on athletes' fear of failure.

# Chapter 5: Examining the Coach Impact on Athletes' Fear of Failure: A Qualitative Investigation into the Athlete Perspective

Based on findings from chapter four, and in line with the overall research design of my thesis, the purpose of chapter five was to examine the impact of coach behaviours on athletes' fear of failure using a qualitative approach. The chapter is comprised of an introduction section, in which the different theories and frameworks used for this study are discussed (i.e. fear of failure; Self-Determination Theory). This is followed by a section on the current study, wherin I discuss the aims, objectives, and methodology. Next, the methods are discussed. Specifically, I provide readers with information regarding my athlete sample, the procedure for conducting interviews, my approach to analysing the data, followed by steps taken to ensure trustworthiness of the data and data saturation. This is followed by a section on the findings and ends with a discussion and conclusion.

## 5.1 Introduction

### *5.1.1 Introduction of Fear of Failure*

Fear of failure, or the avoidance motive, presents itself as a dispositional tendency to appraise threat in evaluative situations, in which failure is a possibility (Conroy, 2003; Conroy et al., 2001). It is suggested that fear of failure impacts individuals across a range of evaluative situations [e.g., school, work, sport (Sagar et al., 2011)]. Fear of failure has been associated with a wide range of problematic outcomes, such as increased levels of stress (Gould et al., 1983), with the potential for burnout (Gustafsson, Sagar, et al., 2017), and drop-out (Sagar et al., 2007). Additionally, those with fear of failure are at an increased risk of setting avoidance achievement goals (Conroy & Elliot, 2004), which have been associated with lower levels of intrinsic motivation (Elliot & Harackiewicz, 1996) and decreased levels of well-being (Elliot et al., 1997).

Fear of failure is suggested to be developed during the early stages of childhood—between the ages of 5-9 years , and that parents play a key role in the development of the avoidance motive (McClelland, 1958; McClelland et al., 1953; Sagar & Lavallee, 2010). However, research further indicates that other important interpersonal relationships can also contribute to increased levels of fear of failure within individuals—such as with coaches and teachers (Conroy, 2003). Based on current results, it appears that the development of fear of failure occurs via a process of internalisation (see Conroy, 2017)—children become conditioned to treat themselves similarly to how important others treated them following

success and/or failure. For instance, research suggests that coaches who engage in blaming behaviours can increase levels of fear of failure within athletes (Conroy & Coatsworth, 2007). Specifically, Conroy and colleagues examined the mechanisms which led to increased levels of fear of failure over a span of 7 weeks and found that blaming behaviours by coaches led to an increase in self-blaming behaviours, which subsequently increased athletes' fear of failure. Although existing evidence has offered support that fear of failure is developed via a process of internalisation (see Conroy, 2017), contemporary research is offering support for a potential, alternative pathway.

### *5.1.2 Fear of Failure and Self-Determination Theory*

Based on existing research (Bartholomew et al., 2018), results from my scoping review (chapter two), and chapter four findings, it appears that coaches may also increase levels of fear of failure within athletes by actively frustrating their psychological needs. Basic psychological needs theory, a sub-theory of Self-Determination Theory (SDT: Ryan and Deci, 2000), posits that individuals possess three psychological needs (need for autonomy, need for competence, need for relatedness) which can be affected by the individuals' social-contextual environment (Bhavsar et al., 2020) (e.g., coaches' behaviours). The need for autonomy refers to an individual feeling responsible for their behaviour. The need for competence refers to the individual's need to feel effective whilst engaging in a task, whereas the need for relatedness refers to an individual's feeling connected with and supported by important others within their social network (Ryan & Deci, 2000). Having one's psychological needs met has been associated with a wide range of positive outcomes, such as autonomous motivation (Ryan & Deci, 2000) and increased levels of well-being (Balaguer et al., 2012). On the other hand, having one's needs actively frustrated has been associated with higher levels of ill-being (Balaguer et al., 2012), and fear of failure (Bartholomew et al., 2018).

Basic Psychological Needs Theory also differentiates between optimal (autonomy-supportive), and sub-optimal (controlling) coaching behaviours (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011; Mageau & Vallerand, 2003; Van den Berghe et al., 2013). Autonomy-supportive coaching has been associated with the satisfaction of psychological needs and self-determined motivation (Amorose & Anderson-Butcher, 2007) and lower levels of fear of failure (Moreno-Murcia et al., 2019), whereas controlling coaching has been associated with frustration of one's psychological needs and maladaptive

functioning (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011), and increased levels in fear of failure (Moreno-Murcia et al., 2019). Results from my second study (chapter four) and other existing research suggest that the increase in athletes' fear of failure does not simply occur as a result of controlling coaching, but rather that it is dependent upon the frustration of athletes' psychological needs (Bartholomew et al., 2018). To date, however, no research has examined the mediating role of psychological needs satisfaction on autonomy-supportive coaching and athletes' fear of failure. Regardless, it should be noted, these two types of coaching styles are not considered to fall on opposite ends of a continuum, but rather that they represent different coaching styles (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011).

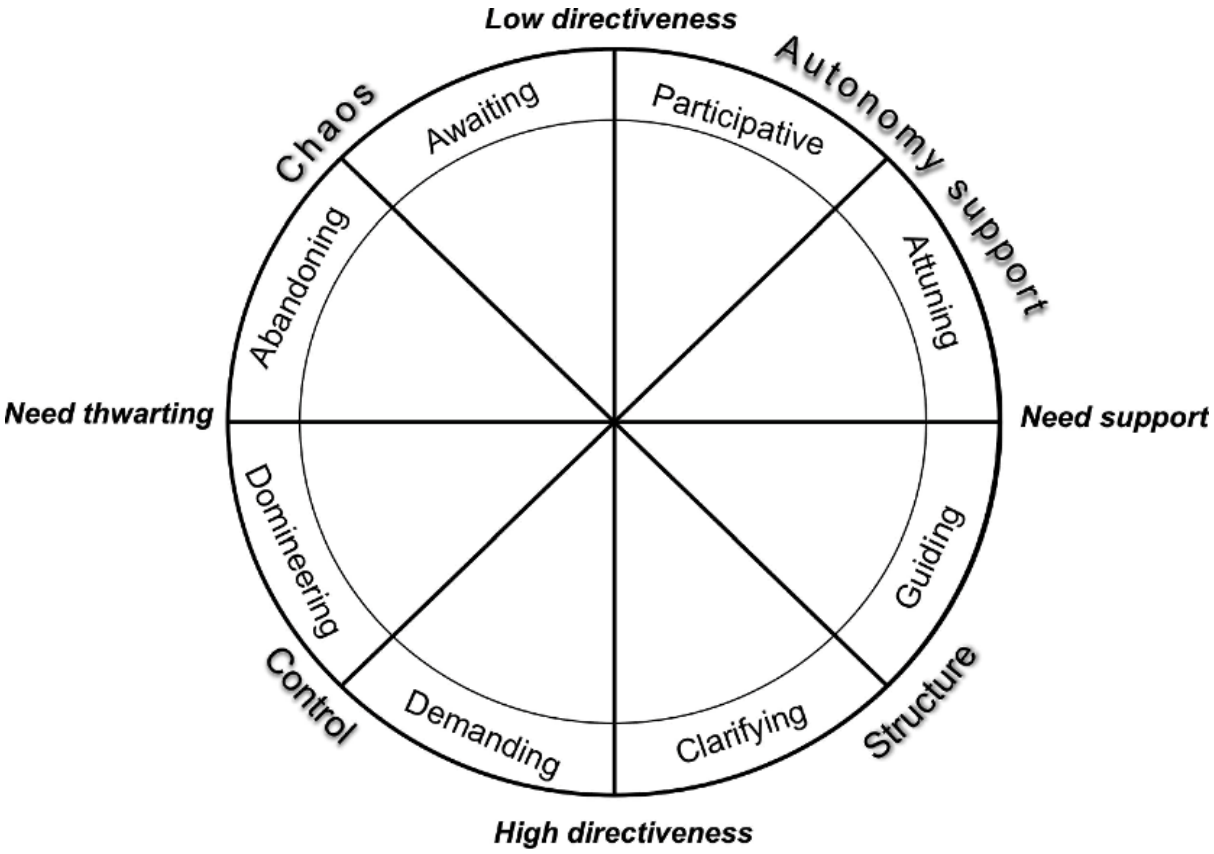
More recent evidence supports a circumplex model, which contains variations in needs-supportive and needs-frustrating coaching approaches [Figure 11. (Aelterman et al., 2019)]. Within this circumplex model, there are two axes. The horizontal axis refers to the impact coaching behaviours have on individuals' psychological needs—the left side of the axis refers to needs thwarting and the right side to needs support. The vertical axis refers to coach directiveness, wherein the top of the axis refers to low directiveness and the bottom of the axis refers to high directiveness. This creates a total of four broad coaching styles: low directiveness and needs support refer to autonomy support; high directiveness and needs support refer to structure; high directiveness and needs thwarting refer to control; low directiveness and needs thwarting refer to chaos. Each specific coaching style contains two additional coaching approaches that align with the adopted coaching style, resulting in a total of eight specific coaching behaviours which gradually move along the two axes [i.e. participative, attuning, guiding, clarifying, domineering, demanding, abandoning, awaiting (Figure 11.)].

In line with recent evidence, it appears that coaches will make use of a combination of different coaching approaches, rather than adopting a single strategy (Reynders et al., 2020) and that these approaches can fluctuate depending on a variety of different factors, for instance, team vs individual sports (Delrue et al., 2019). These different coaching approaches also vary in their associations with psychological needs satisfaction/dissatisfaction and frustration (Reynders et al., 2020). Specifically, research suggests that autonomy-supportive and structured coaching are positively associated with needs-satisfaction, whereas controlling coaching shares a nonsignificant association with needs-satisfaction (Delrue et al., 2019).

Chaotic coaching, however, is the only coaching style that is negatively associated with needs-satisfaction. Further, the relationship between autonomy-supportive coaching and needs-frustration is non-significant, whereas structured coaching is negatively associated with needs-frustration. Both controlling and chaotic coaching are positively associated with needs-frustration (Delrue et al., 2019). However, it is unclear how a combination/variation of these styles might impact athletes with fear of failure.

**Figure 11**.

*Circumplex Model of Coaching Behaviours (taken from Aeltermann et al. 2019)*




### *5.1.3 Current Study*

The aims of this study were to gain further insight into athletes' fear of failure, by investigating athletes and their perceptions of how their coach impacts their psychological needs and fear of failure. Although research has shown that autonomy-supportive coaching is associated with lower levels of fear of failure (Moreno-Murcia et al., 2019), and controlling

coaching is associated with higher levels of fear of failure (Bartholomew et al., 2018), some questions remain unanswered. For instance, it is unclear how different coach behaviours from the circumplex model might impact athletes' psychological needs and their fear of failure. Further, fear of failure is a motive, which is activated in achievement-related situations (Conroy & Elliot, 2004) and, as such, it is unclear whether these different coach behaviours might impact athletes with fear of failure differently in different contexts (e.g., during training, during competition, following failure). In order to investigate these questions, a qualitative approach was taken, as this would provide athletes with the flexibility of sharing their thoughts, without being confined to scaled-based responses.

## 5.2 Methodology

To examine the data, I followed the structure and recommendations made by Wiltshire and Ronkainen (2021) and Fletcher (2017). Specifically, both recommend undertaking thematic analyses in line with Bhaskar's stratified ontology (Bhaskar, 1978, 2008), as this would provide me with the opportunity to adhere to critical realism perspectives. To reiterate, stratified ontology divides reality into three separate domains: the empirical domain, the actual domain, and the real domain. Objects and events can be measured empirically by the researcher within the empirical domain, however, these events are also mediated via human interpretation and experience (Danermark et al., 2001). Whereas in the actual domain, human interpretation and experience have no influence over the events, things and events occur regardless of whether or not we experience them. Within the real domain is where causal structures exist, and these structures can produce events, which are observable within the empirical domain.

The usage of metaphors can be a helpful tool in explaining the application of Bhaskar's stratified ontology (Bhaskar, 1978, 2008). One helpful metaphor is the flower metaphor (Wiltshire & Ronkainen, 2021). Here, one is asked to imagine looking down at a flower from above. The visible petals represent the empirical domain, while the stem represents the actual domain. Although the stem is not directly visible from above, its existence can nonetheless be inferred. Finally, the soil and nutrients represent the real domain. The soil is beyond our visual reach. Thus, to understand the soil, one needs to understand the impact it has on the flower and as a result, create a theory about it. References

to these separate domains are made throughout my data analyses. Finally, the consolidated criteria for reporting qualitative research (COREQ) checklist was employed to ensure that I followed best practices in conducting and reporting qualitative research (Tong et al., 2007).

## 5.3 Method

### *5.3.1 Participants*

Participants invited were individuals who had participated in a previous study (chapter four). To be eligible for the current study, athletes fear of failure score needed to meet the threshold of experiencing fear of failure 60% of the time. Invitations were sent out to a total of 43 eligible participants, from which nine (a response rate of 21%) agreed to participate. Six out of nine participants were from the United Kingdom, while three were from Germany. Their fear of failure scores ranged from experiencing fear of failure 60% of the time to 80% of the time ($M$ = 67.5%, $SD$ = 0.65%). At the time of the interview, athletes ranged in ages from 18 – 25 years ($M$ = 20.4, $SD$ = 2.5). Of the nine participants, four identified as female, whereas five identified as male. Six reported experiences of having competed at international events, and three reported having competed at national events only. Five athletes were golfers, three were swimmers, and one was a cyclist. The average amount of time participants reported practising their sport was 15.7 hours each week [Range 7 – 22 hours (2 participants did not report their time in hours)], and participants reported having spent an average of 3.4 years working with their coach [Range 1.5 years to 7 years (1 participant did not report their time in years/months)].

### *5.3.2 Procedure*

Ethical approval was sought and granted by the Stirling University General Research Ethics committee (see Appendix I). Athletes' contact information was obtained through the previous study, in which athletes shared their contact information and agreed to be contacted for future research. Eligible athletes (meeting the required fear of failure threshold) were emailed and invited to participate in a follow-up interview via Skype. The invitation letter (see Appendix J) provided athletes with information relating to the nature of the follow-up interview, and reassured athletes of the voluntary nature of the study, in addition to information relating to anonymity and confidentiality. Before the interview, athletes were required to sign and return the consent form. Once the consent form had been received, a one-off interview date was scheduled, and each participant was sent an invitation link to the Skype meeting. Each athlete was interviewed separately via Skype. Each interview was

digitally audio recorded for transcription purposes. Interviews ranged from 29 – 67 minutes ($M$ = 41.31 minutes, $SD$ =11.59 minutes).

### *5.3.3 Pilot Interviews*

Two pilot interviews were conducted, one with an elite tennis player (31 year old male) and one with an elite golfer (28 year old male) before the main study interviews to test, and make potential adjustments to the interview guide. The purpose of these interviews was to examine the structure of the questions, their comprehension among interviewees and to make any necessary amendments. Following the pilot interviews and feedback from an expert qualitative researcher, adjustments were made to simplify the wording used throughout the interview guide, in hopes that participants would be better placed to understand the questions, but also to respond in a manner more relevant to my study focus. The final guide was used with the nine participating athletes (Appendix K).

### *5.3.4 Interview Structure*

Using Skype, each interview was conducted in a semi-structured manner, as this would allow for athletes to share their personal experiences in a free and open manner while ensuring all topic areas were covered (Arksey & Knight, 1999). A theory-driven approach was used when creating the interview guide, specifically, the multidimensional conceptualisation of fear of failure (Conroy et al., 2002) and self-determination theory (Ryan & Deci, 2000) were used as a guide in creating a study topic guide (Appendix L). I used theories aligned with critical realism as the foundation for my interview guide. This provided me with an opportunity to examine participant data and to see if their responses provided support for the theories in question, or whether the participant data suggested that current theories should instead be modified or rejected (Bhaskar, 1978, 2008). The topic interview guide contained key questions relevant to the study. In addition, it contained probes to offer more in-depth responses. Although the interview guide was followed when asking athletes questions, it was possible that the structure might vary among participants depending on their responses.

The interview topic guide (Appendix K) was split into five separate sections, including the pre-questions and the debrief. The purpose of the pre-questions was to build rapport and gather demographical information from the participant. I started each interview gathering general information relating to the athlete's sport (i.e. "what sport do you play?"; "How did you get into your sport"?; "On average, how much time do you invest into your

sport each week?"; "What are your aspirations within your sport"?). This would not only provide the interviewee with an easy start to the interview but would also build further rapport and trust between the interviewer and the interviewee.

From there I asked questions relating to the athlete's performance evaluation, the coach's performance evaluation, and the time spent with their coach. Potential questions included "When do you evaluate your performance"?; "When does your coach evaluate your performance"?; "How long have you been working with your coach"?

Following this, I asked questions relating to the athlete's perception of failure. Specifically, it was of interest to uncover the athlete's relationship with failure, and which consequences of failure the athlete was fearful of. In addition, it was of interest to examine the coach's impact on the athlete's perception of failure. Examples of questions included were "What do you consider failure"?; "What does failure mean to you"?; "When does your coach consider you to have failed"? and "What do you think failing means to your coach"? Probe questions were available in case the interviewer wanted to gather more detailed information from the interviewee.

Finally, I asked questions relating to the athlete's relationship with their coach, and the impact of coach behaviours on the athlete's psychological needs and their fear of failure. It was also of interest to examine whether the coach changed their behaviours in the lead-up to tournaments or other events. Examples of questions include "What is your relationship like with your coach"?; "Does your coach change their behaviours in the lead up to tournaments or other events"?; "In your opinion, does your coach have an impact on the way you feel about failure or its consequences"?; "How does your coach respond to your failures"? Potential probe questions were available to gather more detailed information from the interviewee.

Towards the end of the interview, I thanked the individual for their time and responses and asked whether they had anything they would like to add to their responses.

### *5.3.5 Data Analysis*

All interviews were transcribed using Temi (Temi, 2021), an automated online transcription service. To ensure transcription accuracy, I compared the automated transcription to the original Skype interview and made edits where necessary. To explain the impact of coach behaviours on athletes' fear of failure, I used Bhaskar's (1978, 2008) three layers of reality recommended by Wiltshire and Ronkainen (2021). Using the flower

metaphor mentioned above, experiential themes relate to the flower petals (empirical domain), which can be observed directly by the researcher. Specifically, experiential themes were created to describe participants' opinions, viewpoints, and experiences based on the data at hand. The process of developing experiential themes can be found in Table 9.

**Table 9.** *Creating Experiential Themes*

| Nascent experiential themes master list | Transcript 1 "This participant expresses that" | Transcript 2 "This participant expresses that" | Transcript N "This participant expresses that" |
|---|---|---|---|
| "Data show that [some/many/most] participants in this study [strongly]…" | Data-driven nascent empirical themes | Deductive check from transcript 1 | Deductive check from transcript 1 |
| | Deductive check from transcript 2 | Data-driven nascent empirical themes | Deductive check from transcript 2 |
| | Deductive check from transcript N | Deductive check from transcript N | Data-driven nascent empirical themes |

The master list contains all nascent experiential themes created by the separate participants, whereas each row represents a new theme. The columns to the right of the master list represent the separate participants. This was necessary to be able to create inferential themes (flower stem). While we are unable to see the stem, we can infer its existence based upon the petals. Inferential themes act as a conceptual redescription of experiential themes, using a more abstract language (Bhaskar, 1978, 2008; Wiltshire & Ronkainen, 2021). Finally, as a result of examining both the flower petal and its stem, one can create dispositional themes (flower soil). These are essentially theories that attempt to explain occurrences in the real world. An example of how these separate themes interact together can be seen in Table 10. Here, the opening statement to the left side of the table refers to the dispositional theme, followed by inferential themes, followed by experiential themes. The participant data is represented on the right side of the table under experiential themes.

**Table 10.** *Formulation of the Explanatory Statement for Athletes' Definition of Failure*

| In part because of the existence of…. | There is a tendency that… | This manifested in our study, which showed that… |
|---|---|---|
| Athletes innate psychological needs, which need to be satisfied for optimal human functioning (Ryan & Deci, 2000) | Athletes' inability to feel competent is likely to be perceived as failure | Some participants in this study considered failure to be the inability to complete an in-competition goal |
| | Athletes' inability to feel autonomous could be perceived as failure | most participants in this study considered failure to be the inability to meet an expected outcome |
| | Athlete's inability to feel a sense of relatedness could be perceived as failure | some participants in this study felt failure was not giving 100% |
| | | some participants in this study felt not being as good as others was considered failure |

Notes: The left column refers to dispositional themes, the middle column to inferential themes, whereas the right column refers to experiential themes using Bhaskar's (1978) three layers of reality.

### *5.3.6 Trustworthiness of Data*

Different measures were taken to ensure the trustworthiness of the data. Although a popular approach to ensuring trustworthiness of data previously included member-checking (i.e. sending participants the findings and asking for their response) and inter-rater reliability (Culver et al., 2012), these approaches are considered somewhat ineffective for ensuring trustworthiness of data and demonstration of rigour within qualitative research (Smith & McGannon, 2018). Reasons include, but are not limited to: personal inability to remain unbiased towards theories, philosophical differences, and contextual factors (e.g., hierarchies between researcher and participant leading to potential appeasement), that can influence researchers/participants, thereby making it impossible for everyone involved to remain objective whilst engaging in member-checking and inter-rater reliability practices. To

demonstrate trustworthiness of data and rigour (to the extent possible) I followed multiple recommendations by Ronkainen and Wiltshire (2021), which extend beyond some of the recommendations made by Smith and McGannon (2018). As mentioned above the COREQ checklist was being followed (Tong et al., 2007), however, modified versions of member-checking and inter-rater reliability are now being followed (Ronkainen & Wiltshire, 2021; Smith & McGannon, 2018), which align neatly with a critical realist framework, and which are described in the following paragraphs.

Steps to ensure trustworthiness of data include empirical adequacy [descriptive validity (e.g., recording the interview), and reducing limitations of data collection (e.g., using a screening questionnaire to provide further support that athletes have fear of failure)]. Further details include ontological plausibility [i.e., do participant accounts draw upon SDT and fear of failure; do SDT and fear of failure accommodate context; have the researchers engaged with potential alternative explanations for the data (e.g., critical friends)]. Finally, it is recommended that researchers consider the practical utility of the data to provide further rigour, validity and trustworthiness of data (i.e., are there practical take-away messages from the research, and is there evidence to suggest these practical take-away messages are effective?).

As mentioned above, I used screening questionnaires to ensure that athletes reported experiencing fear of failure regularly (i.e., a minimum of 60% of the time) prior to interviewing them. In addition, I recorded the interviews to ensure that I would not potentially miss any relevant information while taking notes throughout the interview. Standard member-checking procedures have been deemed ineffective for ensuring trustworthiness (Smith & McGannon, 2018), thus, I followed recommendations by Wiltshire and Ronkainen, (2021), which suggest that sending participants their experiential themes (personal opinions, thoughts and feelings written in layterms) can be a helpful method in ensuring participants responses have not been misinterpreted or misunderstood. All participants were sent their experiential themes and had the chance to comment. Only one participant provided me with feedback and confirmed that I did not misinterpret his responses. These steps provide some support for empirical adequacy.

Ontological plausibility refers to researchers not only making claims about observable events but also offering explanations as to why or why not those events/experiences might (or might not) be occurring (Ronkainen & Wiltshire, 2021). This idea originally stemmed from

Harre (2012), who suggested that the best way to make claims about the real world and help shape our empirical investigations is by "taking plausible theories to be putative descriptions of actual states of affairs" (p. 23). To provide support for ontological plausibility, I created themes using Bhaskar's (1978) stratified ontology. Further, engaging with critical friends allowed me to involve others (in this case my supervisors) as a theoretical sounding board while coding my data. Specifically, the role of critical friends is "to provide a theoretical sounding board to encourage reflection upon, and exploration of, multiple and alternative explanations and interpretations as these emerged in relation to the data and writing. (Smith & McGannon 2018, p.113). In other words, their purpose is not to agree or disagree with my interpretations as a means to create inter-rater reliability, but rather, to offer critical feedback. Finally, the results of my data were considered in practical terms, related to existing research, and future recommendations are offered.

### *5.3.7 Data Saturation*

Data saturation has received a significant amount of research attention to date. Many researchers use it as a gauge to determine at what point sufficient data has been collected for the current research project (Vasileiou et al., 2018). Data saturation is oftentimes referred to as information redundancy, whereby no new information is discovered from further data (Lincoln & Guba, 1985), and it has been considered the 'gold standard' whilst deciding on the sample size necessary for qualitative research (Guest et al., 2006). Although data saturation is an important topic that deserves to be properly discussed, there appears to be a general lack of transparency on how it is achieved within separate research studies (Francis et al., 2010; Malterud et al., 2016). More generally, there also appears to be a lack of consensus on rules of how to approach this subject matter in general (Braun & Clarke, 2021).

This lack of understanding relating to data saturation notwithstanding, reviewers from different outlets (e.g., journals, funding bodies) still expect to see this topic addressed (Braun & Clarke, 2021; O'Reilly & Parker, 2013). It is also mentioned as an item in the popular 32-item consolidated criteria for reporting qualitative research (COREQ) checklist (Tong et al., 2007). Thus, in hopes of appeasing potential reviewers, many will simply use it as a 'check-list item', (Morse, 2015), whereby it is claimed that data saturation was addressed. However, no information is provided on how it was addressed (Malterud et al., 2016; O'Reilly & Parker, 2013). This can be problematic, as it perpetuates the idea that data saturation is a

mere step (as opposed to a complex set of procedures) amongst many others in conducting sound qualitative research (Braun & Clarke, 2021).

Similar to sample size calculations in quantitative research, there are many factors that influence how many interviews are sufficient to achieve data saturation (e.g., types of analyses conducted, homogeneity of sample, research questions). Consequently, it can also be extremely challenging to make any definitive statements as to how many participants are sufficient in advance (Malterud et al., 2016; O'Reilly & Parker, 2013). In fact, the whole idea that data can be considered saturated when no new information arises has been considered a 'logical fallacy', for as long as new data is collected and analysed, the possibility for new insights exists (Low, 2019). As a result, Braun and Clarke (2021, p. 206) argue that "data saturation is not a universally useful or meaningful concept for all types of thematic analyses research". Thus, rather than trying to come up with an arbitrary number in advance, or engaging in data saturation rhetorically, they recommend that researchers consider the richness of their data throughout data collection and make an 'in-situ' decision whether or not enough data has been collected.

Although problems have been highlighted using data saturation as a tool (Braun & Clarke, 2021; Malterud et al., 2016) they nonetheless created a list of steps that researchers could follow that would allow readers to make an informed decision on whether or not the researchers have achieved data saturation, as this is highlighted as an important step in the COREQ checklist (Tong et al., 2007). Many of these recommended steps align with steps taken in my section on trustworthiness of the data. These steps include recommending that researchers share their ontological/epistemological assumptions throughout their research (Braun & Clarke, 2021; O'Reilly & Parker, 2013). This is important, as different ontological/epistemological assumptions carry different implications for the research being carried out.

Further, it has been recommended that the number of participants be considered less important, that researchers should instead focus on the richness of the data they provide (Braun & Clarke, 2021; Malterud et al., 2016; Morse, 2015). One of the main complaints made by researchers against data saturation is that it lacks an agreed-upon definition, and thus they recommend that richness of data could be more important. Ironically, from the studies cited within this chapter, only one study explains how richness can be achieved (Morse, 2015). Specifically, Morse (2015, p. 588) describes richness in the following manner:

> Indices of richness become evident as the researcher becomes more competent about the topic. I know when students have reached saturation—they stop talking about individual cases, and, when describing their study, speak in generalities.

Thus, to ensure (to the extent possible) my participant data contains 'rich' information, I invited back participants from the previous chapter, which investigated similar research questions from a quantitative perspective. Specifically, I examined participants' fear of failure scores and only invited those who rated experiencing fear of failure a minimum of 60% of the time. In doing so, I ensured that my participants all experienced fear of failure regularly and would thus be able to talk about these experiences. Further, I followed recommendations from Wiltshire and Ronkainen (2021) when describing participant data to ensure my data could be considered rich in line with the definition from Morse (2015). Specifically, when creating experiential themes I used terms such as 'some', 'many', or 'most' when describing the frequency of occurrence of a given theme (Wiltshire & Ronkainen, 2021). In doing so, I aimed to provide myself and readers with insights into the frequency of themes, in other words, richness of data (Morse, 2015)

By having a relatively homogenous group of participants, in combination with a narrow research aim, this can have a significant impact on the required sample size for data saturation (Guest et al., 2006; Malterud et al., 2016). Although requirements to be eligible to participate in this study were strict, it is still impossible to make definitive statements about data saturation ahead of data collection, as this concept depends heavily on the amount of information participants report (Malterud et al., 2016; O'Reilly & Parker, 2013). Thus, in line with Braun and Clarke (2021) recommendations, I examined the richness of the data throughout data collection and made an in-situ decision, when I believed that data saturation had been achieved.

Finally, to accomplish data saturation it is recommended that researchers are transparent about their processes within their research project (O'Reilly & Parker, 2013). In being transparent, readers are offered insights into how and why the researchers believed that data saturation was achieved. Of course, achieving the goal of saturation can be a challenging task, as many of the factors involved are beyond the researchers' control [e.g., participant attrition (Tuckett, 2004)]. Irrespective of the goal, O'Reilly and Parker (2013) argue that being transparent about problems and limitations encountered whilst trying to reach saturation does not nullify the results. Rather, it provides opportunities for more research to

be conducted to explore the same issue more fully (Morse, 1995). Thus, in order to be transparent, I followed the recommendations by Braun and Clarke (2021) and provided in-depth information on how themes were created. By following recommendations made by different authors [e.g., (Braun & Clarke, 2021; Malterud et al., 2016)] I believe I have taken steps necessary to ensure my data is rich, and achieve data saturation to an acceptable standard, beyond treating it as a simple check-list item.

## 5.4 Findings

Findings begin by defining failure from an athlete perspective and what failure means to them (e.g., perceived consequences of failure). A total of seven experiential themes (two dispositional themes) were created (Table 11). Subsequently, athlete interactions with their coaches' were discussed. Twenty-six experiential themes (seven dispositional themes) were created (Table 12).

**Table 11.** *Themes for Athlete Definition of Failure, and Perceived Consequences of Failure*

| | Experiential Themes | Inferential Themes | Dispositional Themes |
|---|---|---|---|
| Definition of failure | Unable to complete in-competition goal | Lack of competence | Psychological needs not met |
| | Unable to achieve desired outcome | Lack of autonomy | |
| | Not giving 100% | | |
| | Being worse than others | Lack of relatedness | |
| Consequences of failure | | | |
| | Reduced sense of self | Reduced self-estimate | Fear of failure |
| | Letting down others | Letting down important others | |
| | Repeating past mistakes | | |

### *5.4.1 "Just like not reaching the goal that I'd set for the point in time (S2)": Athlete Definition of Failure*

Participants in this study described failure as a subjective experience. Most athletes referred to failure as 'inability to achieve a desired outcome'. For instance, one participant described it in the following manner "If I had an expectation how I want to do during a round of golf and don't meet that expectation, that for me was when I say, 'Oh, I failed at that' (G1)." Some athletes in this study defined failure as being 'unable to complete an in-competition goal'. For instance, one athlete described it in the following manner "Well, it's different if I consider failure after a single shot, it's when I just, when I have a plan and during the plan, something goes wrong (G2)." Some participants defined failure as 'not giving 100%', for instance: "I think failure for me now is not trying my best or not putting a hundred percent into something (S1)." Finally, some participants felt that 'being worse than others' was considered a failure. For instance "…but in the moment when I was training failure to me was, uh, not being as good as everyone else (C1)."

### *5.4.2 "But I definitely have thoughts, maybe pre-round, of not wanting to let the team down (G3)": Perceived Consequences of Failure*

Participants experienced failure not just in the moment, but also in the aftermath. Many participants stated that failure would lead to a 'reduced sense of self'. For instance, one athlete described it in the following manner "Like, I'm, I'm not competitive at the minute. And that's not a nice feeling (G4)." Some participants worried that failure would lead to further failures. One athlete described it in the following way, "When I play bad the next time I go out I just think yeah I don't want to do it again….I stand there and think 'Oh don't do this again or do that again' (G5)." However, most participants in this study felt that a consequence of failure was 'letting others down'. One participant described it in the following manner:

> Um, so letting people down because obviously being in like a program, there's a lot of people working towards your performance, even though it's an individual sport… And like, I felt like I'd let, not just myself down, but like the team around me down (S2).

Some of the participants in this study described that their perceived consequences of failure varied depending on the types of events they competed it. For instance, some golfers described having fears of letting their coach down during team events, but not in individual

events. “And I always felt that, I was always kind of having the feeling of letting my team or my coach down. That was, yeah. That’s a different situation if you play single or team events (G1).” “Yeah also I don’t want to let my coach down, because we practice all the time and he also wants me to play good. I think that’s more so in team events because he is also in the team or the team captain (G5).”

### *5.4.3 Coach Impact on Athletes’ Fear of Failure*

Throughout the introduction to this chapter different coaching styles were outlined along with their potential impact on psychological needs and fear of failure. Responses from participants aligned neatly within the circumplex model of coach behaviours (Delrue et al., 2019; Reynders et al., 2020) and these coaching practices had a profound impact on participants’ experiences in training and competitive environments. Themes for the coach impact on athletes’ fear of failure can be found in Table 12.

**Table 12.** *Themes for Coach Influence on Athletes' Fear of Failure*

| Experiential Themes | Inferential Themes | Dispositional Themes |
|---|---|---|
| Transactional connection with coach | Relatedness frustration | Psychological needs frustration |
| Genuine connection with coach | Relatedness satisfaction | Psychological needs satisfaction |
| Freedom to choose tournament strategy | Autonomy satisfaction | Competence dissatisfaction |
| Involvement in creating training structure | Autonomy frustration | Excessive competence support |
| Absence of autonomy during training | Autonomy dissatisfaction | Athlete abandonment |
| Coach provided feelings of competence | Competence satisfaction | Coach demands |
| Lack of competence support | Competence dissatisfaction | Athlete guidance |
| Coach provided competence support, dependent on performance | Competence frustration | |
| Excessive competence support | Unrealistic competence support | |
| Lack of coach support following failure | Abandoning | |
| Verbal/nonverbal cues to demonstrate disappointment in athlete failure | Demanding | |
| Less attention following failure | Guiding | |
| Acceptance and support following failure | | |
| Continued support, irrespective of performance | | |
| Increased coach support following success | | |
| Too much support following success | | |

Notes: These themes align with Bhaskar's stratified ontology (1978, 2008)

***"He's very good at, um, keeping it as simple and as relaxed as possible (G4)": Needs Satisfaction Irrespective of Performance.*** Many athletes described their coach as being supportive, irrespective of performance. Most of these participants felt a genuine connection with their coach while also feeling in control of their decision-making. For instance,

> You know, we, we work towards the same goal… And, and he's someone, he's someone who I respect. Um, I think he definitely respects the, the work that I put in…And so there's a lot of back and forth. There's a lot of, you know, I think this is going to work. I like the feeling of this. I don't like the feeling of this (G4).

Most athletes also described that their coach provided them with feelings of competence.

> Yeah, normally he does so when we practice I could say now at the moment last winter was pretty good practice and he always said 'this season is gonna be good' and I feel he really means it that way. That's what I like (G5).

Most athletes who described their coach being supportive throughout training, also described their coach being supportive following failures "But while I feel like our coach would maybe be disappointed, but then quickly start thinking about why that happened and how he can improve it or how we can improve (G1)." As a result, many athletes experienced a reduction in their fear of failure.

> I think he sometimes he [coach] tries to make my failures I see as a big thing and he's able to make them a little less big and therefore uh the impact of them maybe is not quite as big as I make them myself. He's able to reduce the impact of them [consequences of failures] is probably the best way to put it (G4).

Being supportive towards athletes is generally perceived as desirable, however, there needs to be a balance to this support. As mentioned above, when done appropriately, this can be beneficial to athletes. That said, when too much support is received, this can become problematic. One athlete described their coach as being supportive on a consistent basis, but suggested that this can be seen as a 'double-edged sword', as it simultaneously increased and decreased her fear of failure.

> I think he makes me feel safer to fail, um, because he has no positive reaction obviously but, um, quite pleasant reaction. Um, like he doesn't get angry or like frustrated to my face, like to me. Um, but then at the same time, it just because of the

> way I'm wired, like the fact that he's so nice sometimes makes me feel worse about having failed. Um, because obviously like we have quite a close relationship and I value him as a person as well as for his job and I want to succeed so that he succeeds (S2).

Thus, the impact of a coach can be twofold. Rather than simply having a positive, or negative impact on athlete's fear of failure, it appears they can have multiple impacts on athlete's fear of failure simultaneously.

***"If you did not perform that well in a competition, he would perhaps not give you as much attention as someone who did compete well (S1)": Inconsistent Needs Influence Between Training and Competition.*** Unconditional support in training is generally perceived as desirable, but, when coaches make this support conditional upon athlete performance in competitions, this can become problematic for the athlete. Some participants in this study described their coach as being supportive during practice, but not following failure. In turn, this would have a negative impact on their fear of failure.

> …you know what we said before body language you see a lot that yeah especially when you play bad so... that he's also in a bad mood or and you feel it that it's not alright then you're also more because... when you play bad you feel it and you play even more bad, because you get more pressure or something because you feel that he's also in a bad mood or something (G5).

While the differences between unconditional and conditional support are relatively straightforward, more subtle scenarios exist in which the coach can cause problems for the athlete. For instance, there is also a possibility that the coach can provide a lack of support, or too much support towards the athlete. Some athletes described their coach as not providing enough, or being unrealistic when it comes to instilling feelings of competence in training. "He almost goes above and beyond. He's not very, realistic in some cases… he bigs people up so much that when they do fail, if they don't go those times, they don't make the team, then they're absolutely devastated (S1)." Additionally, these athletes described their coaches as being neglectful following poor performances. "I'd say the coach, if you didn't perform well, maybe you wouldn't hear from him. But if you did perform well, you would hear from him more (G3)." Regardless of how the coach behaves during training (supportive, unsupportive, somewhere in between the two), it appears that once a coach makes their

support conditional on performance during competitions, this can have a negative impact on athletes' fear of failure.

***"'You failed, very good, so what, move on', but then there was nothing then to back it up (S3)": Needs Frustration during Training, Followed by Needs Dissatisfaction in Competitions.*** Coaches who spend a significant amount of time with athletes appear to have the potential to have a desirable impact, an undesirable impact, or a combination of both on athletes' fear of failure. Interestingly, coaches also appear to have the potential to have no impact on an athletes' fear of failure. One athlete experienced feeling neglected throughout training. An example that exemplifies this feeling is a lack of social connection with his coach "You just have a question/answer thing, but nothing really flowing in between (S3)." Another factor was his coach not providing him with an opportunity for input on training structure. "Yeah, this (training structure) is what's happening. And that's it (S3)." Finally, this athlete also felt his coach failed to foster feelings of competence. "He was very open to what you wanted to do. I don't know how much he really cared in terms of what you wanted to do…(S3)." Although this athlete felt neglected throughout training, he described his coach as being superficial towards him following failure: "Very superficial. Yeah. So then it was left to me to interpret whether it's a good or a bad thing [failure]…You failed, very good, so what, move on, but then there was nothing then to back it up (S3)." Despite his coach behaving in a neglectful manner in training, it appears that not reacting to his performances prevented his coach from having an impact on his fear of failure. In line with results mentioned above, it appears that the coach's response to athlete's failure in competitions is more important than the coach's response to failures in training in relation to the impact on athlete's fear of failure.

***"'Dude, did you really just do that?!' (G2)": Consistent Needs Frustration in Training and Following Performances.*** The lines between the coach having a positive/negative/no impact on athletes' fear of failure are fine. Subtle differences in coach behaviours between training/competitive environments can be impactful for athletes' fear of failure. However, examples also existed of when the coach impact on athletes' fear of failure became more apparent. For instance, when a coach behaves in a neglectful manner irrespective of whether the athlete is in training, or in a competition, this can have a negative impact on athletes' fear of failure. One athlete described his coach being consistently neglective, which in turn, would lead to increases in his fear of failure. "Like during team

tournaments, um, if he just says, well, well, you didn't stick to the plan and you made a mistake there and that was why you played a bad score then I would really feel different and a lot worse (G2)."

In an effort to consolidate these themes, a separate table (Table 13) was created and structured around the impact different coach behaviours had on athletes' fear of failure, using the circumplex model as a reference (Delrue et al., 2019; Reynders et al., 2020).

**Table 13.** *Coach Impact on Athletes' fear of failure*

| Coach impact on psychological needs | **Needs satisfaction irrespective of performance** | | **Needs Satisfaction/Dissatisfaction During Training and Needs Frustration Following performances.** | **Needs Frustration in Training and Needs Dissatisfaction Following Performances** | **Needs Frustration irrespective of Performances.** |
|---|---|---|---|---|---|
| Coach impact on athlete FF | Positive impact on athletes' fear of failure | Positive and negative impact on athletes' fear of failure | Negative impact on athletes' fear of failure | No impact on athletes' fear of failure | Negative impact on athletes' fear of failure |
| | Needs supportive (participative) + needs supportive (guiding) following failure (G1) | Needs supportive (attuning) + needs supportive (guiding) following failure (S2) | Competence dissatisfaction + needs frustration (demanding) following failure (G3) | Needs frustration (demanding) + needs dissatisfaction (abandoning) following failure (S3) | Needs frustration (demanding)+ needs frustration (demanding) following failure (G2) |
| | Needs supportive (attuning) + needs supportive (guiding) following failure (G4, C1) | | Needs supportive (clarifying) + needs frustration (demanding) following failure (G5) | | |
| | | | Excessive competence support (demanding) + needs frustration (abandoning) after failure (S1) | | |

Notes: G1 = Golfer 1; S1= Swimmer 1; C1= Cyclist 1; words in brackets refer to Delrue et al., (2019) description of coaching behaviours in accordance with Self-Determination-Theory.

## 5.5 Discussion

The present study examined athletes' perceptions of failure, their fear of failure, and coach impact on athletes' fear of failure via a qualitative investigation. Athletes' definition of failure shared similarities different theories with one being Ryan and Deci's (2000) model of psychological needs for optimal functioning. Specifically, the need for competence (e.g., not achieving a certain in-competition/outcome goal), the need for autonomy (e.g., not giving 100%), and the need for relatedness (e.g., being worse than others) were mentioned throughout. These results align with previous research examining athletes perception of failure (Conroy et al., 2001), and demonstrate that failure is a subjective experience, which can be experienced irrespective of the outcome of a performance. However, existing research has also found that some athletes equate winning with success and losing with failure, (Sagar et al., 2007). It is worth noting that the athletes' definition of failure also shared similarities with Achievement Goal Theory (Dweck, 1986; Elliot & McGregor, 2001; Nicholls, 1984), which focuses on one's definition of competence. Nonetheless, to fully understand an athlete's perception of failure, it is important to understand an individual's definition of failure.

Participants in this study were also part of a separate study that examined the impact of controlling coach behaviours on athletes' psychological needs and their fear of failure (see chapter four) and indicated experiencing fear of failure at least 60% of the time. These athletes completed the 5-item PFAI-S (Conroy et al., 2002), thereby making it impossible to closely examine which specific consequences of failure athletes feared the most. However, based on responses gathered from interviews, results align with the multidimensional conceptualisation of fear of failure, which suggests that athletes perceived aversive consequences of failure to be related to both themselves and to important others [reduced self-estimate/letting important others down (Conroy et al., 2002)].

Additionally, participants also mentioned how once failure became a reality (e.g., after making a mistake), this could initiate a self-perpetuating cycle in which their fear of failure would increase as a result of failure, and thereby increasing their likelihood of further failure and vice versa. Although fear of failure is a disposition, which is activated in situations where failure is a possibility (Conroy et al., 2001), it appears that the strength of this disposition can fluctuate throughout competitions, when failure (e.g., mistakes) becomes

a reality. Thus, it is important for future research to consider the intra-individual variability of fear of failure and how it might fluctuate throughout competitions, based on performance.

As well, three of the participants were golfers who competed in a national golf league in Germany (Deutsche Golf Liga, n.d.). All reported that their worries around letting down others only occurred in team events as opposed to singles events. Golf is typically viewed as an individual sport, however, within the German national golf league, individuals compete in teams as a pathway to becoming national champions. As a result, a poor performance will not only impact the individual but also their teammates/coaches, as their chances to win as a team are thus reduced. These participants' responses provide further support that individuals specific fears surrounding failure can vary, depending on their immediate environment (Sagar & Jowett, 2010), and that those in teams may experience higher levels of interpersonal fears surrounding failure compared to those competing as individuals (Sagar & Jowett, 2012).

Results from the current study provide further support for the circumplex model of coach behaviours (Delrue et al., 2019). This model consists of different coach behaviours (i.e. participative, attuning, guiding, clarifying, domineering, demanding, abandoning, awaiting), which are said to impact athletes' psychological needs differently. For instance, coaches who negatively impacted athletes' fear of failure used differing approaches in competition following athlete failure (e.g., demanding, abandoning), however, both of these behaviours frustrated athlete's psychological needs. Using this model provides researchers with a more complete picture of coaching behaviours beyond mere control and autonomy-support, as coaches will typically adopt a combination of different approaches, as opposed to a single one (Reynders et al., 2020). As a result of this study, it would be useful for future research to examine this model from a quantitative perspective and test the strength of how different coach behaviours influence fear of failure, but also whether different coach behaviours can influence separate subdimensions of fear of failure.

This is the first study to examine the coaches' impact on athletes' fear of failure from a qualitative perspective. Results from this study suggest that the coaches' impact on athletes' fear of failure can vary, depending on how athletes perceive their coach to impact their psychological needs. It appears that a coach who consistently satisfies an athlete's psychological needs both in training and in competitions can positively impact athletes' fear of failure. In line with the circumplex model (Delrue et al., 2019), the athletes reported that their coaches all showcased a combination of autonomy-supportive behaviours in training,

followed by providing structure (competence-supporting) following athlete failure. Athletes with fear of failure are acutely sensitive to the threat of rejection (Conroy, 2003), thus, coaches who offer unconditional support and guidance in training and following failure, appear to be in a position whereby they can showcase to the athlete that failure is no longer met with aversive consequences and therefore be in a position to reduce athlete's fear of failure.

"Nonetheless, a coach also appears to be in a position to have both a positive and negative impact on athletes' fear of failure simultaneously. One participant described her coach as being able to satisfy her psychological needs, by offering unconditional support and guidance irrespective of her performance, resulting in her feeling safer to fail. However, this unconditional support also resulted in her worrying more about letting her coach down because of failure. This raises the possibility that an overly close relationship can be both beneficial and problematic for athletes with fear of failure. By feeling overly connected to her coach, the participant worried about the coach's future should she fail. In other words, the satisfaction of one's psychological needs—although beneficial in reducing some fear of failure—might not reduce each and every specific subcomponent of one's fear of failure. For instance, a needs supportive coach might be capable of reducing intrapersonal worries about failure (e.g., shame, uncertain future); however, they might not be able to reduce (or might even increase) one's interpersonal worries about failure (e.g., letting down the coach). This is a novel finding within the fear of failure literature, as research to date has primarily showcased that fear of failure increases within athletes which occur as a result of 'undesirable', as opposed to 'desirable', coaching behaviours (Conroy, 2003; Conroy & Coatsworth, 2007; Moreno-Murcia et al., 2019). Thus, further research is required to better understand how overly close interpersonal relationships can have potentially detrimental impacts on athletes' fear of failure.

Previous research has consistently shown that autonomy-supportive behaviours are related to psychological needs satisfaction (Bhavsar et al., 2020; Reynders et al., 2020; Standage et al., 2019). To my knowledge, however, no research exists that has considered the potential for one's psychological needs to be over-satisfied. By over-satisfying one's psychological needs (the need for relatedness in this case), it appears that potential problems can arise for the athlete with fear of failure. Whether the over-satisfaction of needs can be problematic for outcomes other than fear of failure remains to be seen. However, it should be

noted that results from a recent review found that no cross-over interactions exists wherein needs satisfaction is associated with undesirable outcomes, or processes (Standage et al., 2019). Nonetheless, results from this study offer valuable insights into the complexities that are involved when trying to understand coach-athlete interactions, thereby making this an avenue worthy of further investigation.

Further results from this study suggest that coaches who negatively impacted athletes' fear of failure shared commonalities amongst themselves. Regardless of whether coaches satisfied or dissatisfied athletes' psychological needs during training, by reacting in a controlling manner following competitive failure, athletes' needs were frustrated, and fear of failure increased. The same applied to those athletes who constantly experienced their needs to be frustrated, both in training and following failure in competition. By expressing disappointment (both verbal and nonverbal) towards athletes following their failures, coaches are un/intentionally showcasing that their approval is conditional upon success, and further engraining the message that failure is met with aversive consequences. While the outcome on athletes' fear of failure appeared to be the same regardless of whether psychological needs were dissatisfied/satisfied during training, or whether they were consistently frustrated, it is unclear as to whether the satisfaction or dissatisfaction of psychological needs in training might have had some desirable impacts on the athlete, which were not readily apparent in this study. There is also a possibility that the dis/satisfaction could have had a smaller impact on athletes' fear of failure, although that assumption is based upon speculation. Future research could provide further insights into this area.

### *5.5.1 Limitations*

Each study contains limitations, and the current one is no exception. Firstly, athletes within this study are all approximately 20 years old, and the majority of fear of failure research to date has focused on athletes within a similar age range. To my knowledge, no research has been conducted with adult athletes (i.e. above the age of 30). Although previous research has indicated that fear of failure scores tend to decrease slightly over time [as a result of becoming more familiarised with a task (Conroy et al., 2005; Conroy & Coatsworth, 2004)], at this point it is unclear what the cause might be. If this trend is consistent, then older athletes should present with lower levels of fear of failure overall, in comparison to younger athletes. Thus, it would be worthwhile to examine athlete responses from individuals over the age of 30, to gain some insight into whether experiences from participants within this study

are shared with a different age group. In addition, all participants competed at a high level. Even though coaches in different environments (e.g., grassroots) might behave similarly, it is unclear whether athletes who might have less ambitious goals (e.g., focusing more on the enjoyment aspect, as opposed to aiming to turn professional) might perceive and internalise these coach behaviours differently and therefore coaches may have different impacts on their fear of failure. Finally, it would be of interest to gather responses from the coaches, to gain insight into whether coach/athlete responses share similarities, or not, and explore coaches' intentions and build awareness of the potential impact they have on athletes.

## 5.6 Conclusions

Conducting interviews with elite athletes who experience fear of failure regularly provided me with an opportunity to get detailed insights into their frequent interactions with their coaches, and how this might impact them. As a result, I have developed a better understanding of how similar outcomes can be caused by different experiences (e.g., different coaching behaviours can lead to a similar impact on athletes' fear of failure). Additionally, I have also learned that similar experiences can lead to different outcomes (e.g., similar coaching behaviours can lead to a different impact on athletes' fear of failure). Further, the majority of research surrounding fear of failure is quantitative, and by conducting interviews with individuals who experience fear of failure frequently, I was able to gain insight into how their fear of failure manifests itself. Again, although athletes experienced similar fears following failure, the subjective experience varied between participants, therefore providing me with a more nuanced perspective on what fear of failure might look like and how it is affected by the coach. Overall, it appears that to fully understand the coach's impact on athlete's fear of failure, it is insufficient to examine only one type of coach behaviour [e.g., controlling coaching (Bartholomew et al., 2010)], as this offers an incomplete picture. Instead, a more holistic approach should to be taken [e.g., using the circumplex model (Delrue et al., 2019), in varying situations (e.g., in training and tournaments, following successes and failures). In doing so, researchers are offered insights, which are more representative of real-life situations.

# Chapter 6: General Summary, Discussion, and Conclusion

The purpose of chapter six was to collate, summarize, and discuss my research findings from the separate studies throughout my thesis. The final chapter of my thesis consists of a general summary in which I briefly describe my motivation for wanting to complete a PhD and the limitations of existing research. This is followed by a summary of my separate studies. Next, I provide readers with a general discussion of my overall findings, in which I discuss my separate studies taken together. Following this, I highlight some implications from my thesis, offer future research recommendations and recommendations for practitioners. Finally, my chapter ends with a section on limitations, a personal reflection, and a conclusion.

## 6.1 General Summary

### *6.1.1 Summary of Rationale and Aims*

Growing up as a golfer I have experienced ups and downs that come with playing at the highest level as an amateur. Although I will forever cherish the days of playing at the highest level, there were also some memorable downsides to this lifestyle. The most prominent one related to the constant worries about letting down others (parents, coaches) if I failed to perform to a certain standard. These worries followed me every time I stepped foot on the golf course, and I believe they had a negative impact on my performance and overall well-being. Such being the case, I embarked upon a journey of completing a PhD, with a keen interest in the topic of the psychology of sport. Whilst doing some online searching for PhD topics, I came across fear of failure, which seemingly fit my experiences as a golfer.

I quickly realised that research in this area is scant, particularly in relation to the role that coaches play in shaping athletes' fear of failure and their subsequent experiences. Based on my initial review of the literature I discovered that parents are considered the main contributor towards the development of fear of failure within their children. However, it also appears that coaches play a role in the development of fears of failing amongst athletes (Conroy, 2003, 2007). Further, athletes with fear of failure are at increased risk of setting avoidance goals (Chen, Wu, et al., 2009; Conroy, 2004; Conroy & Elliot, 2004; Elliot & Church, 1997; Elliot & McGregor, 2001; Nien & Duda, 2008), and coaches are said to be able to impact these achievement goals (Smith et al., 2009). As such, it was of interest to explore these relationships further, specifically, how coaches might impact athletes' fear of

failure, and whether coaches are able to impact achievement goals in athletes that have fear of failure.

Critical realism (Bhaskar, 1978, 2008) lends itself as a useful theoretical framework for my thesis, as I can tie my experiences as a golfer to existing theories. One of the reasons for this is that critical realists believe that the world is theory-laden but not theory-determined (Danermark et al., 2001). In essence, this means that some knowledge we obtain is closer to reality than other knowledge. Thus, my experiences as a golfer might align with existing theories or might not. However, to receive more clarity on my experiences, more research needed to be conducted, as very little research exists in this area. A further reason for using critical realism as a framework is that it allows for both quantitative data and qualitative data to be used in conjunction. This model is referred to as 'critical methodological pluralism'(Danermark et al., 2001), and goes against many researchers who do not believe that quantitative and qualitative research can be combined.

By using a combination of both approaches, specifically, implementing a sequential-explanatory mixed-methods research design (Ivankova et al., 2006), I could first test whether significant correlations existed between variables of interest, followed by interviews to better understand these relationships. The general purpose of using this approach was to a) provide more robust analyses (Greene et al., 1989), and b) to simultaneously provide me with more detailed results, as opposed to adopting either a quantitative or qualitative research design (Hanson et al., 2005; Ryba et al., 2020).

### *6.1.2 Summary of Studies*

My PhD consisted of a scoping review of the literature, followed by three separate but related studies. The purpose of conducting a scoping review (chapter 2) was to gather and examine all existing published research within sport, exercise, and physical activity, to ensure that I have an up-to-date understanding of all things pertaining to fear of failure within my domain of interest. A total of 6178 studies were initially identified, from which 48 met all the necessary criteria for inclusion in the scoping review. The studies were grouped into separate categories, in accordance with their respective study aims (i.e. measurement of fear of failure, antecedents of fear of failure, outcomes of fear of failure, and fear of failure and gender/sex differences). The categories created were in alignment with a previously conducted review in fear of failure (Conroy, 2001a). Although results have offered some valuable insights into the different categories, many unanswered questions remain. For my first study, I chose to

test the updated hierarchical model of achievement motivation (Elliot, 2006) and examine how coaches might be able to influence achievement goals in athletes with fear of failure.

The purpose of study 1 (chapter 3) was to examine variables, in addition to fear of failure, which are hypothesized to antecede athlete achievement goals (Elliot, 1999, 2006). Further, it was of interest to examine whether coaches might be able to have an impact on achievement goals for athletes with fear of failure. To test these hypotheses, I conducted a moderated mediational analysis (Preacher et al., 2007), in which fear of failure (Conroy et al., 2001) would mediate the relationship between avoidance temperament (Elliot & Thrash, 2002) and achievement goals (Elliot & McGregor, 2001), in addition to transformational leadership (Bass & Riggio, 2006) moderating the relationship between fear of failure and achievement goals. Results suggest that fear of failure fully mediated the relationship between avoidance temperament and both performance-approach, and performance-avoidance goals. Results further suggest fear of failure partially mediated the relationship between avoidance temperament and mastery-avoidance goals. All three moderated mediation analyses were nonsignificant.

These results suggest transformational leaders do not seem to be able to influence achievement goals for athletes with fear of failure. However, it is important to note that previous research has highlighted some noteworthy problems relating to the construct of transformational leadership (Arthur et al., 2017; van Knippenberg & Sitkin, 2013). As a result, it would be inappropriate to claim that coaches may not be/or may be capable of impacting achievement goals with failure-fearing individuals, based solely on results from my first study. Nonetheless, these results provide support for the importance of considering hypothetical antecedents when addressing athlete achievement goals. The possibility exists that it might be harder for coaches to be able to have any significant impact on achievement goals for athletes with both an avoidance temperament and fear of failure. However, this idea remains speculative currently. Based on these results, I decided to explore how coaches might be able to impact fear of failure within athletes.

The purpose of study 2 (chapter 4) was to examine how specific coach behaviours [i.e. controlling coach behaviours (Bartholomew et al., 2010; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011)] might impact athletes' fear of failure (Conroy et al., 2001, 2002) and whether this relationship occurs as a result of individual's psychological needs being frustrated (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011).

Further, it was of interest to examine whether coach fear of failure might play a role in controlling coach behaviours. As such, my second study tested a hierarchical mediation model (Bates et al., 2015; Tingley et al., 2014), in which athletes' psychological needs frustration mediated the relationship between controlling coach behaviours and athletes' fear of failure. Additionally, I examined whether coach fear of failure would act as a hypothetical antecedent to controlling coach behaviours.

Findings from my second study (chapter 4) suggest that athletes' psychological needs frustration mediated the relationship between athletes' fear of failure and perceived coach control. In other words, athletes' fear of failure increased because of their psychological needs being frustrated. These results offer support that coaches from individual sports also engage in controlling coaching, despite being considered more needs supportive (Delrue et al., 2019). Further, previous research has suggested fear of failure is developed via a process of internalisation, whereby individuals treat themselves in a similar fashion to how they were treated by important others (Conroy, 2003, 2017), and current results offer a potential alternative explanation for how fear of failure could be developed. Contrary to my hypothesis, coach fear of failure was not associated with controlling coach behaviours. However, coaches are subjected to frequent stressors (Bentzen et al., 2020; Olusoga et al., 2009), which align with aversive consequences mentioned by Conroy and colleagues (2002), and thus coach fear of failure is an area worthy of further attention. Based on these results, I decided to investigate athlete perception of coach behaviours and the impact different coach behaviours could have on athletes' fear of failure from a qualitative standpoint.

The aim of study 3 (chapter 5) was to explore findings from study 2 (chapter 4) more in-depth. Specifically, participants who reported experiencing fear of failure a minimum of 60% of the time in the previous study were invited to partake in study 3. Using a broader approach to examining coach behaviour [i.e. the circumplex model (Aelterman et al., 2019; Delrue et al., 2019)] the purpose of study 3 (chapter 5) was to provide the athletes with an opportunity to describe how coaches' treated them, how they responded to their failures, and how this impacted their fear of failure. The circumplex model is divided into a total of eight possible behaviours (i.e. participative, attuning, guiding, clarifying, domineering, demanding, abandoning, awaiting), which are considered to have a more (or less) desirable impact on athletes' psychological needs. In taking a broader approach to studying the coaches' impact

on athletes' fear of failure, I was able to gain a more holistic understanding of how coaches might impact athletes' fear of failure.

Results suggest that coaches employ more than one type of coaching behaviour, in line with previous research (Cooper & Allen, 2020; Haerens et al., 2018; Macdonald & Allen, 2019; Matosic & Cox, 2014; Reynders et al., 2020), and that the coaches' impact on athletes' fear of failure can range from negative, to positive, to having no impact at all. Specifically, coaches who were more needs supportive in training, and competition, were considered to have a more desirable impact on athletes' psychological needs, and their fear of failure. For a coach to have a negative impact on an athlete's fear of failure, it appears that their reaction to athlete failure in competition is crucial—coaches who frustrated athletes' psychological needs following failure increased fear of failure within athletes. This is in line with existing research which has examined how the climate created by coaches and parents can influence athlete performance anxiety (Smoll et al., 2007b). However, coaches who did not frustrate athlete's psychological needs following failure during competitions had no meaningful impact on their athlete's fear of failure. These results align with the broader literature on fear of failure, suggesting that undesirable responses to failure provide the foundational basis for the development of fear of failure (Conroy, 2001a; Sagar et al., 2007).

## 6.2 General Discussion

The purpose of conducting this research throughout my thesis was to better understand how coaches influence athletes' psychological needs, athletes' fear of failure and their achievement goals. Although some results from my quantitative studies were non-significant, I was able to answer my research questions. Firstly, based on findings from study one, it appears that coaches using transformational leadership behaviours might not be able to significantly impact achievement goals of athletes with fear of failure. In other words, transformational leadership does not act as a moderator between athletes' fear of failure and achievement goals. That being said, as has been discussed in a different location throughout my thesis (i.e. section 3.4) these non-significant findings could be related to the construct of transformational leadership itself. However, more importantly, based on the rest of the results in my thesis, and other published research, it appears that coaches are capable of significantly impacting athletes' fear of failure, via other types of behaviours, [e.g., behaviours from the circumplex model (Aelterman et al., 2019; Delrue et al., 2019)]. In other words, coach behaviours act as an antecedent to athletes' fear of failure.

As such, coaches who impact athletes' fear of failure might also be capable of impacting athlete achievement goals, albeit indirectly. Athletes with fear of failure perceive achievement-related situations as a potential threat to their relational security (Elliot & Reis, 2003), and are desperate to avoid appearing incompetent in these situations (McGregor & Elliot, 2005). This could partially explain why individuals with fear of failure tend to set avoidance achievement goals (Conroy & Elliot, 2004)—goals which are rooted in avoidance of negative outcomes (Elliot et al., 1997). Considering that evidence supports the notion that coaches can significantly impact athletes' achievement goals (Smith et al., 2009), the possibility exists that coaches who can reduce athletes' fear of failure, may, over time, be capable of indirectly impacting athletes' achievement goals.

A coach, who is capable of reducing athletes' fear of failure could help the athletes see that their relationship is no longer under perceived threat during achievement situations, which, in turn, could eventually allow the athlete to approach achievement-related situations without the goal of avoiding incompetence. Considering that fear of failure is a motive, which can takes years to develop (see Elliot et al., 2010, for a review), it is likely that it would take a significant amount of time for coaches to have an impact in this area. Nonetheless, this remains mere speculation at the current time and would require future research.

Further evidence from my thesis supports the notion that autonomy-supportive, and controlling coaching do not fall upon the same continuum, but rather, represent separate types of coaching behaviours, which is in line with existing research (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011; Carroll & Allen, 2021; Haerens et al., 2018; Vansteenkiste & Ryan, 2013). Based on results from my third study, athletes described their coaches as being capable of being controlling, and/or autonomy-supportive, or both. As such, it is also possible for multiple types of coaching behaviours to co-occur. As is evident in my third study, using the circumplex model for guidance (Aelterman et al., 2019; Delrue et al., 2019), these different types of coach behaviours can have varying impacts on athletes' psychological needs, and in turn their fear of failure. Previous research has focused exclusively on how coaches either a) satisfy one's psychological needs and reduce their fear of failure (Conroy & Coatsworth, 2007), or to frustrate one's psychological needs and increase their fear of failure (Bartholomew et al., 2018). This appears to provide an incomplete picture which should be addressed in future research.

Existing research has been advocating for autonomy-supportive coaching behaviours for decades, for good reason, as results consistently showcase significant associations with positive processes and outcomes [e.g., (Cheon et al., 2014; Coatsworth & Conroy, 2009b; Deci et al., 1981; Gagne, 2003; see Vansteenkiste et al., 2020, for a review)]. However, considering that more recent evidence suggests that multiple coaching behaviours can occur (Amoura et al., 2015; Cooper & Allen, 2020; Haerens et al., 2018; Macdonald & Allen, 2019; Matosic & Cox, 2014; Reynders et al., 2020), it would be overly simplistic to merely focus on autonomy supportive, or controlling coaching. Recent research has begun to examine how multiple coaching styles [e.g., high autonomy support in addition to high controlling (Amoura et al., 2015; Haerens et al., 2018; Matosic & Cox, 2014)] can impact individuals' psychological needs and their experiences. Although it was initially thought to be acceptable to be controlling in an autonomy supportive environment (Matosic & Cox, 2014), more contemporary research has suggested that this is not the case.

Specifically, Haerens and colleagues (2018) found that athletes who rated their coaches being both autonomy supportive, and controlling, experienced high levels of needs frustration and amotivation, in comparison to athletes who rated their coach as high in autonomy support, and low in control. Additionally, participants who rated their coach as high in autonomy support and high in controlling behaviours also reported lower levels of needs satisfaction and autonomous motivation, in comparison to participants who rated their coach high in autonomy support and low in controlling behaviours. As such, it was concluded that controlling coaching significantly reduces the benefits of autonomous coaching behaviours. However, it should be noted that participants who rated their coaches high in both categories, reported higher levels of needs satisfaction and autonomous motivation, in comparison to participants who rated their coach high in control, and low in autonomy support. Thus, high in both categories appears to be 'better' than high in control, and low in autonomy support. Overall, it is important to not only focus on increasing the amount of autonomy support a coach provides, but also to focus on reducing the amount of control a coach exerts over his/her athletes (Appleton & Duda, 2016; Haerens et al., 2018).

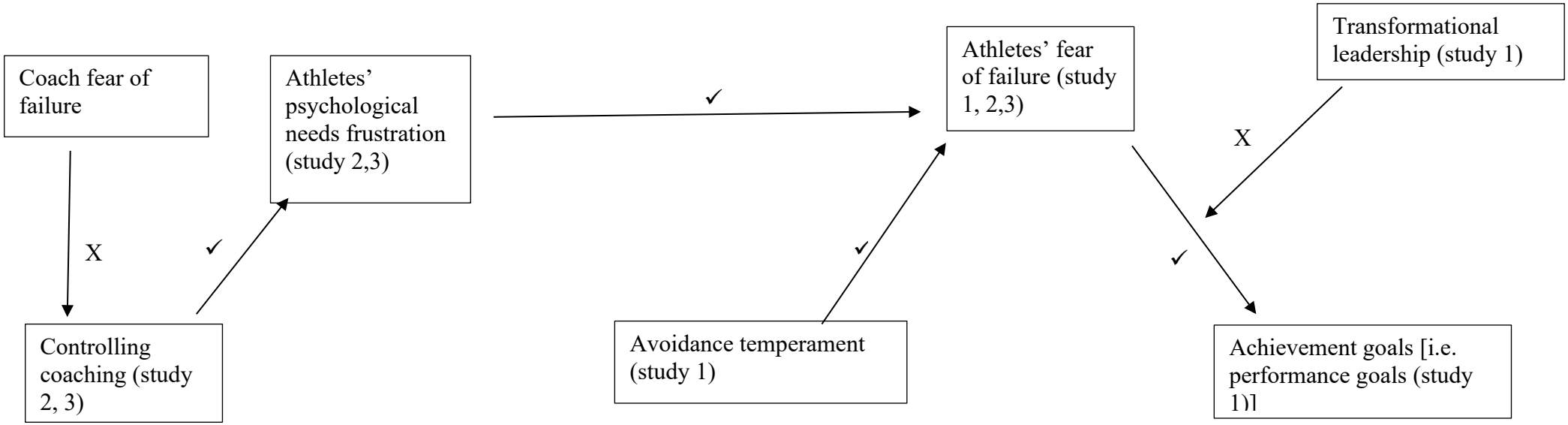
Furthermore, it is important to consider the separate subdimensions of fear of failure when conducting this type of research. One of my participants disclosed how the satisfaction of her psychological needs acted as a 'double-edged sword', whereby it both positively, and negatively impacted different types of fear of failure. A recent review into basic

psychological needs concluded that once one's basic psychological needs are satisfied, this will positively impact the individual (Vansteenkiste et al., 2020). Considering this is the first piece of evidence to suggest that psychological needs satisfaction had a negative impact on an individual, more research will need to be conducted within this area before any more conclusive arguments can be made.

Taken together, results from my thesis provide evidence that a) coaches can play a significant role in influencing athletes' fear of failure (via the influence of psychological needs), and that b) fear of failure acts as a mediator between avoidance temperament and specific achievement goals (i.e. performance goals), and, however, c) that transformational leadership behaviours are unable to significantly influence achievement goals for those athletes with fear of failure (see Figure 12). In turn, this provides researchers and sport psychology practitioners alike with many new possibilities on how to approach athletes' fear of failure. For one, it provides supporting evidence for the updated hierarchical model of achievement motivation (Elliot, 2006), as research in this area has been somewhat scant in comparison to the earlier hierarchical models of achievement motivation (Elliot & Church, 1997). Further, results from my thesis offer support on the importance of examining how people in leadership positions (e.g., coaches) can influence athletes' fear of failure. For sport psychology practitioners, it creates an opportunity of conducting work with coaches, in hopes of reducing the negative effect of fear of failure and in the long term reducing athletes' fear of failure.

**Figure 12.**

*Hypothesized Causal Model*




*Note.* (✓ indicates significant association between variables, where X indicates non-significant associations between variables)

## 6.3 Implications of my Thesis

One approach in dealing with athletes' fear of failure would be to emphasize focus on the athlete. An intervention study (focused on teaching athletes how to set mastery-approach goals) was successful in reducing athletes' fear of failure, except that a twelve-week follow-up indicated an increase in fear of failure scores between baseline and intervention endpoint (Wikman et al., 2014). These results provide support for the intervention approach. However, research examining fear of failure and achievement goals consistently find null associations between fear of failure and mastery-approach goals (see Taylor et al., 2021), and thus it raises the possibility that results from the intervention might be temporary. One reason for the increase in athlete's fear of failure twelve weeks post intervention could be the impact of coach behaviours on the athletes. As is evident in existing research (Bartholomew et al., 2018; Conroy, 2003; Conroy & Coatsworth, 2007; Moreno-Murcia et al., 2019), coaches who behave in an undesirable manner can increase fear of failure amongst athletes. Thus, even if athletes learn how to deal with their fear of failure successfully, depending on their coach, the possibility exists that their coach could undo some of their progress. As a result, it might be worth considering addressing the coach behaviour, as a mechanism to reduce athlete's fear of failure.

Results from the randomized-controlled trial (Conroy & Coatsworth, 2004) suggest that a psychosocial coach intervention was unsuccessful in reducing athletes' fear of failure. The focus of this intervention was to teach coaches to use more instructive, supportive, and fewer punitive behaviours, in hopes of having a direct effect on reducing athletes' fear of failure. A multitude of factors were mentioned as to why this coach intervention was unsuccessful (i.e. exposure time to coaches, nature of the sport, small sample size, age group of participants), but fortunately, however, based on more contemporary research, new possibilities exist to examine whether coaches might be able to reduce athletes' fear of failure.

Using Self-Determination Theory (Deci & Ryan, 1985; Ryan & Deci, 2002), different studies suggest that a) autonomy-supportive coaching behaviours are associated with lower levels of athletes' fear of failure (Moreno-Murcia et al., 2019) and b) basic psychological needs satisfaction are associated with lower levels of fear of failure (Conroy & Coatsworth, 2007). Adding to this, results from my third study suggest that autonomy-supportive (i.e.

participative and attuning coach behaviours) and structured (i.e. guiding coach behaviours) are associated with both psychological needs satisfaction, and indeed lower levels of fear of failure amongst athletes. Thus, it appears that, although supportive coach behaviours might not directly decrease athletes' fear of failure, they can, indeed, have a significant impact on athletes' fear of failure via the satisfaction of individuals' psychological needs.

By focusing on how coaches can satisfy athletes' psychological needs, and in turn reduce their fear of failure, the possibility exists that results could be far-reaching, beyond a 'mere' reduction in athletes' fear of failure. For one, needs-supportive coaching has been associated with the satisfaction of psychological needs, and an increase in desirable outcomes, such as subjective vitality (Balaguer et al., 2012), self-esteem (Coatsworth & Conroy, 2009), and engagement (Curran et al., 2016), to name a few. Thus, a coach who becomes more needs-supportive could in turn have a desirable impact beyond reducing athletes' fear of failure.

Needs-supportive coaching does not merely benefit the athletes, it can also bring about positive change for the coach. For instance, teachers who were placed in an experimental group, in which they were taught how to become more autonomy-supportive, showcased positive signs of change at the end of the intervention (Cheon et al., 2014). Specifically, these teachers showcased greater levels of self-related, self-determined motivation, teaching efficacy, and well-being. This was in comparison to the control group, which consisted of teachers who were not given directions on how to teach their classes.

Finally, the usage of critical realism (Bhaskar, 1978, 2008) as a theoretical framework proved to be beneficial. Most importantly, it is a framework which is compatible with both quantitative and qualitative methods, which is something that other theoretical frameworks argue against (Danermark et al., 2001; Ryba et al., 2020). In using a framework compatible with mixed-methods research, I was able to a) understand relationships between different variables, and b) to examine how these relationships play out on an individual level. In turn, this provided me with a more complete picture of specific mechanisms at play. For instance, by conducting my quantitative studies I was able to see that controlling coach behaviours can significantly impact athlete's fear of failure, via the frustration of one's psychological needs. As a result of these significant relationships, I was able to develop a qualitative study which

focused on asking athletes questions about how their coach impacts their fear of failure, while applying Basic Psychological Needs Theory as a framework (Ryan & Deci, 2000).

By asking athletes how their coach impacts their fear of failure in my final study, I was able to gain insights which extend beyond findings from my second study. Specifically, I found that coaches can have varying impacts on athlete's fear of failure, depending on how these coaches influence athlete's psychological needs. However, more importantly, I found that it is more important to focus on how the coach influences athletes' psychological needs following competitive failure, as opposed to in training sessions where less emphasis is placed upon the outcome of one's performance. As a result of these findings, I am now able to conduct more detailed quantitative research and am also better suited for supporting athletes and coaches in dealing with the subject of fear of failure from an applied perspective.

Overall, despite the benefits of using critical realism (Bhaskar, 1978, 2008) as theoretical framework—particularly in mixed-methods research—it still remains in its infancy within sport and exercise psychology research (Ryba et al., 2020; Wiltshire & Ronkainen, 2021). As such, there are few articles with guidance on how to use it appropriately, one notable exception being Wiltshire's and Ronkainen's (2021) guidance on how to conduct thematic analyses from the standpoint of a critical realist. This is no surprise given that many researchers to date fail to mention their philosophical underpinnings throughout their studies (Ryba et al., 2020). Thus, in order for critical realism to become more popular within sport and exercise psychology, more research needs to be conducted adopting the standpoint of a critical realist (Bhaskar, 1978, 2008). Further, future researchers will need to be transparent in their reporting on how they incorporate critical realism into their research, as this will help readers develop a deeper understanding of critical realism, and how to apply it appropriately (Ryba et al., 2020).

### 6.4 Future Research Recommendations

Based on findings from my research, and the general discussion, a wide variety of possibilities exist for future research. Firstly, it would be of interest to examine the relationships between needs supportive/frustrating coaching behaviours, psychological needs satisfaction/frustrating and athletes' fear of failure from a quantitative standpoint. To date, these have not been examined in combination. In doing so, it would lay the groundwork for

intervention research to be conducted within this area, whereby researchers could focus on attempting to reduce fear of failure amongst athletes.

Fortunately, a multitude of coach-education programmes exist, which could be utilised when creating future research ideas. One example includes the "Mastery Approach to Coaching", which is a cognitive-behavioural intervention designed to enhance a mastery-based climate [in line with achievement-goal theory (Smith et al., 2007)]. Results using this approach have been promising, suggesting that coaches adopt a more mastery-focused climate, which, in turn positively impacted athletes achievement goals, and their performance anxiety (Smith et al., 2007; Smoll et al., 2007a). Other research has focused on teaching coaches to be more autonomy-supportive towards their athletes (using Self-Determination Theory as guidance). Over the span of three sessions, coaches were introduced to the idea of autonomy-supportive coaching, how it can be implemented, its benefits and were provided with opportunities to ask questions (Cheon et al., 2015). This intervention was conducted throughout the 2012 London Paralympic Games. Results suggest that coaches in the control group, who received no training, were rated as relatively controlling. In turn, athletes demonstrated decreased motivation, engagement, and performance. Coaches in the experimental group, however, were rated as more autonomy-supportive than their coaches in the control group. Further, autonomy-supportive coaching helped maintain stable levels of motivation, engagement, and performance.

Another coach-education program in existence is called Empowering Coaching™ (Duda, 2013). Similar to my thesis, this program uses key tenets from both achievement goal theory (Ames, 1984; Nicholls, 1984) and self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000). Specifically, emphasis is placed upon the climate that is created by coaches, and this climate can be considered more, or less, empowering (Duda, 2013). An empowering climate consists of mastery-involving, autonomy-supportive and socially supportive. On the other hand, a disempowering climate consists of performance-based and controlling behaviours. Although none of the mentioned coach-education programs have been tested in relation to athletes' fear of failure, the Empowering Coaching™ framework (Duda, 2013) might be best suited at attempting to reduce fear of failure, as it considers both the social environment created by the coach, and the motivational processes that are crucial to sustainable sporting engagement. Of course, prior to engaging in future intervention research,

it would be important to first examine these variables cross-sectionally, to measure their initial correlation. Fortunately, the Empowering and Disempowering Motivational Climate Questionnaire (EDMCQ-C) lends itself as a useful tool for this process (Appleton et al., 2016). As mentioned above (see section 6.3) the implications of finding a coaching program that helps coaches reduce athletes' fear of failure could be far-reaching, as this program could be beneficial to coaches, and athletes alike.

## 6.5 Recommendations for Sport Psychology Practitioners

In an ideal world research on how to reduce athletes' fear of failure permanently would be readily available. However, since this type of research does not exist, one can draw upon existing research from other areas in hopes of helping athletes with their fear of failure. Similar to the recommendations I made for future research, sport psychology practitioners could work with coaches to help them behave in a manner, that could help reduce athletes' fear of failure. Once again, research within self-determination theory can be used as a guide for practitioners. For instance, using the circumplex model as a reference (Aelterman et al., 2019; Delrue et al., 2019), one is provided with different coach behaviours and their influence on athlete's psychological needs. Using the circumplex model as a reference (see Table 14), practitioners could work with coaches to behave in a more needs-supportive, and less needs-frustrating manner, as this has been associated with lower levels of athletes' fear of failure [e.g., results from chapter 5, (Conroy & Coatsworth, 2007)].

**Table 14.** *Recommendations of Coach Behaviours for Dealing with Athlete Fear of Failure using the Circumplex Model (Delrue et al,, 2019)*

| Coach behaviours during training | Coach behaviours following failure |
|---|---|
| Offer needs-supportive coaching feedback to the athlete to demonstrate that encouragement and support are not dependent on successful competitions. For instance, the coach could use a participative approach (autonomy-supportive), wherein the athletes is offered different choices during training and is invited to provide feedback (Aelterman et al., 2019) | Offer needs-supportive coaching feedback to the athlete to demonstrate that failure is acceptable, and not met with aversive consequences. For instance, the coach could use a guiding approach (structured), which aims to instil confidence in the athletes' ability, provide constructive encouragement, and offer helpful recommendations (Fransen et al., 2018) |

Of course, situations exist in which athletes are not working with coaches and still suffer from fear of failure. In this instance, all the above-mentioned recommendations on how to reduce fear of failure no longer apply. In this case, it is useful to draw upon existing results from my scoping review and comparing them to the wider literature. For one, the intervention study conducted by Wikman and colleagues (2014) has offered promising results that setting mastery-approach goals can significantly reduce athletes' fear of failure. Although athletes' fear of failure scores had increased following a twelve-week follow-up, these scores remained between intervention end and baseline. Thus, sport psychology practitioners could teach athletes with fear of failure how to set mastery-approach goals [focus on task-mastery (e.g., "I want to hit the golf ball as far as possible")], and monitor athlete adherence to these goals to ensure that athletes remain committed to setting these types of goals, even after intervention end.

Further, fear of failure and self-talk are hypothesized to act in a self-perpetuating manner (see Taylor et al., 2021), and this also aligns with cognitive theories of anxiety. Cognitive theories of anxiety assert that self-talk is at the core of anxiety (Beck et al., 1985). Simply put, self-talk/automatic thoughts distract individuals from the task at hand, which can

lead to higher levels of anxiety, and subsequently to worsening self-talk/automatic thoughts. A point of clarification is warranted here. Fear of failure and anxiety are not the same. However, considering that fear of failure appears to manifest itself in a similar fashion as anxiety, it is useful to draw upon existing research, in hopes of being able to aid athletes dealing with fear of failure.

The aim of cognitive behavioural therapy (CBT) is to assist individuals with undesirable automatic thoughts by employing different methods (e.g., thought record), with the purpose of identifying, evaluating and modifying thoughts patterns (see Puig & Pummel, 2012). By addressing these automatic thoughts over a set period, the individual might be able to adopt a healthier approach to performance-related situations and reduce undesirable self-talk, which could subsequently reduce their fear of failure. Results from sport-related research suggest that CBT is a promising approach for dealing with issues similar to fear of failure (e.g., anxiety and maladaptive perfectionism; Gustafsson, Lundqvist, & Tod, 2016; McArdle & Moore, 2012; Puig & Pummel, 2012). Researchers may consider conducting single-case studies with high failure-fearing individuals when attempting to do this, as this is a considered a valuable method for examining new research areas (Barker et al., 2013).

## 6.6 Limitations

Each research project contains limitations, and my thesis is no exception. For one, all my research conducted quantitatively throughout this thesis contains cross-sectional data. In turn, it is impossible to imply causality and a true test of mediation. Nonetheless, certain hypothetical pathways used in my research have been tested in a quasi-experimental [i.e. fear of failure predicting achievement goals (Conroy & Elliot, 2004)], or experimental fashion [i.e. autonomy-supportive coaching behaviours predicting psychological needs satisfaction (Cheon et al., 2012, 2014)], thereby taking us one step closer to being able to infer causality. Further, results from my qualitative study offer support for these hypothetical pathways, although, these causal relationships cannot be extended beyond the group of participants included in that study (Danermark et al., 2001).

Further limitations include the sample size for my final study (Chapter 5). Although a sample size of nine was deemed sufficient, more research participants could have provided further information. Specifically, the possibility would have existed for participants to provide additional, or modifying information to certain themes (e.g., needs supportive

coaching behaviours acting as a 'double-edged sword', whereby it reduces, yet simultaneously increases athletes' fear of failure). However, all eligible participants (43 in total) who did not respond to the original invitational email were invited a total of three times over the span of 5 weeks. Considering that one eligible participant asked me to refrain from sending out further invitations following email number three, I decided to end data collection at that point. Further, the response rate was 21% for the final study, which far exceeds the typical response rate for online study invitations (Sakshaug et al., 2019). Fortunately, the study aim for my final study was extremely narrow, thereby allowing for a smaller sample size (Malterud et al., 2016). However, I nonetheless recognize that a sample size of nine research participants can be considered a limitation.

One area where my sample size can be considered a limitation relates to the examination of gender differences. Within each of my quantitative studies (chapter 3, 4) I ran independent sample t-tests to examine whether gender differences existed in my samples fear of failure scores. Irrespective of the sample (athletes or coaches), results consistently suggest that males reported lower levels of fear of failure in comparison to their female counterparts. Due to the sample sizes in each of my studies, I was unable to examine these results in a more detailed fashion. For instance, I was unable to run the separate moderated mediations (chapter 3), and the hierarchical mediation (chapter 4) whilst controlling for females/males. As such, I might have missed out on results that could have provided some much-needed insight into gender differences in fear of failure, as research in this area is extremely limited (Taylor et al., 2021).

Finally, fear of failure and other variables in this thesis were measured as global constructs, instead of using the separate subdimensions. Previous research has offered some insight into the unique meanings of the different subdimensions of fear of failure and the importance of examining them individually (Conroy, 2004). Although the results from my thesis have provided some further insight into the complexities of fear of failure and the role of the coach, I recognize that by using the global constructs, as opposed to separate subdimensions, I have potentially missed out on some deeper insights.

## 6.7 Personal Reflection

Embarking upon this journey of obtaining a PhD has been exciting and exhausting at times. Over the past 4.5 years, I have made many mistakes, which have allowed me to grow

as a researcher and a person. Some of these mistakes were more significant. For instance, incorrect formatting for one of the surveys in study one, which forced me into having to delete 100+ participant responses. Other mistakes were more minor (although time-consuming), such as repeatedly coding my hierarchical data in an incorrect manner, which took months to fix. Nonetheless, all these experiences have helped me realise that failure is part of the growing process—which is a hard pill to swallow since I consider myself to have fear of failure and do not like letting down others (e.g., my supervisors). Most importantly, however, now that I consider myself one step closer to being authoritative in discussing fear of failure within sport, and understand the complexities involved with this disposition, I feel a lot less shame about having fear of failure. As such, I consider this research project a success in relation to my theoretical contribution to the field of sport psychology, but more importantly, I consider it a personal success due to my personal growth.

## 6.8 Conclusion

Fear of failure has been considered an important social concern that needs to be addressed (Conroy, 2001a). As a result of my personal/theoretical rationale, the aim of my thesis was to understand the role that coaches play in shaping athletes' fear of failure and their subsequent achievement goals. Based on results from study one, it remains unclear how coaches might be able to impact achievement goals in athletes with fear of failure. However, based on results from studies two and three, I developed a deeper understanding of how different coach behaviours can impact athletes' psychological needs, and their fear of failure. For instance, a coach who satisfies their athlete's psychological needs following competitive failure can reduce this athlete's fear of failure. A coach who frustrates their athlete's psychological needs following competitive failure can increase this athlete's fear of failure. Finally, a coach who dissatisfies an athlete's psychological needs following competitive failure seems to have no impact on their athlete's fear of failure. As such, it appears that the impact coaches have on athletes' fear of failure depends on how athletes' psychological needs are impacted following competitive failure. This is somewhat surprising considering that training environments also hold the potential for success and failure. As such, it would be of interest to further examine the interplay between different coach behaviours, athletes' psychological needs, and their fear of failure, in different situations. In doing so, this would allow researchers to better understand how and when coaches are capable of impacting

athletes' fear of failure, as the majority of research has not taken different contexts into consideration.

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# APPENDIX A.

# PUBLISHED MANUSCRIPT

INTERNATIONAL REVIEW OF SPORT AND EXERCISE PSYCHOLOGY
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REVIEW

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## Fear of failure in sport, exercise, and physical activity: a scoping review

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**ABSTRACT**

Fear of failure is a popular catchphrase used by performers in a variety of domains to reference motivating and/or inhibiting forces. In 2001, Conroy produced a review of research on the development of fear of failure and associated problems across a variety of different domains that also offered ideas on future research directions in relation to treatment. His review provided researchers with an understanding of the fear of failure at a time when little research had been conducted in the sport and exercise domain. The present scoping review is focused upon research in sport, exercise, and physical activity on fear of failure emerging subsequent to Conroy's review to provide readers with an up-to-date understanding of how fear of failure is manifested among participants in sport and exercise. A total of 48 articles are included in this scoping review, which are divided into a total of four groups; (1) measurement of fear of failure, (2) antecedents of fear of failure, (3) outcomes of fear of failure, and (4) fear of failure and gender/sex differences. Future recommendations for research are discussed.

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**KEYWORDS**
Achievement; avoidance motive; avoidance; sport psychology; scoping review

Fear of failure, or the motive to avoid failure, is the tendency to appraise threat in evaluative situations in which failure is a possibility. This motive is socialised in early childhood and is rooted in self-evaluation disposition (Atkinson, 1957; Conroy & Elliot, 2004; Sagar & Lavallee, 2010). It is a term that has been colloquially embraced in society as is evident in the assertions of famous individuals across a variety of different domains. As examples, Elon Musk, the famous entrepreneur, is quoted as saying 'I certainly have fear of failure' (Ong, 2013, para 2), and Padraig Harrington, a well-known PGA Tour golfer, has asserted that fear of failure made him work harder (Garrod, 2011). It is a term that has even been highlighted in popular TV shows, such as the Simpsons where Bart is told he has fear of failure (Groening & Silverman, 1990) and Grey's Anatomy where Meredith Grey, the lead character in the series, talks about how procrastination might be caused by fear of failure (Rhimes & Brazil, 2005). Although a popular catchphrase in colloquial usage, research interest in the fear of failure construct has been no less longstanding.

In Murray and McAdams (1938) early stages of theorising on achievement motivation, 'infavoidance' (more commonly known as the fear of failure) was considered to be a

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# APPENDIX B.

# ETHICAL APPROVAL FOR STUDY 1

Simon Taylor
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23/05/2017

Dear Simon

**Re: Ethics Application: Moderating and Mediating Factors within Achievement Motivation in Sport (GUEP 144)**

Thank you for your submission to the General University Ethics Panel of the above. Following our review, I am pleased to confirm that you have approval for the research. However, one of the reviewers has agreed to meet with your supervisor to provide some advisory comments.

Yours sincerely,

p.p. On behalf of GUEP

Professor Helen Cheyne

***Deputy Chair of GUEP***

## APPENDIX C.

## LETTER OF INVITATION FOR STUDY 1

Hello,

I am sending this email in hopes you might be interested in participating in my study. Your team has been invited to participate in this study, because you have athletes who enjoy competing, and have worked together with you. This study was designed to measure how personality influences the goals you set in sport and how different factors, such as fear of failure and coaches' leadership style, might influence this goal-setting process. Your players will be asked to complete a series of different questionnaires, which should take you approximately 15 minutes. If you are interested in the findings, a one page summary can be sent to you once the questionnaires have been analysed and interpreted.

If you have any questions feel free to contact me.

Thank you for your time and consideration,

Simon Taylor

Simon.taylor1@stir.ac.uk

**APPENDIX D.**

**QUESTIONNAIRE PACKET STUDY 1**

## Information Sheet and Consent Form

UNIVERSITY of STIRLING

**Project Title:** Moderating and Mediating Factors within Achievement Motivation in Sport

Hello,

You have been invited to participate in this study because you are an athlete who enjoys competing, and you have worked with a coach. The only requirement to be able to participate is that you are 18 years old and have experience working with a coach in the past, or currently are working with a coach.

This study was designed to measure how personality influences the goals you set in sport and how different factors, such as fear of failure and your perception of your coach's leadership style, might influence this process.

You will be asked to complete a series of questionnaires that should take you approximately 15 minutes to complete. While there are no right or wrong answers, we do ask you to please answer the questions truthfully. Your responses shall remain confidential, and if you would like to withdraw from participating in this study you may do so at any time during completion of the survey, in which case, your data will be deleted. Once you have ticked both consent boxes and returned/submitted the questionnaire you will no longer be able to withdraw from the study, due to the anonymous nature of the study, preventing the primary investigator from locating individual participants questionnaires.

Your information will be stored for five years following publication on a password protected computer within a university protected office, and only general findings will be presented. Upon completion of the study, your email addresses will be deleted.

If you have any questions regarding this study, feel free to contact me or my supervisor. Our details are provided below,

Simon Taylor: Simon.taylor1@stir.ac.uk

Dr. Calum Arthur: Calum.Arthur@stir.ac.uk

**Please tick both boxes below before completing the survey**

- ☐ **I have read and understand the information above and what is required by me to complete the survey.**
- ☐ **I fully and freely give my consent to take part in the study, but I understand that I am completely free to withdraw at any time during completion of the study.**

# Measures

## General Demographics

Sport: _____ Age: _____ Nationality: _____

Gender: _____ Years of coaching with current or previous coach: _____

Which club do you currently play for? _____

Highest level of experienced reached within your sport: Regional___ National___ International___

Years of participation in this sport: _____

**Please indicate how much you agree or disagree with each of the following statements by writing a number in the space provided. All of your responses are anonymous and confidential. Please select numbers according to the following scale:**

**Response Scale**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | | | Neither Agree Nor Disagree | | | Strongly Agree |

____1. By nature, I am a very nervous person.

____2. Thinking about the things I want really energizes me.

____3. It doesn't take much to make me worry.

____4. When I see an opportunity for something I like, I immediately get excited.

____5. It doesn't take a lot to get me excited and motivated.

____6. I feel anxiety and fear very deeply.

____7. I react very strongly to bad experiences.

____8. I'm always on the lookout for positive opportunities and expe- riences.

____9. When it looks like something bad could happen, I have a strong urge to escape.

____10. When good things happen to me, it affects me very strongly.

____11. When I want something, I feel a strong desire to go after it.

____12. It is easy for me to imagine bad things that might happen to me

**Response Scale**

| -2 | -1 | 0 | +1 | +2 |
|---|---|---|---|---|
| Do Not Believe | | Believe 50% | | |
| Believe 100% | | | | |
| At All | | of the Time | | of the Time |

_____ 1. When I am failing, it is often because I am not smart enough to perform successfully.

_____ 2. When I am failing, my future seems uncertain.

_____ 3. When I am failing, it upsets important others.

_____ 4. When I am failing, I blame my lack of talent.

_____ 5. When I am failing, I believe that my future plans will change.

_____ 6. When I am failing, I expect to be criticized by important others.

_____ 7. When I am failing, I am afraid that I might not have enough talent.

_____ 8. When I am failing, it upsets my "plan" for the future.

_____ 9. When I am failing, I lose the trust of people who are important to me.

_____ 10. When I am not succeeding, I am less valuable than when I succeed.

_____ 11. When I am not succeeding, people are less interested in me.

_____ 12. When I am failing, I am not worried about it affecting my future plans.

_____ 13. When I am not succeeding, people seem to want to help me less.

_____ 14. When I am failing, important others are not happy.

_____ 15. When I am not succeeding, I get down on myself easily.

_____ 16. When I am failing, I hate the fact that I am not in control of the outcome.

_____ 17. When I am not succeeding, people tend to leave me alone.

_____ 18. When I am failing, it is embarrassing if others are there to see it.

_____ 19. When I am failing, important others are disappointed.

_____ 20. When I am failing, I believe that everybody knows I am failing.

_____ 21. When I am not succeeding, some people are not interested in me anymore.

_____ 22. When I am failing, I believe that my doubters feel that they were right about me.

_____ 23. When I am not succeeding, my value decreases for some people.

_____ 24. When I am failing, I worry about what others think about me.

_____ 25. When I am failing, I worry that others may think I am not trying

**Response Scale**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| "Not at all like me" | | | | | | "Completely Like me" |

_____1. It is important to me to perform as well as I possibly can.

_____2. I worry that I may not perform as well as I possibly can.

_____3. It is important for me to avoid being one of the worst performers in the group.

_____4. It is important to me to do well compared to others

_____5. Sometimes I'm afraid that I may not perform as well as I'd like.

_____6. My goal is to avoid performing worse than everyone else.

_____7. It is important for me to master all aspects of my performance.

_____8. I just want to avoid performing worse than others

_____9. My goal is to do better than most other performers.

_____10. It is important for me to perform better than others.

_____11. I'm often concerned that I may not perform as well as I can perform.

_____12. I want to perform as well as it is possible for me to perform.

| My coach… | Not at all | Once in a while | Sometimes | Fairly often | Frequently |
|---|---|---|---|---|---|
| 1. Shows that she (or he) cares about me | *0* | *1* | *2* | *3* | *4* |
| 2. Acts as a person that I look up to | *0* | *1* | *2* | *3* | *4* |
| 3. Creates lessons that really encourage me to think | *0* | *1* | *2* | *3* | *4* |
| 4. Demonstrates that she (or he) believes in me | *0* | *1* | *2* | *3* | *4* |
| 5. Treats me in ways that builds my respect | *0* | *1* | *2* | *3* | *4* |
| 6. Is enthusiastic about what I am capable of achieving | *0* | *1* | *2* | *3* | *4* |
| 7. Provides me with tasks and challenges that get me to think in different ways | *0* | *1* | *2* | *3* | *4* |
| 8. Motivates me to try my hardest | *0* | *1* | *2* | *3* | *4* |
| 9. Tries to know every player in practice | *0* | *1* | *2* | *3* | *4* |
| 10. Gets me to question my own and others' ideas | *0* | *1* | *2* | *3* | *4* |
| 11. Tries to help players who might be struggling | *0* | *1* | *2* | *3* | *4* |
| 12. Talks about her (or his) personal values | *0* | *1* | *2* | *3* | *4* |
| 13. Encourages me to look at issues from different sides | *0* | *1* | *2* | *3* | *4* |
| 14. Recognises the needs and abilities of each player in practice | *0* | *1* | *2* | *3* | *4* |
| 15. Is optimistic about what I can accomplish | *0* | *1* | *2* | *3* | *4* |
| 16. Behaves as someone I can trust | *0* | *1* | *2* | *3* | *4* |

**Thank you for participating in my study, your responses are very much appreciated.**

**If you agree to your data being analysed, please tick this consent box. If you do not agree, your answers can't be used.**

# APPENDIX E.

# ETHICAL APPROVAL FOR STUDY 2

Simon Taylor
Health Sciences & Sport
University of Stirling
FK9 4LA

simon.taylor1@stir.ac.uk

10 September 2018

Dear Simon

**Ethics Application: Factors associated with coach and athlete motivation and well-being- GUEP401(A)**

Thank you for making the requested revisions to your submission of the above to the General University Ethics Panel. I am pleased to confirm that your application now has ethical approval.

Please note that should any of your proposal change, a further submission (amendment) to GUEP will be necessary.

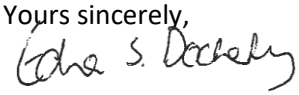
Please ensure that your research complies with Stirling University policy on storage of research data which is available at:
https://www.stir.ac.uk/about/faculties-and-services/information-services-and-library/researchers/research-data/before-you-start-your-research/our-policy/

If you have not already done so, I would also strongly encourage you to complete the Research Integrity training which is available at: https://canvas.stir.ac.uk/enroll/CJ43KW

If you have any further queries, please do not hesitate to contact the Committee by email to guep@stir.ac.uk.

Good luck with your research.

Yours sincerely,



p.p. On behalf of GUEP

Professor Helen Cheyne

***Deputy Chair of GUEP***

## APPENDIX F.

## LETTER OF INVITATION FOR STUDY 2

Dear Coach,

My name is Simon Taylor and I am a former student athlete and currently working towards my PhD in Sports Psychology at the University of Stirling, in Scotland. I am sending this email in hopes you and your athletes might be interested in participating in my study. I am aware your time is very precious; thus, I am more than happy to share a general report of my findings with you.

**The Study:**

The study is designed to measure how elite coaches' personality, fear of failure and negative affect influence their elite athletes' perception of their coaches as well as their own fear of failure, motivation and negative affect. During my college career, I realised the importance of the coach/athlete interaction and how this can negatively impact a player, therefore, I am interested in conducting this research. Your teams' responses will help further our understanding in this area and as a thank you for your time I will send you a copy of the published findings.

Data collection is in two parts. I would first send you an email with links to two surveys – one for yourself and the other for your athletes. I would kindly request that you send the second link on to your athletes, so they can participate if desired.

**Requirements:**

- All participants (coaches and athletes) must be at least 18 years old
- Athletes must be competing at national and/or international level
- Coaches must be experienced working in this sport
- A minimum of three athletes per coach are required

**Your Participation:**

You will be asked to complete 3 questionnaires at a single time point, taking approximately 10 minutes.

**Athlete's Participation:**

Your athletes will be asked to complete 4 questionnaires at the first time point, taking approximately 15 minutes. Approximately 3 months later, I will contact them via email again and ask them to complete the same 4 questionnaires (taking an additional 15 minutes).

**Confidentiality:**

Identifying information (names and athletes' email addresses) will be required to be able to match up the responses from both time points; however, these will be kept confidential (in compliance with university rules and GDPR regulations). Only myself and my primary supervisor (Dr. Edward Duncan) will have access to your information. We will destroy this information as soon as data collection is complete. This study forms part of a PhD and is self-funded.

If you are interested in taking part, please let me know by replying to this email. I have also included my contact information below and am available to discuss in person or over the phone should you have any questions or concerns.

Thank you for your time and consideration,

Simon Taylor

# APPENDIX G.

# ONLINE QUESTIONNAIRE PACKET STUDY 2 FOR COACHES

## Information Sheet and Consent Form for the Coach

**Project Title:** Factors Associated with Coach and Athlete Motivation and Well-being

Hello,

You have been invited to participate in this study because you are a coach who enjoys working with athletes and helping them. The only requirement to be able to participate is that you are at least 18 years old, hold at least a level 2 coaching certificate, or have been working as coach for at least 5 years, and have been coaching your team/ or individual athletes for more than 1 month.

This study is designed to measure how personality influences coaches' fear of failure and their well-being, and how this is perceived by their respective athletes. The goal is also to examine whether certain types of coach behaviours influence the athletes' motivation and their well-being. Thus, it is of interest to see how your information compares to your athletes' information provided. The information you provide will only be seen by the primary and secondary researchers, and your names will be exchanged for study numbers. Therefore, no one but the primary and secondary researchers will be able to link your answers to you.

You will be asked to complete three questionnaires that should take you approximately 15 minutes to complete at time point one. Your athletes will be contacted approximately two months later, to complete the second part of the study online. While there are no right or wrong answers, we do ask you to please answer the questions truthfully. Your responses shall remain confidential and you may withdraw at any point during your completion of either survey, regardless of any previous consent given by you or your head coach, in which case your data will be deleted along with the data of your athletes. The same principle applies for your athletes: they may withdraw or choose not to participate at any time during their completion of the surveys, regardless of your consent, in which case their data will be deleted. Time point one will be an agreed upon date with yourself, and time point two will take place approximately two months later. If you, or any of your

athletes would like to complete the questionnaire away from other participants, we will try our best to accommodate this.

Please note that numerous coaches and their teams are participating in this study, and that upon study completion the results will be presented in a general way. This means that the findings will not necessarily speak to you and your individual behaviours nor your individual team's responses, and you should not attempt to interpret them on an individual level.

Your information will be stored for ten years following last access. Furthermore, it will be stored on a password-protected computer and/or university archiving system within a university-protected office, following GDPR regulations and only general findings will be presented. Upon completion of the study, your email addresses will be deleted. This study forms part of a PhD and is self-funded.

If you have any questions regarding this study, feel free to contact me or my supervisor. In case you'd prefer to contact a person independent of the study, please contact Professor Jayne Donaldson. Our details are provided below,

Primary researcher: Simon Taylor: Simon.taylor1@stir.ac.uk phone: 00447555508480
Secondary researcher: Dr. Edward Duncan: Edward.duncan@stir.ac.uk phone: 00441786466286
Independent contact: Prof. Jayne Donaldson: jayne.donaldson@stir.ac.uk phone: 00441786466345

## Consent Form

**Please tick both boxes and use the space provided to initial, sign and date below before completing the survey**

- ☐ **I have read and understand the information above and what is required by me to complete the survey.**

  **I fully and freely give my consent to take part in the study, but I understand that I am completely free to withdraw at any time during the completion of either survey.**

Date: _____

# Measures (Coach)

## General Demographics

Name: _____

Sport: _____ Age: _____ Nationality: _____

Gender: _____ Name of University/Club where you coach? _____

Years of coaching with current team: _____

Highest level of coaching qualification: _____

If not applicable, how many years have you been coaching? _____

**Please indicate how much you agree or disagree with each of the following statements by writing a number in the space provided. All of your responses are anonymous and confidential. Please select numbers according to the following scale:**

**Response Scale**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly | | | Neither Agree Nor Disagree | | | Strongly Agree |

____1. By nature, I am a very nervous person.

____2. Thinking about the things I want really energizes me.

____3. It doesn't take much to make me worry.

____4. When I see an opportunity for something I like, I immediately get excited.

____5. It doesn't take a lot to get me excited and motivated.

____6. I feel anxiety and fear very deeply.

____7. I react very strongly to bad experiences.

____8. I'm always on the lookout for positive opportunities and expe- riences.

____9. When it looks like something bad could happen, I have a strong urge to escape.

____10. When good things happen to me, it affects me very strongly.

____11. When I want something, I feel a strong desire to go after it.

____12. It is easy for me to imagine bad things that might happen to me

**Please indicate how much you agree or disagree with each of the following statements by writing a number in the space provided. Please answer the following statements in relation to situations where you are coaching your players.**

**Response Scale**

| -2 | -1 | 0 | +1 | +2 |
|---|---|---|---|---|
| Do Not Believe At All | | Believe 50% of the Time | | Believe 100% of the Time |

_____ 1. When I am failing, I am afraid that I might not have enough talent.

_____ 2. When I am failing, it upsets my "plan" for the future.

_____ 3. When I am not succeeding, people are less interested in me.

_____ 4. When I am failing, important others are disappointed.

_____ 5. When I am failing, I worry about what others might think about me.

**This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way <u>today</u>. Using the following scales to record your answers.**

**Response Scale**

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Very Slightly Or Not at All | a Little | Moderately | Quite a bit | Extremely |

___1. Interested

___2. Distressed

___3. Excited

___4. Upset

___5. Strong

___6. Guilty

___7. Scared

___8. Hostile

___9. Enthusiastic

___10. Proud

___11. Irritable

___12. Alert

___13. Ashamed

___14. Inspired

___15. Nervous

___16. Determined

___17. Attentive

___18. Jittery

___19. Active

___20. Afraid

# APPENDIX H.

## ONLINE QUESTIONNAIRE PACKET STUDY 2 FOR ATHLETES

## Information Sheet and Consent Form for the Athlete

UNIVERSITY of STIRLING

**Project Title:** Factors Associated with Coach and Athlete Motivation and Well-being

Hello,

You have been invited to participate in this study because you are an athlete who enjoys competing and being coached. The only requirements to be able to participate is that you are at least 18 years old and have been working with your coach for more than 1 month.

This study is designed to measure how personality influences coaches' fear of failure and their well-being, and how this is perceived by their respective athletes. The goal is also to examine whether certain types of coach behaviours influence the athletes' motivation and their well-being. Thus, it is of interest to see how your information compares to the information provided by your coach. The information you provide regarding your coach will only be seen by the primary and secondary researchers, and your names will be exchanged for study numbers following survey submission. Therefore, no one other than the primary and secondary researchers will be able to link your answers back to you.

You will be asked to complete four questionnaires that should take you approximately 15 minutes to complete at two separate time points. These time points will be approximately two months apart. While there are no right or wrong answers, we do ask you to please answer the questions truthfully. Your responses shall remain confidential and you may withdraw or choose not to participate in the study at any point during the completion of either survey, regardless of your coach's agreement to participate. If you do not wish to participate, or struggle to understand what is asked of you please simply ignore this message and close your browser. If your coach decides to withdraw from the study, your data will also be withdrawn and deleted. Time point one will take place when you decide to complete the first part online, which will be emailed to you by the coach

and time point two will take place approximately two months later, via an online version of the questionnaires, which will be emailed to you by myself.

Your information will be stored for ten years following last access. Furthermore, it will be stored on a password-protected computer and/or university archiving system within a university-protected office, following GDPR regulations and only general findings will be presented. Upon completion of the study, your email addresses will be deleted. This study forms part of a PhD and is self-funded.

If you have any questions regarding this study, feel free to contact me or my supervisor. In case you'd prefer to contact a person independent of the study, please contact Professor Jayne Donaldson. Our details are provided below,

Primary researcher: Simon Taylor: Simon.taylor1@stir.ac.uk phone: 00447555508480

Secondary researcher: Dr. Edward Duncan: Edward.duncan@stir.ac.uk phone: 00441786466286

Independent contact: Prof. Jayne Donaldson: jayne.donaldson@stir.ac.uk phone: 00441786466345

## Consent Form

**Please tick both boxes and use the space provided to initial, sign and date below before completing the survey**

☐ **I have read and understand the information above and what is required by me to complete the survey.**

☐ **I fully and freely give my consent to take part in the study, but I understand that I am completely free to withdraw at any time during the completion of either survey.**

Date: _____

# Measures

## General Demographics

Name: _____

Email:_____

Sport: _____ Age: _____ Nationality: _____

Gender: _____ Months of coaching with current coach: _____

**Please indicate how much you agree or disagree with each of the following statements by writing a number in the space provided. All of your responses are anonymous and confidential. Please select numbers according to the following scale:**

**Response Scale**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | | | Neither Agree Nor Disagree | | | Strongly Agree |

____1. My coach is less friendly with me if I don't make the effort to see things his/her way.

____2. My coach shouts at me in front of others to make me do certain things.

____3. My coach only uses rewards/praise so that I stay focused on tasks during training.

____4. My coach is less supportive of me when I am not training and competing well.

____5. My coach tries to control what I do during my free time.

____6. My coach threatens to punish me to keep me in line during training.

____7. My coach tries to motivate me by promising to reward me if I do well.

____8. My coach pays me less attention if I have displeased him/her.

____9. My coach intimidates me into doing the things that he/she wants me to do.

____10. My coach tries to interfere in aspects of my life outside of my sport.

____11. My coach only uses rewards/praise so that I complete all the tasks he/she sets during training.

____12. My coach is less accepting of me if I have disappointed him/her.

____13. My coach embarrasses me in front of others if I do not do the things he/she wants me to do.

____14. My coach only uses rewards/praise to make me train harder.

____15. My coach expects my whole life to centre on my sport participation.

**Please indicate how much you agree or disagree with each of the following statements by writing a number in the space provided. All of your responses are anonymous and confidential. Please select numbers according to the following scale: In my sport…**

**Response Scale**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Strongly Disagree | | | Neither Agree Nor Disagree | | | Strongly Agree |

____1. I feel prevented from making choices with regard to the way I train.

____2. There are situations where I am made to feel inadequate.

____3. I feel pushed to behave in certain ways.

____4. I feel I am rejected by those around me.

____5. I feel forced to follow training decisions made for me.

____6. I feel inadequate because I am not given opportunities to fulfil my potential.

____7. I feel under pressure to agree with the training regime I am provided.

____8. I feel others can be dismissive of me.

____9. Situations occur in which I am made to feel incapable.

____10. I feel other people dislike me.

____11. There are times when I am told things that make me feel incompetent.

____12. I feel other people are envious when I achieve success.

**Response Scale**

| -2 | -1 | 0 | +1 | +2 |
|---|---|---|---|---|
| Do Not Believe At All | | Believe 50% of the Time | | Believe 100% of the Time |

_____ 1. When I am failing, I am afraid that I might not have enough talent.

_____ 2. When I am failing, it upsets my "plan" for the future.

_____ 3. When I am not succeeding, people are less interested in me.

_____ 4. When I am failing, important others are disappointed.

_____ 5. When I am failing, I worry about what others might think about me.

**This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way <u>today</u>. Using the following scales to record your answers.**

**Response Scale**

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Very Slightly Or Not at All | a Little | Moderately | Quite a bit | Extremely |

___1. Interested

___2. Distressed

___3. Excited

___4. Upset

___11. Irritable

___12. Alert

___13. Ashamed

___14. Inspired

___5. Strong

___6. Guilty

___7. Scared

___8. Hostile

___9. Enthusiastic

___10. Proud

___15. Nervous

___16. Determined

___17. Attentive

___18. Jittery

___19. Active

___20. Afraid

# APPENDIX I.

# ETHICAL APPROVAL LETTER FOR STUDY 3

Simon Taylor
Faculty of Health Sciences and Sport
University of Stirling
FK9 4LA

10 February 2020

Dear Simon

**Re: Factors associated with coach and athlete motivation and well-being– GUEP (17 18) 401**

Thank you for submitting the amendments and supporting documents of the above to the General University Ethics Panel.

The ethical approaches of this project have now been re- approved by Chair's Action.

Please note that if any of your proposal changes, a further submission (amendment) to GUEP will be necessary.

Please ensure that your research complies with University of Stirling policy on storage of research data which is available at: https://www.stir.ac.uk/about/professional-services/information-services-and-library/current-students-and-staff/researchers/research-data/plan-and-design/our-policy/

If you have not already done so, I would also strongly encourage you to complete the Research Integrity training which is available at: https://canvas.stir.ac.uk/enroll/CJ43KW

Please be aware that research approved by GUEP may be audited to ensure the research has proceeded in the manner approved. The selection of projects to audit will be done at random.

If you have any further queries, please do not hesitate to contact the Committee by email to guep@stir.ac.uk .

Yours sincerely,

Pp.

On behalf of GUEP

Professor Iain MacRury

***Deputy Chair of GUEP***

## APPENDIX J.

## LETTER OF INVITATION FOR STUDY 3

Hi (enter name),

Last year you kindly participated in an online study for me, responding to questions about your coach behaviours and yourself. Following that, you provided your email saying you would be willing to be contacted again for part two of the study. Initially, you were going to be asked to complete another online survey. However, I now wish to interview people to gather more detailed responses. Therefore, I am writing to you now to invite you to take part in an online interview (via skype).

If you do not have skype that's ok, I can provide you with a link that allows for you to use it without installing it. This one-off interview will take anywhere between 30-45 minutes.

Below you will find an information sheet that explains the study and interview more detail. If you are willing to take part, please respond to this email and attach a completed consent form (attached). If you do not want to participate in this study, or have any further questions please let me know.

Best regards,

Simon Taylor

## APPENDIX K.

## INTERVIEW GUIDE FOR STUDY 3

### Interview guide

**Pre-stage:**

**Purpose:** Build rapport and gather general information

1) Start of interview: Thank you for agreeing to take part in this interview. Before we get started there are a few things I wanted to mention:
2) Confidentiality
3) No right or wrong
4) Consent
5) Free to withdraw/ not respond
6) Give honest answers
7) Today I would like to speak to you about your experiences with failure in sport and how your coach reacts in those situations BUT BEFORE WE GET STARTED → stage 1

**Stage 1:**

**Purpose:** Building further rapport and getting the athletes to relax and open up/feel comfortable to share their thoughts

**Open-**ended question: How about you just tell me a bit about yourself and your main sport? For instance, what sport do you play, how did you get into it and what are your ambitions?

**If unanswered, use these prompts:**

1) What is your main sport?
2) How did you get into it?
3) On average, how much time do you invest into your sport each week?
4) What are your aspirations within your sport?

**Stage 2:**

**Purpose:** Understanding the relationship between the athlete and coach

**Open-ended question:**

I would like to talk more about (your sport) in general. When do you evaluate your performance?

**If unanswered, use this prompt**

1) Examples of when could be either a tournament or practice.

   → is one more important than the other?

When do you feel your performance is being evaluated by others, such as your coach?

**If answered, use this prompt:** Does your coach also evaluate your performance outside of sport?

Finally, can you tell me how long you've been working with your coach?

**Stage 3:**

**Purpose:** Understanding the athletes' perception of failure

**Open-ended question:** Now I would like to talk about failing in your sport if that's ok with you. I know both success and failure are important in sport, but today we are more interested in failing. With this in mind, can you tell me a bit about what you consider failure?

So what does this (failing) mean to you?(feel free to give an example). Specifically, how does failing impact your future performance?

**If unspecified, use these prompts:**

- How does it impact the way you think?
- How does it impact the way you feel?
- How does it impact the way you behave?

When does your coach consider you to have failed? What do you think failing means to your coach?

**Stage 4:**

**Purpose:** Exploring athlete's perception of coach impact on their fear of failure, either in a positive or negative manner.

RQ1: How regular interactions with coach impact athlete needs and influence athletes' fear of failure

RQ2: Does the coaches' behaviour change in the lead up to/during important events?

**Interview Questions:**

**Open-ended questions:** Now I'd like for you to talk about your relationship with your coach. First of all, I'd like to know what your relationship is like with your coach?

**If unanswered, use these prompts:**

a. Do you feel like your coach lets you plan and come up with your own ideas when it comes to how you train and play? How?
b. Does your coach make you feel capable of being able to succeed? How?
c. How does your coach respond to your failures?

Next, in your opinion, does your coach change their behaviour in the lead up to tournaments or other events? I know I mentioned earlier I was more interested in failure, but can you tell me how your coach responds to failure?

With that in mind, I would like to know whether your coach has had any impact on the way you feel about failure, or its consequences? If so, how (feel free to give an example?) **IF THE ANSWER TO LAST QUESTION IS YES THEN FOLLOW-UP WITH THIS!** Earlier on you mentioned how you perceive failure and its consequences, was that perception formed before or after you started working with your coach? **IF THE ANSWER TO THE QUESTION IS NO, THEN FOLLOW-UP WITH THIS!** You mentioned your coach doesn't have an impact on the way you feel about failure, or its consequences, is there anyone else that does have an impact?

**Stage 5:**

**Purpose:** Debrief

1) Are there any general things you would like to add to todays interview?
2) If not, thank you for taking part!

## APPENDIX L.

## INTERVIEW QUESTIONS AND THEIR RELATION TO WIDER THEORY

| Stage | Open-ended Questions | Theory |
|---|---|---|
| Stage 1 | Welcome and introduction | |
| Stage 2 | Tell me about yourself and your main sport? | |
| Stage 3 | What do you consider failure?<br>What does failing mean to you? | Fear of failure research (Conroy et al., 2001, 2002) |
| Stage 4 | What is your relationship like with your coach? | Self-Determination Theory (Ryan & Deci, 2000, 2002) |
| | How does your coach respond to your failures? | Fear of failure research (Conroy et al., 2001, 2002) |
| | How does your coach impact the way you view failure, and its consequences? | |
| Stage 5 | Debrief | |